

WOA XXVI - WORKSHOP DEI DOCENTI E RICERCATORI DI ORGANIZZAZIONE AZIENDALE

Università degli Studi d'Annunzio Chieti-Pescara Viale Pindaro Pescara

29 - 30 MAGGIO 2025

NAVIGATING ORGANIZATIONAL CHANGE IN TIMES OF UNCERTAINTY

ISBN: 979-12-210-9700-9

Pescara

29 – 30 maggio 2025

Table of Contents

Introduction 1
Gilda Antonelli, Federica Ceci, Fausto Di Vincenzo and Stefano Za

Macro-theme 01: Civic and Cultural Sustainability

The role of HR practices in integrating the common good in organizations 15
Silvia Barghini, Sara Sassetti and Mariacristina Bonti

Organising smart responsible cities 21
Mauro Romanelli and Maria Ferrara

Community cinemas and place leadership for cultural sustainability: the case of kriterion cinema 28
Adriano Solidoro, Francesco Paoletti, Barbara Quacquarelli and Gianluigi Viscusi

Governing data across organizations: lessons from public and private data collaborations . 36
Niloofar Kazemargi and Federica Ceci

Managing the Data Value Chain Off-Site: Exploring Challenges along the Path 44
Loris Santarelli and Federica Ceci

Connecting the dots: a bibliometric analysis on SMEs in the era of Data Ecosystems 52
Simona Leonelli and Filippo Ferrarini

Rules and roles in smart city governance: exploring the architecture of Data Value Chain . 59
Filippo Marchesani and Federica Ceci

PodCraft: A Podcast-based learning tool for craft entrepreneurs' lifelong learning 66
Francesca Leonardi and Luca Pareschi

Soft Skills, Hard Truths: the role of Sustainability-related Skills for Engineering-Project Managers 72
Franca Cantoni, Primiano Di Nauta, Antonio Mastrogiorgio and Marco Arcuri

Governance of marine protected areas: the role of local community involvement for biodiversity conservation and human well-being 81
Silvia Del Principe

Institutional pressures and the EU taxonomy:Toward sustainable transition within the Emilia-Romagna industrial ecosystem 85
Francesco Virili, Michele Cipriano, Franca Cantoni and Diego Boerchi

Sustainability motives and mechanisms: a stewardship perspective in family businesses ... 93
Giovanna Afeltra, Elias Hadjielias and Emanuele Gabriel Margherita

Exploring Organisational Dynamics in Industrial Symbiosis: a Neo-institutional Exploration in the Rare Earth Domain 101
Alessio Maria Braccini

It takes a Village to revitalise a village: a case study on theatre, inclusion, and social transformation 108
Andrea Prencipe

Workbenches in Business Schools: Craft for Management Learning 114
Manfredi de Bernard and Fabrizio Panozzo

Macro-theme 02: Startup Internationalization and Design Thinking

Pivoting uncertainty with AI: Decision-Making and Knowledge Management for Start-ups in Innovation Ecosystems 119
Chiara Bellini and Lucia Marchegiani

Phenomenology of team trust behaviours in digital innovation and company culture evolution 126
Stefano Luca Patania

Retracing new horizons of Entrepreneurship's emancipatory power: A systematic literature review 134
Giulia Scanu, Matteo Opizzi and Michela Loi

From local to global: how design thinking mindset and entrepreneurial personality propel startups' success and internationalization 140
Ludovica Leone and Simona Leonelli

Exploring entrepreneurial orientation, intention and competencies in the academic context: a cross-cultural comparison between italian and american university students 147
Chiara Ronchetti, Caterina Farao and Laura Riolli

Hybrid Approaches to Systematic Literature Reviews on Generative AI Ethics: Combining Human and AI Judgement 155
Marco Di Giovanni, Filomena Pagnozzi and Gilda Antonelli

Contextualising Talent Management: A Multi-Case Study of SMEs in Northern Italy's Institutional Ecosystem 159
Caterina Muzzi, Franca Cantoni and Maddalena Sorrentino

The entrepreneurial doctoral student: human capital, motivation, and the necessity of university support 167
Matteo Opizzi, Giammarco Marras and Michela Loi

From Lived Experience to Co-Construction: A Pragmatist Exploration of Relational Quality in Entrepreneurial Coaching 175
Giammarco Marras and Michela Loi

Unpacking the transformative power of entrepreneurship: evidence from a systematic literature review 179
Matteo Opizzi, Michela Loi, Olivier Toutain and Alessia Pinna

The Isomorphic Clock: Physical and Cognitive Dimensions in the Timing of SMEs' Initial Public Offerings 183
Martina Gaia Faletti, Chiara Frigerio and Federico Rajola

Macro-theme 03: Generative AI Adoption and Technostress

Empowering users in the age of genai: the role of explainability in ai decision self-efficacy . 191
Marco Smacchia

Beyond individual competences towards Collective Intelligence: a systematic literature review 198
Ilenia Bua, Eliana Minelli and Andrea Pontiggia

Managing Artificial Intelligence and technostress in search of good organizations 203
Mauro Romanelli, Raffaele Silvestre and Maria Ferrara

Reconceptualizing GenAI Adoption in Higher Education: A Multidimensional Framework 210
Marwa Chaieb, Roberta Cuel and Rym Bouzaabia

Understanding Smart Working through the Eyes of Generation Z 219
Giulia Flamini and Chiara Morelli

The influence of cognitive biases on intention to use AI and the moderating role of informational sources: an experimental study 225
Federica Giorda, Valentina Iacopino and Federico Rajola

Blockchain technology in HR management: reflections on its promises and perils 229
Antonio Mastrogiorgio, Primiano Di Nauta, Franca Cantoni and Marco Arcuri

Can AI-driven résumé screening reflect human competence complexity? A Corpus-Assisted Discourse Analysis of Curricula Vitae 233
Francesca Nannetti, Anna Chiara Scapolan and Matteo Di Cristofaro

How Future Work Selves highlight Meaningful Prospective Work and buffer Purpose in Life 241
Giulia Milani, Laura Cortellazzo and Sara Bonesso

The Philoctetes' wound: Healing workplace ostracism and loneliness through mutual recognition 249
Deborah Gervasi

The decision between voice or exit in service cooperatives 256
Vincenzo Cavaliere and Martina Mori

Industry 4.0 acceptance: A motivational perspective 263
Emanuele Gabriel Margherita and Danila Scarozza

Reimagining Advice-Seeking Networks: The Impact of Generative AI on Professional Collaboration 269
Giovanni Gatti, Valentina Iacopino and Federico Rajola

Generational Diversity in Shaping the Impact of Performance Expectancy and Facilitating Conditions on Technology Perception 273
Maria Cristina Manocchio, Antonia Puccio, Yasir Faheem and Francesca Di Virgilio

Gamified Learning in the Workplace: A Corporate Training Case Study 280
Marzia Ventura, Walter Vesperi, Concetta Cristofaro, Rocco Reina, Melina Anna Maria and Luigi Severini

With a little help from my boss and my peers: Job satisfaction under tech pressure 287
Francesca Sanguineti, Rocco Palumbo, Damiano Petrolo, Federica Testa and Pietro Previtali

Macro-theme 04: AI-Driven Organizational Change

Addressing Organizational Barriers in AI Implementation: Evidence from Italian Companies 294
Grazia Garlatti Costa and Francesco Venier

Dialogical approach in organizations: a new managerial perspective to foster organizational change in the public sector 302
Lorenzo Mercurio and Lucio Todisco

"Resistance and resilience." Quest for the survival or prosperity of small and medium-sized Sicilian wine enterprises 308
Rodolfo Damiano, Benedetta Valeria Cannizzaro, Marcantonio Ruisi and Raimondo Ingrassia

Developing collective leadership: the role of complexity 312
Andrea Montefusco and Laura Cortellazzo

Transformational leadership is not enough for effective strategic organizational change: Results from exploratory research in Italy 320
Stefano Armenia, Francesca Castaldo, Marco Arcuri and Primiano Di Nauta

Investigating Change Processes and Practices in the Integration of Artificial Intelligence: A Narrative Inquiry Approach 328
Cecilia Maltempo, Francesca Loia, Stefania Mele, Marcello Martinez and Mario Pezzillo Iacono

Organizational Change and Digital Health: the Role of Innovation Ecosystems 336
Alberto Zanutto, Lorenzo Gios and Diego Ponte

A preliminary investigation of digital leaders' roles in the adoption of emerging technologies: a qualitative case study 342
Rebecca Trivelli and Stefano Za

Artificial Intelligence as a Remedy for Burnout: Innovative Strategies to Enhance Well-Being in Healthcare 348
Floriana Pollio

Desk Sharing in Public Administration: Acceptance and Appropriation of Workplace Innovation 353
Giuseppe Garrubba

Job Crafting Intervention: evaluating the effectiveness of an online training program 357
Eleonora Di Napoli, Filomena Buonocore, Davide De Gennaro and Domenico Salvatore

Identity traits and resistance to change in organisations: a psychometric framework 361
Filomena Pagnozzi, Simone Di Plinio and Gilda Antonelli

Effects of psychic distance on contractual structures: The case of an internationalized SME 366
Luka Filipovic and Giancarlo Lauto

Orchestrating the network of social relationships in hybrid workplaces: An empirical study of leaders' brokering behaviours 373
Sara Bonesso, Laura Cortellazzo and Federica Bressan

Organizing in Motion: Mobility as a Driver of Organizational Innovations 381
Francesca Chiara Serri

Bright and dark sides of hybrid work models in the public sector: a social symbolic perspective from the Italian context 385
Daniela Aliberti and Lucio Todisco

Enhancing decision-making processes through managerial training and behavioural competencies: an Anticipatory Governance perspective 393
Lucio Todisco, Andrea Tomo, Gianluigi Mangia, Paolo Canonico and Federica Langella

Improving Telework Satisfaction in Public Organization with a Dual Perspective: Insights from an Italian Public University. 399
Costanza Baldrighi, Francesca Sanguineti and Pietro Previtali

From Speculation to Implementation: A Systematic Review of Return-to-Office Research and Its Impact for Organizations 407
Alberto Varone and Francesco Bolici

Empowering Innovation: How Employee Culture and Skills Drive Technological Integration in Public Healthcare Organizations 415
Angelo Rosa, Marcello Martinez and Enrico Cori

Macro-theme 05: Inclusive HR and Employee Wellbeing

Building a greener organization from the bottom: insights into employee green training and cognitive green crafting 423
Alice Carnovali, Rita Bissola, Domenico Bodega and Barbara Imperatori

Social sustainability and well-being satisfaction: a mixed method approach 426
Francesca Mochi, Alessandra Lazazzara, Franca Maino, Asia Guerreschi, Alessandro Margherita and Davide Antonioli

Sustainability and disability management: A literature review on building responsible and inclusive organizations 434
Giuseppe Perna, Paolino Fierro and Luisa Varriale

Human Resource Management and Eating Disorders: A Bibliometric Review and Future Research Agenda 439
Giuseppe Ceci, Mauro Gatti and Michela Iannotta

Building a positive organization: cultural transformation and the role of Chief Happiness Officer 446
Maria Menshikova, Isabella Bonacci and Danila Scarozza

Rethinking HRM for Disability: Learning from the Past, Shaping the Future 454
Giulia Flamini, Enrico Cori and Chiara Morelli

Beyond the Emergency: Medium-Term Organizational Effects of Pandemic Responses in Italian Hospitality 459
Sara Lombardi, Miguel Pina E Cunha and Luca Giustiniano

Promoting Prosocial Behaviours towards Persons with Disabilities in Public Sector Organizations 464
Manuela Paolini and Domenico Raucci

Fostering Employee Well-Being Through Leadership: An Empirical Exploration of Styles and Behavioral Competencies 469
Zoe Irene Albisetti and Fabrizio Gerli

Gender, Culture, and Leadership: Shaping Respectful Practices and Employee Engagement 477
Cinzia Calluso, Valentina Iacopino and Anna Piazza

The Development of an Emotion Processing Culture: How Leaders Support Employees after Work-Related Trauma 485
Nicole Alonso and Anthony Silard

When work heals and hurts: emotional wellbeing of extreme workers in emergency departments 488
Ylenia Curzi, Tommaso Fabbri, Francesca Nepoti, Barbara Pistoresi and Erica Poma

Inter-Organizational Networks in Times of Crisis: A Resilience Perspective 495
Tiziano Volpentesta, Fausto Di Vincenzo, Daniele Mascia and Camillo Odio

Promoting healthy eating initiatives in organizations: an exploratory study 503
Beatrice Re and Pietro Previtali

Why can't I be a pizzaiola'? An exploratory study of the gender differences in the Neapolitan Pizza business 509
Gaia Pennino, Rocco Agrifoglio, Concetta Metallo and Maria Ferrara

A Systematic Review of the Literature on the Recruitment and Hiring Processes for Autistic Candidates 513
Ludovica Airaghi, Alessandra Lazazzara, Chris Ashwin and Sanjay Kumarendran

Macro-theme 06: HR Transformation and Competencies

Making the Public Sector Attractive Again! An Exploratory Study of Employer Branding Strategies in the Italian Public Sector 521
Roberta Romano, Simona Mormile, Caterina Galdiero, Gabriella Piscopo and Paola Adinolfi

Temporal storytelling in response to organizational stigma: negative and positive sensemaking of change in Sicilian public employment services 529
Sofia Casà, Sanne Frandsen and Raimondo Ingrassia

Doctor-managers innovative work behaviour: does narcissistic personality matter? 537
Manuela Paolini, Simona Leonelli and Fausto Di Vincenzo

Going hybrid: empirical evidence on workers' preferences for hybrid work arrangements 541
Enrico Carlet and Martina Gianecchini

The HR Function as a Keystone of Organizational Transformation: the role of AI Integration 549
Haiat Perozzo and Aurelio Ravarini

Artificial intelligence and humanness': exploring recruiters' attitudes toward AI in hiring . 563
Domenico di Prisco, Marion Fortin and Silvia Dello Russo

Exploring trends in Artificial Intelligence and Employees' Well-being 568
Filippo Ferrarini and Simona Leonelli

Who's really concerned about Diversity, Equity, and Inclusion? Insights from the divide between HR Professionals and corporate New Hires 576
Daniela Aliberti, Rita Bissola and Barbara Imperatori

Fairness, Bias, and Employee Trust in AI used in HRM. A Scoping Review 584
Giorgia Moretti and Teresina Torre

From Attraction to Retention: Digitally Enabled Employer Branding in the Italian Retail Sector 592
Ilaria Mastrangelo, Aizhan Tursunbayeva and Irene Gargano

Doctoral consortium abstracts

A socio-technical approach to explainability in generative ai: exploring user trust and decision self-efficacy 595
Marco Smacchia

The transformative potential of ai in cybersecurity auditing 597
Alessandra Di Giacomo

Integrating Blockchain Technology into Performance Management Systems for Agri-Food Companies in Italy: A Path to Sustainable Growth. 599
Muhammad Mansoor and Lorenzo Lucianetti

Artificial Intelligence in Human Resource Management: A Bibliometric Analysis 601
Riccardo Cerretani

Exploring the interplay between Artificial Intelligence and professionals' expertise: Qualitative evidence from healthcare 603
Marco Caggianelli, Daniele Mascia and Elena Bruni

Investigating digital leadership in the adoption of emerging technologies 605
Rebecca Trivelli and Stefano Za

A Review and Framework for Organisational Learning in Public Sector 608
Priya Upadhyay and Armando Della Porta

Organizational Performance and Perceived Innovation: A pilot test 610
Vito Del Vecchio, Mariangela Lazoi, Giorgia Specchia and Fabio Paracchini

An Investigation into Italian Healthcare professionals' perceptions of Organizational Resilience: from Pandemic-induced Challenges to the ongoing Workforce Crisis. 612
Paola Della Zassa and Alessandra Tognazzo

Promoting Innovation in the Public Administration: Digital Competencies and Soft Skills as Key to Success 614
Antonia Puccio

Coordinating Collective Action for Grand Challenges: Insights from Inter-Organizational Collaboration 616
Loris Santarelli

The transformative power of Entrepreneurship: How to exploit this power in Entrepreneurship Education and Training. 618
Giulia Scanu, Matteo Opizzi and Michela Loi

AI as an External Enabler for Women Entrepreneurship: a Systematic Literature Review . 621
Alexia Ciroi, Daniel Pittino and Francesca Visintin

What role for entrepreneurial ownership? A systematic theorization of the knowledge base 623
Luka Filipovic

Understanding the Formation and Evolution of Family Boundary Organizations in Entrepreneurial Families 625
Isotta Vazzoler

Networks and Innovation in semiformal organizations 627
Camilla Mola and Daniele Mascia

Participatory Assessment of the Private Sector for Sustainable Development: Insights from the CarbonSink Project 629
Flavia Marucci and Lucia Marchegiani

The Circulation of Knowledge: How Returning Inventors Foster Start-Up Ecosystems 631
Francesca Diodoro

NAVIGATING ORGANIZATIONAL CHANGE IN TIMES OF UNCERTAINTY

Gilda Antonelli, University of Chieti-Pescara, Pescara, Italy, gilda.antonelli@unich.it
Federica Ceci, University of Chieti-Pescara, Pescara, Italy, federica.ceci@unich.it
Fausto Di Vincenzo, University of Chieti-Pescara, Pescara, Italy, fausto.divincenzo@unich.it
Stefano Za, University of Chieti-Pescara, Pescara, Italy, stefano.za@unich.it

1 Introduction

In today's rapidly evolving landscape, organizations are increasingly called upon to adapt to unforeseen challenges and heightened uncertainty. Global pandemics, geopolitical crises, economic shocks, technological disruptions, and the climate emergency are profoundly reshaping market dynamics, social structures, and organizational life. These discontinuities necessitate robust and flexible strategies for change management, grounded in both theoretical insights and practical applications. Navigating organizational change in such complex environments requires a multifaceted approach that blends established models with innovative practices. Key levers include leadership, organizational culture, employee engagement, agility, digital transformation, resilience, and transparent communication. Equally crucial is the ability to apply and adapt change management frameworks to the specificities of each context, revitalizing traditional approaches while remaining open to emerging paradigms.

Against this backdrop, the XXVI Workshop on Organizational Studies (WOA 2025) was conceived as a forum for scholars and practitioners to engage in a collective reflection on how organizations can effectively design, implement, and sustain change in times of volatility. The conference aimed to deepen our understanding of the multiple dimensions of change by integrating diverse disciplinary perspectives and managerial lenses. More than 130 contributions, in the form of short papers and research ideas, were presented, distributed in around 35 parallel sessions.

A subset of contributions collected in these proceedings (71 short papers and 17 research ideas) reflects a shared effort to explore the interplay between individual agency, organizational structures, and systemic conditions in shaping change processes. Across papers and sessions, scholars have highlighted how change is not merely a managerial challenge but a profoundly human and contextual phenomenon—one that demands attention to ethical tensions, cultural transformations, power asymmetries, technological evolution, and the well-being of people and communities.

Similar topics were also discussed during the Doctoral Consortium that preceded the conference, where PhD students presented and discussed their preliminary results with faculty members, receiving fruitful insights for further developing their research projects. The doctoral consortium abstracts of a subset of the PhD projects discussed during the Doctoral Consortium are included in the final part of these proceedings.

Through a topic modeling analysis (Grootendorst, 2022; Wang et al., 2023) applied to the full text of all short papers and research ideas included in these proceedings, it was possible to generate the dendrogram and the conceptual structure map shown in Figure 1. Using natural language processing and clustering techniques, the semantic relationships among the contributions were identified, allowing to group of conceptually similar papers into broader thematic clusters, defining six macro-themes: (1) Civic and Cultural Sustainability, (2) Startup Internationalization and Design Thinking, (3) Generative AI Adoption and Technostress, (4) AI-Driven Organizational Change, (5) Inclusive HR and Employee Wellbeing, and (6) HR Transformation and Competencies.

The dendrogram in the figure illustrates the semantic proximity among the six main themes emerging from the conference papers. The hierarchical clustering highlights conceptual affinities and distances

across research domains, revealing how certain topics, such as Civic and Cultural Sustainability, Inclusive HR and Wellbeing, and HR Transformation and Competencies, tend to cluster together, while others, like Startup Internationalization and Design Thinking or Generative AI Adoption and Technostress, form distinct but interconnected thematic areas.

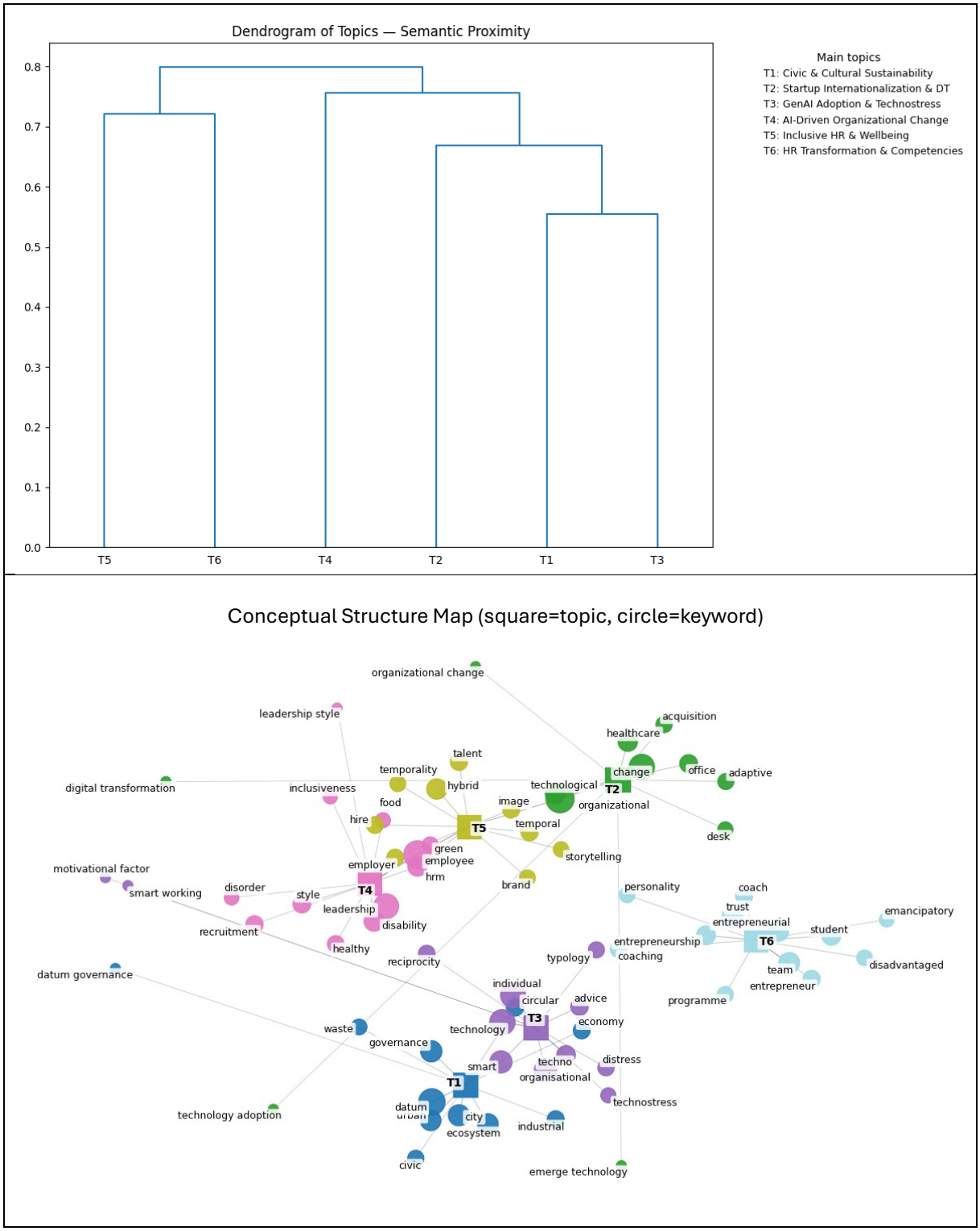


Figure 1. Topic analysis

Complementing this representation, the Conceptual Structure Map provides a network visualization linking each topic (squares) to its most frequent keywords (circles). This map highlights the relational structure of the field by showing how keywords act as bridges between topics, indicating shared concepts and interdisciplinary convergence. The proximity between nodes reflects semantic similarity: for instance, the connection between leadership, inclusiveness, and wellbeing underscores the human-centered orientation of several contributions, while links between AI, technostress, and organizational change capture the technological and adaptive dimensions of current research.

Together, the two visualizations provide an integrated view of the evolving research directions within the organizational studies community. The six macro-themes capture the diverse yet interconnected lines of inquiry that characterize contemporary organizational research. The following sections of the proceedings are organized around these thematic clusters, offering a structured overview of current trends and emerging perspectives.

1.1 Macro-theme 01: Civic and Cultural Sustainability

This macro-theme explores how civic engagement, cultural production, and data-driven governance contribute to more sustainable and inclusive models of organizational and territorial development. The studies included in this area converge on a shared understanding of sustainability as a relational, participatory, and systemic process, in which communities, institutions, and technologies co-evolve to shape resilient ecosystems. The contributions reveal three complementary dimensions of civic and cultural sustainability.

First, urban and territorial innovation highlights how cities and local communities use open data, participatory governance, and collaborative digital infrastructures to promote transparency, inclusion, and democratic accountability.

Second, cultural and social regeneration emphasizes the transformative role of artistic practices, heritage management, and education as catalysts of social cohesion and civic identity, fostering new forms of community-based sustainability.

Third, organizational and environmental stewardship addresses the integration of ethical governance, human-centered leadership, and environmental responsibility within organizations, linking people's well-being to broader ecological and social goals.

Together, these dimensions portray civic and cultural sustainability as a multilevel construct, anchored in democratic participation, cultural vitality, and responsible innovation. The papers belonging to this macro-theme are listed in the table that follows, which provides an overview of the related contributions included in the proceedings.

Authors	**Title**	**Type**
Silvia Barghini, Sara Sassetti and Mariacristina Bonti	The role of HR practices in integrating the common good in organizations	Short Paper
Mauro Romanelli and Maria Ferrara	Organising smart responsible cities	Short Paper
Adriano Solidoro, Francesco Paoletti, Barbara Quacquarelli and Gianluigi Viscusi	Community cinemas and place leadership for cultural sustainability: the case of kriterion cinema	Short Paper
Niloofar Kazemargi and Federica Ceci	Governing data across organizations: lessons from public and private data collaborations	Short Paper
Loris Santarelli and Federica Ceci	Managing the Data Value Chain Off-Site: Exploring Challenges along the Path	Short Paper
Simona Leonelli and Filippo Ferrarini	Connecting the dots: a bibliometric analysis on SMEs in the era of Data Ecosystems	Short Paper

Filippo Marchesani and Federica Ceci	Rules and roles in smart city governance: exploring the architecture of Data Value Chain	Short Paper
Francesca Leonardi and Luca Pareschi	PodCraft: A Podcast-based learning tool for craft entrepreneurs' lifelong learning	Short Paper
Franca Cantoni, Primiano Di Nauta, Antonio Mastrogiorgio and Marco Arcuri	Soft Skills, Hard Truths: the role of Sustainability-related Skills for Engineering-Project Managers	Short Paper
Silvia Del Principe	Governance of marine protected areas: the role of local community involvement for biodiversity conservation and human well-being	Research Idea
Francesco Virili, Michele Cipriano, Franca Cantoni and Diego Boerchi	Institutional pressures and the EU taxonomy: toward sustainable transition within the Emilia-Romagna industrial ecosystem	Short Paper
Giovanna Afeltra, Elias Hadjielias and Emanuele Gabriel Margherita	Sustainability motives and mechanisms: a stewardship perspective in family businesses	Short Paper
Alessio Maria Braccini	Exploring Organisational Dynamics in Industrial Symbiosis: a Neo-institutional Exploration in the Rare Earth Domain	Short Paper
Andrea Prencipe	It takes a Village to revitalise a village: a case study on theatre, inclusion, and social transformation	Short Paper
Manfredi de Bernard and Fabrizio Panozzo	Workbenches in Business Schools: Craft for Management Learning	Short Paper

Table 1. Civic and Cultural Sustainability papers

1.2 Macro-theme 02: Startup Internationalization and Design Thinking

This macro-theme focuses on the intersection between entrepreneurship, innovation, and global scalability, examining how design thinking, entrepreneurial mindset, and ecosystemic collaboration shape the success and international growth of startups. Across the contributions, a shared perspective emerges: startup internationalization is not merely a function of market opportunity but the outcome of human, cognitive, and contextual capabilities that enable learning, adaptability, and innovation in uncertain environments.

The papers highlight that entrepreneurial personality traits, such as openness, resilience, and risk tolerance, interact with a Design Thinking Mindset (DTM) characterized by empathy, creativity, and experimentation. This combination fosters dynamic capabilities that support startups in identifying opportunities, designing user-centered solutions, and adapting rapidly to international markets. Design thinking, in this sense, operates as both a cognitive tool and a strategic orientation, enhancing decision-making and innovation in volatile contexts.

At the ecosystem level, collaborative spaces, incubators, accelerators, and university-based spin-offs emerge as vital infrastructures for entrepreneurship. They provide tangible and intangible resources such as funding, networks, mentorship, legitimacy and relational capital. These environments promote collective learning and trust, enabling startups to overcome the liabilities of newness and foreignness in their early stages of global expansion. Academic spin-offs, in particular, leverage scientific knowledge, specialized human capital, and institutional credibility to sustain growth and international competitiveness.

Complementary research within this theme also explores ethical and organizational implications in startup ecosystems. Studies on generative AI and entrepreneurship reflect growing attention to human-AI collaboration, decision transparency, and responsible innovation. Others address institutional and cognitive proximity, demonstrating how local embeddedness and similarity influence the timing of

strategic decisions, such as IPOs, and how imitation and differentiation strategies coexist within entrepreneurial networks.

Together, these contributions portray startup internationalization as a multilevel process, rooted in individual mindsets, team diversity, and supportive ecosystems, that transforms how emerging ventures design, scale, and sustain innovation globally. Design thinking acts as a bridge between creativity and strategy, while ethical reflection and contextual collaboration ensure that entrepreneurial growth remains both responsible and resilient.

The papers belonging to this macro-theme are listed in the table below, providing an overview of the contributions included in the proceedings.

Authors	**Title**	**Type**
Chiara Bellini and Lucia Marchegiani	Pivoting uncertainty with AI: Decision-Making and Knowledge Management for Start-ups in Innovation Ecosystems	Short Paper
Stefano Luca Patania	Phenomenology of team trust behaviours in digital innovation and company culture evolution	Short Paper
Giulia Scanu, Matteo Opizzi and Michela Loi	Retracing new horizons of Entrepreneurship's emancipatory power: A systematic literature review.	Short Paper
Ludovica Leone and Simona Leonelli	From local to global: how design thinking mindset and entrepreneurial personality propel startups' success and internationalization	Short Paper
Chiara Ronchetti, Caterina Farao and Laura Riolli	Exploring entrepreneurial orientation, intention and competencies in the academic context: a cross-cultural comparison between italian and american university students	Short Paper
Marco Di Giovanni, Filomena Pagnozzi and Gilda Antonelli	Hybrid Approaches to Systematic Literature Reviews on Generative AI Ethics: Combining Human and AI Judgement	Research Idea
Caterina Muzzi, Franca Cantoni and Maddalena Sorrentino	Contextualising Talent Management: A Multi-Case Study of SMEs in Northern Italy's Institutional Ecosystem	Short Paper
Matteo Opizzi, Giammarco Marras and Michela Loi	The entrepreneurial doctoral student: human capital, motivation, and the necessity of university support	Short Paper
Giammarco Marras and Michela Loi	From Lived Experience to Co-Construction: A Pragmatist Exploration of Relational Quality in Entrepreneurial Coaching	Research Idea
Matteo Opizzi, Michela Loi, Olivier Toutain and Alessia Pinna	Unpacking the transformative power of entrepreneurship: evidence from a systematic literature review	Research Idea
Martina Gaia Faletti, Chiara Frigerio and Federico Rajola	The Isomorphic Clock: Physical and Cognitive Dimensions in the Timing of SMEs' Initial Public Offerings	Short Paper

Table 2. Startup, Internationalization, and Design Thinking papers

1.3 Macro-theme 03: Generative AI Adoption and Technostress

This macro-theme investigates how digital technologies, particularly Generative Artificial Intelligence (GenAI), automation, and smart work systems, are reshaping human work, cognition, and organizational practices. The papers converge on the tension between technological efficiency and human adaptability, focusing on the psychological, ethical, and organizational implications of AI adoption.

Across the contributions, GenAI emerges as both a transformative enabler and a potential source of technostress. On one hand, it enhances efficiency, creativity, and learning processes, especially in higher education and knowledge-intensive contexts. On the other hand, it raises concerns related to autonomy, professional identity, and emotional strain. Educators and professionals are shown to adopt GenAI when it supports skill variety, task identity, and autonomy, yet they resist its use when it threatens these dimensions, revealing that meaningful human–machine interaction depends on perceived control and purpose.

Complementary research within this macro-theme addresses AI integration in HR processes, where algorithmic systems for CV screening, recruitment, and competence assessment risk oversimplifying human potential by privileging measurable indicators over narrative and contextual dimensions of talent. Similar reflections extend to blockchain and smart contract applications, highlighting their ability to streamline transactional HR activities, while also acknowledging their limitations in making relational and judgment-based decisions.

Studies on Industry 4.0 and smart working expand the scope of analysis to the broader ecosystem of digital transformation. These works identify intrinsic and extrinsic motivational factors influencing technology acceptance, such as security, recognition, autonomy, and data-driven feedback, while underlining the need for human-centered approaches that sustain employee engagement and wellbeing. In parallel, research on Generation Z and hybrid work reveals a generational shift in motivation: flexibility and digital fluency have evolved from optional incentives into essential conditions for satisfaction and organizational fit.

Collectively, the contributions portray an evolving organizational landscape where AI and digital technologies redefine not only tasks but the very meaning of work. Successful adoption requires aligning technological capabilities with human needs for purpose, growth, and autonomy, mitigating technostress through thoughtful design and participatory governance.

The papers belonging to this macro-theme are listed in the table that follows, providing an overview of the contributions included in the proceedings.

Authors	**Title**	**Type**
Marco Smacchia	Empowering users in the age of GenAI: the role of explainability in ai decision self-efficacy	Short Paper
Ilenia Bua, Eliana Minelli and Andrea Pontiggia	Beyond individual competences towards Collective Intelligence: a systematic literature review	Research Idea
Mauro Romanelli, Raffaele Silvestre and Maria Ferrara	Managing Artificial Intelligence and technostress in search of good organizations	Short Paper
Marwa Chaieb, Roberta Cuel and Rym Bouzaabia	Reconceptualizing GenAI Adoption in Higher Education: A Multidimensional Framework	Short Paper
Giulia Flamini and Chiara Morelli	Understanding Smart Working through the Eyes of Generation Z	Short Paper
Federica Giorda, Valentina Iacopino and Federico Rajola	The influence of cognitive biases on intention to use AI and the moderating role of informational sources: an experimental study	Research Idea
Antonio Mastrogiorgio, Primiano Di Nauta, Franca Cantoni and Marco Arcuri	Blockchain technology in HR management: reflections on its promises and perils	Research Idea
Francesca Nannetti, Anna Chiara Scapolan and Matteo Di Cristofaro	Can AI-driven résumé screening reflect human competence complexity? A Corpus-Assisted Discourse Analysis of Curricula Vitae	Short Paper
Giulia Milani, Laura Cortellazzo and Sara Bonesso	How Future Work Selves highlight Meaningful Prospective Work and buffer Purpose in Life	Short Paper

Deborah Gervasi	The Philoctetes' wound: Healing workplace ostracism and loneliness through mutual recognition	Short Paper
Vincenzo Cavaliere and Martina Mori	The decision between voice or exit in service cooperatives	Short Paper
Emanuele Gabriel Margherita and Danila Scarozza	Industry 4.0 acceptance: A motivational perspective	Short Paper
Giovanni Gatti, Valentina Iacopino and Federico Rajola	Reimagining Advice-Seeking Networks: The Impact of Generative AI on Professional Collaboration	Research Idea
Maria Cristina Manocchio, Antonia Puccio, Yasir Faheem and Francesca Di Virgilio	Generational Diversity in Shaping the Impact of Performance Expectancy and Facilitating Conditions on Technology Perception	Short Paper
Marzia Ventura, Walter Vesperi, Concetta Cristofaro, Rocco Reina, Melina Anna Maria and Luigi Severini	Gamified Learning in the Workplace: A Corporate Training Case Study	Short Paper
Francesca Sanguineti, Rocco Palumbo, Damiano Petrolo, Federica Testa and Pietro Previtali	With a little help from my boss and my peers: Job satisfaction under tech pressure	Short Paper

Table 3. Generative AI Adoption and Technostress papers

1.4 Macro-theme 04: AI-Driven Organizational Change

This macro-theme explores how artificial intelligence and related digital technologies are transforming organizational structures, decision-making processes, and workplace dynamics. The studies grouped under this theme collectively view AI as both a catalyst and a context for rethinking how organizations evolve, adapt, and redefine their cultures in response to technological disruption. Across the contributions, three core dimensions emerge.

First, AI as an enabler of transformation: several studies investigate how the integration of AI tools in areas such as HR analytics, healthcare, and public administration triggers organizational learning and reconfiguration. These contributions highlight the interplay between technological affordances and managerial agency, showing that successful adoption depends not only on technical capacity but also on leadership, culture, and participatory governance.

Second, the human experience of AI-driven change: narrative and qualitative approaches reveal how employees construct their professional identities in the face of automation, algorithmic decision-making, and data-driven performance systems. Rather than treating resistance as a barrier, these studies interpret it as a form of adaptive sensemaking, rooted in identity, meaning, and trust. This perspective reframes change management as a dialogic process where emotions, values, and psychological safety are central to transformation.

Third, organizational resilience and adaptive governance: several papers examine how AI and digital infrastructures foster agility, foresight, and proactive public governance. The emerging concept of "anticipatory governance" in public organizations highlights how digital foresight, data analytics, and managerial competencies can enable institutions to navigate uncertainty while maintaining accountability and human-centered decision-making.

Together, these works converge on a vision of AI-driven organizational change as a socio-technical process, where technology, people, and institutions co-evolve. The findings reveal that sustainable transformation requires more than digital implementation; it demands new forms of leadership, ethical reflection, and continuous learning that can align technological evolution with organizational purpose and human well-being.

The papers belonging to this macro-theme are listed in the table that follows, providing an overview of the related contributions included in the proceedings.

Authors	**Title**	**Type**
Grazia Garlatti Costa and Francesco Venier	Addressing Organizational Barriers in AI Implementation: Evidence from Italian Companies	Short Paper
Lorenzo Mercurio and Lucio Todisco	Dialogical approach in organizations: a new managerial perspective to foster organizational change in the public sector.	Short Paper
Rodolfo Damiano, Benedetta Valeria Cannizzaro, Marcantonio Ruisi and Raimondo Ingrassia	"Resistance and resilience." Quest for the survival or prosperity of small and medium-sized Sicilian wine enterprises	Research Idea
Andrea Montefusco and Laura Cortellazzo	Developing collective leadership: the role of complexity	Short Paper
Stefano Armenia, Francesca Castaldo, Marco Arcuri and Primiano Di Nauta	Transformational leadership is not enough for effective strategic organizational change: Results from exploratory research in Italy	Short Paper
Cecilia Maltempo, Francesca Loia, Stefania Mele, Marcello Martinez and Mario Pezzillo Iacono	Investigating Change Processes and Practices in the Integration of Artificial Intelligence: A Narrative Inquiry Approach	Short Paper
Alberto Zanutto, Lorenzo Gios and Diego Ponte	Organizational Change and Digital Health: the Role of Innovation Ecosystems	Short Paper
Rebecca Trivelli and Stefano Za	A preliminary investigation of digital leaders' roles in the adoption of emerging technologies: a qualitative case study	Short Paper
Floriana Pollio	Artificial Intelligence as a Remedy for Burnout: Innovative Strategies to Enhance Well-Being in Healthcare	Research Idea
Giuseppe Garrubba	Desk Sharing in Public Administration: Acceptance and Appropriation of Workplace Innovation	Research Idea
Eleonora Di Napoli, Filomena Buonocore, Davide De Gennaro and Domenico Salvatore	Job Crafting Intervention: evaluating the effectiveness of an online training program	Research Idea
Filomena Pagnozzi, Simone Di Plinio and Gilda Antonelli	Identity traits and resistance to change in organisations: a psychometric framework	Short Paper
Luka Filipovic and Giancarlo Lauto	Effects of psychic distance on contractual structures: The case of an internationalized SME	Short Paper
Bonesso Sara, Cortellazzo Laura and Bressan Federica	Orchestrating the network of social relationships in hybrid workplaces: An empirical study of leaders' brokering behaviours	Short Paper
Francesca Chiara Serri	Organizing in Motion: Mobility as a Driver of Organizational Innovations	Research Idea
Daniela Aliberti and Lucio Todisco	Bright and dark sides of hybrid work models in the public sector: a social symbolic perspective from the Italian context	Short Paper
Lucio Todisco, Andrea Tomo, Gianluigi Mangia, Paolo Canonico and Federica Langella	Enhancing decision-making processes through managerial training and behavioural competencies: an Anticipatory Governance perspective	Short Paper

Costanza Baldrighi, Francesca Sanguineti and Pietro Previtali	Improving Telework Satisfaction in Public Organization with a Dual Perspective: Insights from an Italian Public University.	Short Paper
Alberto Varone and Francesco Bolici	From Speculation to Implementation: A Systematic Review of Return-to-Office Research and Its Impact for Organizations	Short Paper
Angelo Rosa, Marcello Martinez and Enrico Cori	Empowering Innovation: How Employee Culture and Skills Drive Technological Integration in Public Healthcare Organizations	Short Paper

Table 4. AI-Driven Organizational Change papers

1.5 Macro-theme 05: Inclusive HR and Employee Wellbeing

This macro-theme is the largest in terms of the number of contributions included in the proceedings. It examines the intersection between human resource management, inclusion, and employee well-being, focusing on how organizations can design human-centered systems that balance performance with care, diversity, and psychological sustainability. The papers grouped under this theme explore inclusive practices for people with disabilities, the evolving meaning of wellbeing in work contexts, and the emergence of new HR roles aimed at fostering happiness, engagement, and resilience.

Several contributions converge on the idea that social sustainability and inclusion are key drivers of well-being at both individual and collective levels. Studies on corporate social responsibility (CSR) and social sustainability reveal that organizations promoting equity, ethical practices, and employee participation achieve higher levels of well-being and job satisfaction. This human-centered approach broadens the concept of wellbeing beyond health and safety, encompassing purpose, belonging, and life satisfaction. It also emphasizes the importance of integrating CSR policies with internal HR practices, enabling organizations to nurture motivation, community engagement, and psychological health.

A complementary stream of research focuses on disability management and prosocial inclusion. These works advocate for a shift from compliance-based approaches toward models that view disability as a resource and a source of organizational learning. Leadership plays a crucial role here—inclusive leaders foster identification and prosocial behaviours toward colleagues with disabilities, particularly in public sector organizations where social responsibility and service values intertwine. This relational approach links diversity management with the broader principles of sustainability and equity.

The macro-theme also encompasses reflections on emerging HR roles and cultural transformation, including the rise of the Chief Happiness Officer (CHO). These professionals act as catalysts of positive organizational change, embedding wellbeing and engagement into strategy, leadership development, and everyday practices. Through storytelling and cultural interventions, CHOs contribute to building "positive organizations" where happiness, meaning, and human flourishing are strategic priorities rather than peripheral initiatives.

Finally, the contributions extend the discussion to psychological well-being under extreme or high-pressure conditions, such as those found in healthcare and emergency work environments. Research in this area highlights the dual nature of intense professional experiences (both healing and harmful), depending on the balance between autonomy, support, and emotional labour. These studies underscore that sustaining wellbeing in demanding contexts requires organizational structures that allow recovery, discretion, and emotional connection.

Overall, this macro-theme portrays inclusion and well-being as intertwined dimensions of responsible and sustainable HR management. The collected works propose that truly inclusive organizations are not only more ethical but also more resilient, innovative, and capable of sustaining long-term performance through care, empathy, and shared purpose.

The papers belonging to this macro-theme are listed in the table that follows, providing an overview of the related contributions included in the proceedings.

Authors	Title	Type
Alice Carnovali, Rita Bissola, Domenico Bodega and Barbara Imperatori	Building a greener organization from the bottom: insights into employee green training and cognitive green crafting	Research Idea
Francesca Mochi, Alessandra Lazazzara, Franca Maino, Asia Guerreschi, Alessandro Margherita and Davide Antonioli	Social sustainability and well-being satisfaction: a mixed method approach	Short Paper
Giuseppe Perna, Paolino Fierro and Luisa Varriale	Sustainability and disability management: A literature review on building responsible and inclusive organizations	Research Idea
Giuseppe Ceci, Mauro Gatti and Michela Iannotta	Human Resource Management and Eating Disorders: A Bibliometric Review and Future Research Agenda	Short Paper
Maria Menshikova, Isabella Bonacci and Danila Scarozza	Building a positive organization: cultural transformation and the role of Chief Happiness Officer	Short Paper
Giulia Flamini, Enrico Cori and Chiara Morelli	Rethinking HRM for Disability: Learning from the Past, Shaping the Future	Short Paper
Sara Lombardi, Miguel Pina E Cunha and Luca Giustiniano	Beyond the Emergency: Medium-Term Organizational Effects of Pandemic Responses in Italian Hospitality	Short Paper
Manuela Paolini and Domenico Raucci	Promoting Prosocial Behaviours towards Persons with Disabilities in Public Sector Organizations	Short Paper
Zoe Irene Albisetti and Fabrizio Gerli	Fostering Employee Well-Being Through Leadership: An Empirical Exploration of Styles and Behavioral Competencies	Short Paper
Cinzia Calluso, Valentina Iacopino and Anna Piazza	Gender, Culture, and Leadership: Shaping Respectful Practices and Employee Engagement	Short Paper
Nicole Alonso and Anthony Silard	The Development of an Emotion Processing Culture: How Leaders Support Employees after Work-Related Trauma	Research Idea
Ylenia Curzi, Tommaso Fabbri, Francesca Nepoti, Barbara Pistoresi and Erica Poma	When work heals and hurts: emotional wellbeing of extreme workers in emergency departments.	Short Paper
Tiziano Volpentesta, Fausto Di Vincenzo, Daniele Mascia and Camillo Odio	Inter-Organizational Networks in Times of Crisis: A Resilience Perspective	Short Paper
Beatrice Re and Pietro Previtali	Promoting healthy eating initiatives in organizations: an exploratory study	Short Paper
Gaia Pennino, Rocco Agrifoglio, Concetta Metallo and Maria Ferrara	Why can't I be a 'pizzaiola'? An exploratory study of the gender differences in the Neapolitan Pizza business	Research Idea
Ludovica Airaghi, Alessandra Lazazzara, Chris Ashwin and Sanjay Kumarendran	A Systematic Review of the Literature on the Recruitment and Hiring Processes for Autistic Candidates	Short Paper

Table 5. Inclusive HR and Employee Wellbeing papers

1.6 Macro-theme 06: HR Transformation and Competencies

This macro-theme focuses on the evolution of Human Resource Management (HRM) in the era of Artificial Intelligence and digital transformation. The collected contributions examine how AI,

automation, and data analytics are transforming HR roles, competencies, and professional identities, while also impacting employee experience, ethical decision-making, and organizational effectiveness.

Across the papers, a central idea emerges: HR is transitioning from an administrative support function to a strategic orchestrator of organizational transformation. The integration of AI technologies requires HR professionals to master new technical, analytical, and ethical skills, striking a balance between algorithmic precision and human empathy and critical thinking. The studies underline that digital transformation in HR must be accompanied by reskilling and upskilling efforts, enabling HR specialists to interpret data responsibly and design inclusive, human-centered practices.

A recurrent theme concerns the reconfiguration of HR roles in response to AI. Emerging positions such as HRIS Managers, Performance Management Specialists, and Employee Wellness Managers are redefining the boundaries of HRM. These professionals ensure data accuracy, align individual goals with AI-driven metrics, manage digital well-being, and foster creativity within technologically mediated environments. AI's ability to automate tasks and generate insights enhances productivity and engagement, but also calls for careful management of stress, ethics, and fairness to preserve trust and transparency in decision-making.

Several studies highlight that AI-based HR systems can simultaneously enhance and challenge fairness, optimizing recruitment and performance evaluation while risking bias and opacity if poorly governed. Thus, the human oversight of algorithmic processes becomes a defining HR competency. HR's role extends to ensuring that ethical, psychological, and social implications of AI are addressed through communication, training, and participatory governance.

At a broader level, this macro-theme positions HR professionals as key agents of organizational resilience and innovation. Their mission is to integrate technology with humanity, leveraging AI to empower rather than replace people, supporting continuous learning, and shaping work environments that value creativity, adaptability, and well-being. The emerging competency profile of the "HR of the future" blends digital literacy, strategic foresight, and emotional intelligence.

The papers belonging to this macro-theme are listed in the table that follows, providing an overview of the related contributions included in the proceedings.

Authors	**Title**	**Type**
Roberta Romano, Simona Mormile, Caterina Galdiero, Gabriella Piscopo and Paola Adinolfi	Making the Public Sector Attractive Again! An Exploratory Study of Employer Branding Strategies in the Italian Public Sector	Short Paper
Sofia Casà, Sanne Frandsen and Raimondo Ingrassia	Temporal storytelling in response to organizational stigma: negative and positive sensemaking of change in Sicilian public employment services	Short Paper
Manuela Paolini, Simona Leonelli and Fausto Di Vincenzo	Doctor-managers innovative work behaviour: does narcissistic personality matter?	Research Idea
Enrico Carlet and Martina Gianecchini	Going hybrid: empirical evidence on workers' preferences for hybrid work arrangements	Short Paper
Haiat Perozzo and Aurelio Ravarini	The HR Function as a Keystone of Organizational Transformation: the role of AI Integration	Short Paper
Domenico di Prisco, Marion Fortin and Silvia Dello Russo	Artificial intelligence and 'humanness': exploring recruiters' attitudes toward AI in hiring	Short Paper
Filippo Ferrarini and Simona Leonelli	Exploring trends in Artificial Intelligence and Employees' Well-being	Short Paper
Daniela Aliberti, Rita Bissola and Barbara Imperatori	Who's really concerned about Diversity, Equity, and Inclusion? Insights from the divide between HR Professionals and corporate New Hires	Short Paper

Giorgia Moretti and Teresina Torre	Fairness, Bias, and Employee Trust in AI used in HRM. A Scoping Review	Short Paper
Ilaria Mastrangelo, Aizhan Tursunbayeva and Irene Gargano	From Attraction to Retention: Digitally Enabled Employer Branding in the Italian Retail Sector	Research Idea

Table 6. HR Transformation and Competencies papers

1.7 Concluding Remarks on the Six Macro-Themes

Across the six macro-themes outlined in these proceedings, a coherent narrative emerges: organizations today are evolving within an ecosystem shaped by technological evolution, human-centered transformation, and societal responsibility. From civic engagement and cultural sustainability to the internationalization of startups, from AI-driven change to inclusive well-being and HR transformation, the research presented highlights how technology and humanity are increasingly intertwined in shaping the future of work and organizations.

These themes collectively suggest that future research should further explore the interdependencies between digital systems, human values, and institutional frameworks, examining how learning, inclusion, and ethical governance can sustain innovation and resilience in complex environments. The next frontier lies in deepening our understanding of how individuals and organizations co-adapt within these evolving socio-technical ecosystems.

In this perspective, the doctoral consortium abstracts that follow represent a bridge to this future research agenda. They embody the emerging voices and ideas that will extend, challenge, and refine the conceptual trajectories traced by the six macro-themes, contributing to the continuous renewal of organizational and management studies in the years ahead.

2 Doctoral consortium abstracts

The Doctoral Consortium section gathers the research ideas of young scholars, collectively reflecting the emerging trajectories of organizational and management studies. The contributions explore how emerging technologies, human development, and sustainability intertwine to shape the evolution of organizations, governance, and work practices. Through qualitative, theoretical, and mixed-method approaches, the doctoral researchers address the challenges of an era defined by digital transformation, social responsibility, and organizational resilience.

The first cluster, Artificial Intelligence, Data Governance, and Digital Transformation, examines the transformative impact of AI, automation, and data-driven systems on organizational decision-making, performance management, and professional identity. The second cluster, Organizational Learning, Resilience and Leadership, focuses on adaptive capabilities, well-being, and digital leadership as key levers of renewal in public and private organizations. The third cluster, Sustainability, Entrepreneurship and Social Innovation, highlights the role of entrepreneurship, networks, and inter-organizational collaboration in advancing inclusive and sustainable forms of value creation.

Together, these doctoral studies represent a stream of research dedicated to integrating technology, ethics, and sustainability into organizational theory and practice, thereby contributing to the ongoing redefinition of responsible, adaptive, and human-centered organizations.

The doctoral consortium abstracts are reported in the table that follows, which provides an overview of the related contributions included in the proceedings.

Cluster	**Authors**	**Abstracts**
1	Marco Smacchia	A socio-technical approach to explainability in generative ai: exploring user trust and decision self-efficacy

1	Alessandra Di Giacomo	The transformative potential of ai in cybersecurity auditing
1	Muhammad Mansoor and Lorenzo Lucianetti	Integrating Blockchain Technology into Performance Management Systems for Agri-Food Companies in Italy: A Path to Sustainable Growth.
1	Riccardo Cerretani	Artificial Intelligence in Human Resource Management: A Bibliometric Analysis
1	Marco Caggianelli, Daniele Mascia and Elena Bruni	Exploring the interplay between Artificial Intelligence and professionals' expertise: Qualitative evidence from healthcare
2	Rebecca Trivelli and Stefano Za	Investigating digital leadership in the adoption of emerging technologies
2	Priya Upadhyay and Armando Della Porta	A Review and Framework for Organisational Learning in Public Sector
2	Vito Del Vecchio, Mariangela Lazoi, Giorgia Specchia and Fabio Paracchini	Organizational Performance and Perceived Innovation: A pilot test
2	Paola Della Zassa and Alessandra Tognazzo	An Investigation into Italian Healthcare professionals' perceptions of Organizational Resilience: from Pandemic-induced Challenges to the ongoing Workforce Crisis.
2	Antonia Puccio	Promoting Innovation in the Public Administration: Digital Competencies and Soft Skills as Key to Success
3	Loris Santarelli	Coordinating Collective Action for Grand Challenges: Insights from Inter-Organizational Collaboration
3	Giulia Scanu, Matteo Opizzi and Michela Loi	The transformative power of Entrepreneurship: How to exploit this power in Entrepreneurship Education and Training.
3	Alexia Ciroi, Daniel Pittino and Francesca Visintin	AI as an External Enabler for Women Entrepreneurship: a Systematic Literature Review
3	Luka Filipovic	What role for entrepreneurial ownership? A systematic theorization of the knowledge base
3	Isotta Vazzoler	Understanding the Formation and Evolution of Family Boundary Organizations in Entrepreneurial Families
3	Camilla Mola and Daniele Mascia	Networks and Innovation in semiformal organizations
3	Flavia Marucci and Lucia Marchegiani	Participatory Assessment of the Private Sector for Sustainable Development: Insights from the CarbonSink Project
3	Francesca Diodoro	The Circulation of Knowledge: How Returning Inventors Foster Start-Up Ecosystems

Table 7. Doctoral Consortium abstract list

3 Conclusion

These proceedings mark a significant milestone in the ongoing development of organizational studies. Each contribution builds upon what came before, adding depth through gathered insights rather than making big leaps.

This annual conference serves as both a reflection of trends and a means to sense deeper shifts. It picks up on where our shared research heads next and uncovers the forces that shape the whole area. As the conceptual art movement, where the making and direction count just as much as the final result, in this annual conference, we observed research that treats organizations as active systems in which edges of competition form from many different variables.

We extend our sincere thanks to all the researchers who contributed to this effort, even to those whose contributions don't appear in these conference proceedings, because the researchers' efforts keep our area alive and moving, and point toward findings we have not reached yet.

We thank the Scientific Committee for working diligently to revise and review all the papers in a professional manner and within such a short timeframe. Finally, we thank the entire ASSIOA community and its President, Luigi Moschera, for the support and advice he provided to help us organize and achieve our goal of creating a vibrant conference to discuss our research.

Ultimately, something clear stands out in these writings: in times of uncertainty, organizational design and people make the difference in leading the change. That is why the ASSIOA research community can mark the difference.

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THE ROLE OF HR PRACTICES IN INTEGRATING THE COMMON GOOD IN ORGANIZATIONS

Short Paper

Silvia Barghini, University of Pisa, Pisa, Italy, silvia.barghini@phd.unipi.it
Sara Sassetti, University of Pisa, Pisa, Italy, sara.sassetti@unipi.it
Mariacristina Bonti, University of Pisa, Pisa, Italy, mariacristina.bonti@unipi.it

Abstract

Corporate strategies increasingly emphasize values that serve the common good by addressing economic, environmental, social, and human goals. We propose a cross-analysis of HR practices and sustainability, suggesting that HR practices are most effective at advancing sustainability when they operate collaboratively rather than independently. Using a Systematic Literature Review (SLR) of 94 studies, we explore how HR practices integrate sustainability into organizational cultures. In this short paper, we highlight some initial evidence of the role of each HR practice towards each dimension of sustainability. Our analysis also demonstrates that coordinated HR strategies enhance the ability of organizations to embed sustainable principles effectively. By examining HRM influence across sustainability dimensions, we provide actionable recommendations for organizations to align their HR initiatives with sustainable goals. Additionally, we identify future research pathways to refine understanding and enhance implementation, emphasizing that integrated approaches are vital for embedding the common good in business practices.

Keywords: HR practice, sustainable HRM, sustainability, common good.

1 Introduction

In recent years, organizations have demonstrated a growing commitment to aligning corporate objectives with broader societal expectations. This evolution marks a shift from a profit-driven approach towards a more integrated and sustainable vision, oriented towards the pursuit of the common good. Within this transformative landscape, Human Resource Management (HRM) emerges as a key driver, playing a central role in addressing sustainability-related challenges and facilitating an internal cultural shift towards the attainment of social, environmental, and economic goals (Barghini et al., 2024; Pham et al., 2023). The promotion and internalization of common good values through sustainable HRM practices may also generate a ripple effect, indirectly influencing the broader human, social, and environmental dimensions in which organizations are embedded (Aust et al., 2020). In response to these developments, HR professionals have increasingly sought to position themselves as strategic business partners, reinforcing their legitimacy and credibility by actively contributing to organizational strategies through the adoption of HRM practices rooted in principles of sustainability (Podgorodnichenko et al., 2020). In this context, Yong et al. (2020) underscore the importance of critically examining HR practices through the lens of sustainability, proposing that diverse HR initiatives may enhance sustainable organizational performance in multifaceted ways.

This study seeks to address this research gap by examining the HR practices that most effectively align with sustainable performance goals. The central research question driving this research work is: *What*

are the most effective HR practices to achieve each sustainable business goal? By focusing on the intersection of HRM practices and sustainability, this research aims to contribute to the ongoing discourse on how organizations can balance financial, social, and environmental priorities, ultimately fostering a more holistic and common good approach to business success.

In line with recent studies (Barghini & Bonti, 2024; Buzzao & Rizzi, 2021; Mahajan et al., 2024; Mahran & Elamer, 2024; Muskat et al., 2022; Rosso et al., 2024; Satar et al., 2024; Seow, 2024), we conducted a Systematic Literature Review (SLR) to address the research question. The review was carried out in accordance with the Tranfield et al. (2003)'s guidelines to ensure transparency and replicability of the research process. The 94 selected articles were categorized into two overarching thematic areas: one focused on HRM practices and the other on the various dimensions of the sustainability concept. The analysis was conducted by cross-referencing these two areas to explore how HR practices intersect with different sustainability paradigms. The findings presented below contribute to the theoretical discourse, offering new avenues for future research and outlining meaningful implications for managerial practice.

2 Methodology

Building on previous studies (Barghini & Bonti, 2024; Buzzao & Rizzi, 2021; Mahajan et al., 2024; Mahran & Elamer, 2024; Muskat et al., 2022; Rosso et al., 2024; Satar et al., 2024; Seow, 2024), we employed a Systematic Literature Review (SLR) methodology (Tranfield et al., 2003) to develop a cross-systematization of the current literature on the HRM practices and sustainability considered in all its forms. Grounded in the principles of the scientific method, the SLR approach aims to reduce potential bias by ensuring a comprehensive, transparent, and replicable process for identifying and evaluating scholarly contributions. The SLR is widely regarded as one of the most rigorous methods for synthesizing and critically appraising academic literature (Mulrow, 1994). Figure 1 describes the steps followed.

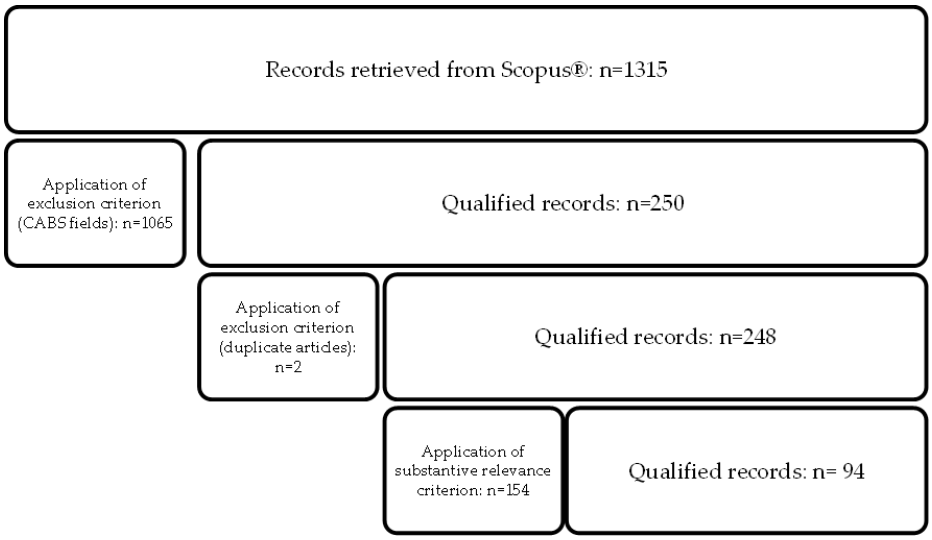


Figure 1. Flowchart of the literature search process (own elaboration).

The initial phase focused on the systematic collection of relevant articles that would inform the subsequent analysis and discussion of the phenomenon under investigation. The search occurred on 11/07/2024 and the research query performed on Scopus®. Consistently with previous literature, we searched the following keywords in the title, abstract, and keywords of papers (Figure 2).

Focus on HR practices:	("HRM" OR "human resource management" OR "HR" OR "employee") AND ("system" OR "process*" OR "practice" OR "polic*") AND ("recruit*" OR "selection" OR "hir*" OR "training" OR "development" OR "performance management" OR "employee relation*" OR "employee law" OR "employee compliance" OR "compensation" OR "benefit*" OR "payroll" OR "administration" OR "value" OR "ethics" OR "culture" OR "organizational structure")
	AND
Focus on sustainability:	("common good" OR "sustainab*" OR "SDG" OR "sustainable developmet goal" OR "ESG" OR "environmental social and governance" OR "TBL" OR "triple bottom line" OR "QBL" OR "quadruple bottom line" OR "climate change" OR "environmental sustainability" OR "ecological sustainability") AND ("well-being" OR "wellbeing" OR "health" OR "experience" OR "performance" OR "diversity" OR "inclusion" OR "equity" OR "work-life balance" OR "work life balance" OR "social responsability" OR "justice" OR "trasparency" OR "profitability" OR "green behaviour" OR "green behavior" OR "green management")

Figure 2. Flowchart of the literature search process (own elaboration).

We included only those journal articles that have been written in English, published until mid-2024, and included in the subject area "Business and Management". We obtained 1315 articles.

In the second step, we defined the inclusion/exclusion criteria. We decided also to focus our review on the influential business journals that were catalogued by the Chartered Association of Business Schools (CABS, 2021) in the most relevant fields for our research. The selected fields were in detail: General Management, Ethics, Gender and Social Responsibility ("ETHICS-CSRMAN"), Human Resource Management and Employment Studies ("HRM&EMP"), Organizational Studies ("ORG STUD"), Psychology (Organizational) ("PSYCH (WOPOB)"), Social Sciences ("SOC SCI"), and Strategy ("STRAT"). We removed 2 overlapping articles. Then, by reading their title, abstract, and full text, we excluded those papers not related to the relationship between HRM and sustainability in terms of research topic, scope, and focus (substantive relevance criterion). Thus, we obtained a final sample of 94 relevant articles.

3 Evidence from a dual systematization between HRM and sustainability

In this section, we provide some initial evidence from a dual systematization of the 94 sampled articles across two parallel research themes: HR practices and their articulations and sustainability and its declinations. Adopting this approach may be useful to engage in a meaningful discussion of the research outcome, given that each HR practice may be related to sustainability in a unique way. Please note that often the papers hand simultaneously more than one sustainability declination and more than one HR practice. Figure 3 provides a visual representation of the logic of analysis.

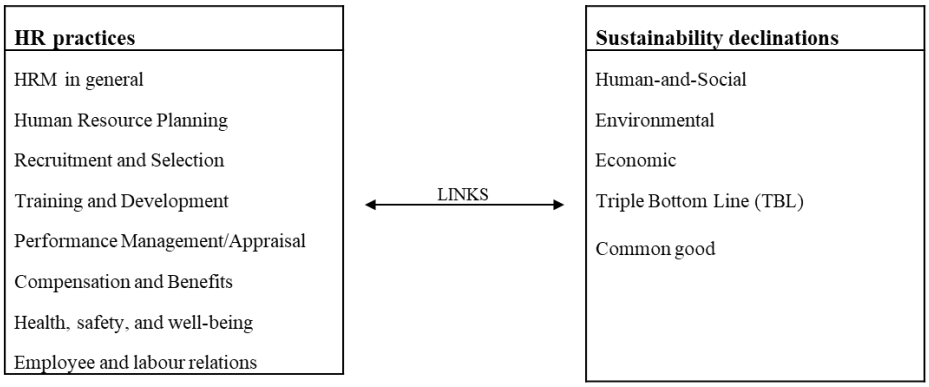


Figure 3. Cross-sectional systematization (own elaboration).

Looking at HR practices, many contributions on sustainability refer to HRM in general, without a focus on specific HR practices (63%). In addition, not all individual HR practices have equal coverage in literature and are often treated in conjunction with the others. The three most widely represented HR

practices are: “training and development,” “performance management/appraisal,” and “compensation and benefits.” The most common HR practice is “training and development” (21%): only 6 papers are focused on it, the others study it together with other practices. The study revealed that the ability of this practice in contributing to corporate sustainability seems to depend mainly on employee behaviour and job satisfaction. Interestingly, these two factors seem in turn to be influenced by the practice itself. There is a kind of iterative relationship that might be interesting to test in future research.

Then, “performance management an appraisal” follows by number of papers dealing with the practice (19%) and only 4 papers are focused on it. This practice may influence green employee behaviour, but its contribution is highly affected by all other HR practices.

“Compensation and benefits” is ranked in the third place (15%) and the two papers focused only on it look at sustainability in the TBL declinations. Often this practice is treated in conjunction with “recruitment and selection” and “training and development” and by considering the environmental dimension of sustainability. Moderating effects of the contribution of this practice to sustainability have been identified in literature, that are people cultural values, people attitude towards corporate sustainability activities, and motivational base of people.

Then, 13% of the contributions in the final sample relates to the practice of “recruitment and selection”. Although it seems to have a positive effect on employee pro-sustainability behaviour, this appear to be strongly interconnected with the other HR practices. Indeed, no article analyses it alone.

“Health, safety, and wellbeing” follows with coverage of 8,5%. As expected, the focus here is on human and social sustainability. Some factors have been identified as crucial to the pursuit of the common good. These are work flexibility, co-worker support, supportive supervisor, supportive family, programmed work–life, and recovery activities. The ability of these factors to push towards sustainability seems to be mediated by people’s cultural values.

“Employee and labour relations” has a coverage of 3% but no contribution analyses it alone. Despite its great importance from a human and social point of view, among these contributions, attention on sustainability is clearly focused on the environmental dimension. Future research could therefore try to fill this research gap, by studying the contribution of this practice towards CSR.

Finally, despite its great strategic importance, “human resource planning” is the least addressed in literature. An explanation for this lack of literature could be found in the nature of the practice itself. This is oriented towards the future but may be difficult to observe by research because strategic approaches are often hidden by companies. Therefore, research to date might have focused on the analysis of actual data to identify a starting framework and later advance research on forward-looking strategic improvement. In contrast to the previous HR practice, in this cluster, the concept of sustainability can only be interpreted in its social and human dimensions.

As regards sustainability, the environmental (green) dimension of sustainability is the most recurrent in HRM literature (51%), 13% of the accepted paper is about the huma-and-social dimension of sustainability, while the common good and economic sustainability are the least common (5% and 1%). Sensitivity to the environmental issue may indeed be the first form of sustainability to have strongly spread in organizations. The first studies on CSR in HRM literature date back to the first decade of 2000 (Cornelius & Skinner, 2005): contributions have had time to stratify. Economic sustainability is a form of sustainability that is more related to the field of accounting research by nature. The concept of the common good emerged in HRM literature only recently (Aust et al., 2020) and future research should continue to explore it.

Across the clusters, organizational culture has proved to be a mediator of the relationship between HRM and sustainable business performance, and HR practices are essential for improving corporate sustainability.

4 Conclusion and practical implications

Adopting a holistic and interconnected HR strategy is crucial for managers aiming to embed sustainability effectively. This means moving beyond isolated HR functions and recognizing that each

component of HRM works in synergy with others. Managers should strategically design and integrate the HR practices to collectively shape employee behaviours, attitudes, and motivations. Therse elements actively support the corporate sustainability goals after all. The integrated approach is crucial for building a corporate culture where sustainability is not just a policy but a deeply ingrained value.

Furthermore, managerial decision-making should prioritize the adaptation of HR practices to the unique organizational context. Sustainability strategies are not universally applicable. Managers need to tailor their HR initiatives to reflect specific sustainability goals to achieve, existing organizational culture, prevailing industry standards to be adhered to, and finally regional characteristics and stakeholder expectations influencing their operating environment. This approach ensures that sustainability efforts are relevant, impactful, and resonate among employees and external stakeholders. This fosters a more authentic and effective integration of the common good in organizations.

Finally, to a truly comprehensive and impactful sustainability strategy, managers should promote the common good and social sustainability alongside environmental considerations. Although environmental aspects often receive greater attention, focusing simultaneously on the social and human dimensions is necessary to have a balanced and comprehensive approach. HR practices should be strategically leveraged to enhance employee well-being, by creating a supportive work environment and prioritizing health, safety, and overall quality of life. This can be achieved through managerial support for initiatives such as flexible work arrangements, accessible mental health resources, proactive diversity and inclusion programs, and policies promoting a healthy work-life balance. Moreover, managers should extend their focus beyond the internal workforce. They should actively consider and mitigate the broader social impact of their business operations, ensure to contribute positively to the community well-being, and promote a sense of shared responsibility.

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ORGANISING SMART RESPONSIBLE CITIES

Short Paper

Mauro Romanelli, University of Naples Parthenope, Napoli, Italy, mauro.romanelli@uniparthenope.it

Maria Ferrara, University of Naples Parthenope, Napoli, Italy, maria.ferrara@uniparthenope.it

Abstract

Cities are planning the future of urban communities, adopting the smart city vision to drive urban innovation processes, and following a responsible way to improve the quality of life and contribute to urban growth. Cities are redesigning the urban planning, relying on smart city development to make the city an engine of responsible and social innovation, a smart socially innovative urban community. The analysis elucidates that European cities are rethinking on the urban planning, adopting a smart city framework in order to drive responsible urban innovation, leading to collaborative processes that drive the city to become a smart responsible and innovative urban community able to achieve urban sustainability.

Keywords: Smart City, Responsible Innovation, Smart Communities.

1 Introduction

Today, cities are reflecting on the future of urban growth and design, by planning a smart city view in order to shape the city of the future, a smart responsible and innovative urban community, and develop a *more than human* city, leading to responsible urban innovation for good outcome for humans and nonhumans (Yigitcanlar, 2018; Stilgoe, Owen & Macnaghten, 2013), so making the city a community which is able to meet the grand societal challenges (Voegtlin, Scherer, Stahl &Hawn, 2022), beyond the smart growth business-led visions (Grossi & Pianezzi, 2017), leading to smart innovative and responsible communities, coherently with a smart city development that relies on promoting collaborative frameworks that contribute to responsible innovation and improve the quality of life within urban communities (Mora *et al.*, 2023; Dolmans *et al.*, 2023; Yigitcanlar *et al.*, 2021), avoiding harm to communities, leading to responsible urban development (Voegtlin & Scherer, 2017), and collaboration-led responses for social innovation development (Costales, 2022; Voegtlin, Scherer, Stahl & Hawn, 2022). Smart city planning and advancements help identify satisfying solutions that contribute to responsible and sustainable innovation and development (Sharifi *et al.*, 2024).

Cities are developing organisational spaces (Knox, 2010), making a net action (Czarniawska, 2002), evolving as engines of social innovation (Costales, 2022), by designing the smart city, a social and technology-led means for meeting societal grand challenges in order to improve both urban innovation processes and the quality of life in long-term horizon (Appio, Lima & Paroutis, 2019).

Cities are planning smart city-led urban design to make the city a healthy urban system of systems, to shape a new generation of a truly smart sustainable city and engine of responsible urban innovation meeting the challenges of Anthropocene epoch (Stilgoe, Owen & Macnaghten, 2013), preserving the urban ecosystems, balancing economy, society and environment (Yigitcanlar, 2018).

Cities are planning the urban future by smart city framework, leading to an organised maturity of a smart sustainable city that is able to support community engagement for responsible innovation (Anthony, 2024; Scherer, Neesham, Schoeneborn & Scholz, 2023), fostering technology, community and policy

(Yigitcanlar *et al.,* 2021). Smart city development relies on promoting collaborative multi-actor frameworks for open innovation (Dolmans *et al.*, 2023; Paskaleva, 2011), leading to public-private cooperation and alliance, by strengthening the role and importance of multi-level and multi-actor partnerships (Fernandez-Anez, Fernàndez-Güell & Giffinger, 2018).

There are still few studies that analyse the role of urban planning with regards to smart city vision, and in relation to responsible innovation issues that concern the future of cities and urban communities. How are cities rethinking on the perspectives of urban growth and innovation? Are they following a pathway for responsible urban innovation? Paris Vienna and Berlin are defining the trajectories of urban growth, organising the city of the future, following a smart city vision to make responsible innovation, by fostering collaborative processes that contribute to urban innovation in a responsible way, and shape the city a smart socially responsible urban community and engine of sustainable innovation.

2 Cities designing a smart city plan for responsible innovation

Cities are planning the urban future, selecting a smart city vision to address urban growth and make the city a responsible and innovative urban community able to deal with social challenges, meeting urban sustainability needs, and leading to urban collaborative ecosystems that contribute to engendering responsible innovation issues (Mora *et al.*, 2023), in order to empower the role of citizens and urban communities in co-production of services and policies (Martin, Evans & Karvonen, 2018).

Smart cities contribute to making the city a smart community, a *continuum* in which public-private urban actors think on and develop initiatives to improve the city a better place for life, and focus on technology, community, policies, assets that drive and improve innovation processes (Gil-Garcia, Pardo & Nam, 2016; Yigitcanlar, 2021), forming alliances and collaborative partnerships to drive innovation, make governance frameworks, and to provide benefits to the society (Meijer & Bolivar, 2016; Voegtlin & Scherer 2017; Yigitcanlar, 2018; Yigitcanlar *et al.*, 2021).

Cities aim at driving intentionally the choices about urban development trajectories, dealing with human-led technology in order to meet the needs of urban communities (Knight, 1995) and shape the life of the city for responsible innovation (Stone, 2021), leading to smart progressive cities (Hollands, 2008). Cities select a smart city framework in order to identify responsible ways of doing innovation, by empowering the actors to develop creative ideas that contribute to urban qualitative change and improvement (Meijer and Thaens, 2018) in order to achieve sustainable development goals and urban growth (Sharifi *et al.*, 2024), developing the next generation of smart cities, and enhancing local information ecosystems and networking embedded within urban communities to drive open innovation (Han & Hawken, 2018; Paskaleva, 2011).

Rethinking the city following a smart city view relies on building a smart city urban planning that helps organise the urban spaces for community and social innovation coherently with a smart approach, in order to shape smart responsible and sustainable cities (Yigitcanlar, 2018). Cities support urban innovation that relies on driving collaboration by technologies (Meijer and Thaens, 2018), selecting a smart city view to urban growth (Joss *et al.*, 2019), to make responsible urban innovation a process of creative and collaborative relationships that strengthen the stakeholder involvement for change, and enable the way by which the cities learn to drive smart urban socially responsible and innovative communities (Anttiroiko, Valkam & Bailey, 2014; Paskaleva, 2011).

The smart city shapes the pathway the city is embracing, leading to smart city-led organised urban maturity to drive innovation, by strengthening positive freedoms and following a collaborative and community view to urban innovation and wellbeing, focusing on people and policies, and fostering community engagement for tackling social challenges (Scherer, Neesham, Schoeneborn & Scholz, 2023; Trencher, 2019; Anthony, 2024).

A smart city helps to shape the city a smart urban community able to drive innovation by strengthening collaboration and supporting cooperative processes (Eger, 2005), leading the city to developing the smartness as organisational competence and ability to shape urban as well as organisational and

collaborative spaces that open to social innovation (Meijer & Bolivar, 2016). Selecting a smart city approach helps the city to develop social and organisational frameworks for responsible urban innovation, aligning ethical values to technological advancements, meeting both societal needs (Li *et al.*, 2023) and grand societal and environmental challenges, by urban communities working through multi-actor public-private partnerships, and strengthening stakeholder-led cooperative processes (Voegtlin, Scherer, Stahl & Hawn, 2022; Fernandez-Anez, Fernàndez-Güell & Giffinger, 2018), that help to promote collaborative and community-led models beyond technology (Mora, Deakin & Reid, 2019).

As a means for driving urban innovation and providing a platform to achieve sustainable urban future (Nam & Pardo, 2011; Yigitcanlar, 2021), the smart city helps the city to shape a smart urban community for quality of life improvement, leading to favourable issues for responsible urban innovation, supporting the alliance of science and innovation (Stilgoe, Owen & Macnaghten, 2013), and proceeding towards social justice-led values for responsible urban growth (Alizadeh & Sharifi, 2023). Re-planning the urban design following the smart city development enables an integrative technological model that supports community empowerment and participation (Kummitha, 2024), leading to a civic view for innovation (Grossi & Pianezzi, 2017), and overcoming the technological optimistic rhetoric (Bär, Ossewaarde & van Gerven, 2020).

3 Methodology

The research methodology is qualitative and relies on analysing multiple case studies (Eisenhardt, 1989). The study is descriptive and exploratory. It refers to European cities that are rethinking on the urban future planning itineraries for urban growth and innovation. The study relies on analysing the urban planning documents that follow a smart city trajectory in order to shape the urban future looking at the urban sustainability and innovation. In particular, the study aims to analyse how Paris, Berlin and Vienna are re-planning the urban design for making responsible urban growth and innovation, adopting a smart city strategy. Rethinking on designing smart responsible urban innovation helps the city to plan post-anthropocentric futures, and shape *more than human* cities (Yigitcanlar, 2018). The analysis of three illustrative case studies helps understand the trajectories for driving responsible urban innovation. Data collection and analysis are drawn by policy documents as the smart city strategy frameworks related to *Paris Smart and Sustainable Looking ahead to 2020 and beyond*, *Gemeinsam Digital: Berlin (GD:B),* and *Smart City Strategy Vienna* that provide information sources in order to understand the pathway cities are following in developing smart city planning to shape the itineraries of urban innovation (Sancino & Hudson, 2020; Yigitcanlar, 2018).

4 Findings

Paris, Vienna and Berlin are planning the urban future formally designing and following a smart city strategy. The findings draw by the analysis of smart city urban planning are elucidated and reported in this section. The urban planning frameworks are looking at the smart city vision to drive urban growth, and leading to organisational as well as collaborative frameworks and arrangements for urban innovation processes. In particular, the smartness is emerging as collaborative capability of a city which is becoming a cooperative, inclusive, eco-friendly and socially innovative community.

As smart city urban planning framework *Paris Smart and Sustainable. Looking ahead to 2020 and beyond* places the role of technology as an enabler of urban communities that may shape the city a smart and sustainable community which is able to contribute to urban innovation, and develop the smartness as a collaborative capability that city may employ in order to achieve a sustainable future and improve the quality of urban life, and make the city an engine of social innovation and eco-friendly community. The smart city approach helps shape the city an open platform, leading the urban community to develop and experiment new services, innovations and co-produce solutions that contribute to making wealthy

urban spaces, leading to healthy and safe urban environments. Paris aims at developing a smart city vision, following the responsible innovation view to sustainable urban development and future, bringing together social, technological and organisational assets to track a pathway leading the city to becoming a connected community by technologies in order to build an open city that enhances citizen participation and supports collaborative efforts for projects development, and fostering knowledge and social exchange between business, public bodies, academia, research and urban community, leading to administrative modernisation that facilitates community and stakeholder involvement. As the effective social change agent, the sustainable city is emerging as the issue of a city which is able to develop smartness as a collaborative capability to design and implement responsible innovation processes that facilitate the community inclusion and engagement, the co-design of policy decision-making, and ensure better quality of live to people living urban spaces and communities.

The *Smart City Strategy Vienna* is looking at next future of the 2050 and develops a smart city approach to urban growth and innovation in order to improve the quality of living, to achieve urban sustainability, and to build conditions for urban prosperity, leading to better opportunities for education and training, making smart workplaces. Smart city urban planning relies on the technology as a simplifier of the urban life, a supporter of professional training. Responsible urban innovation is the social issues of smart policies, applications and cooperation within urban communities and spaces, engines of urban future, social inclusion and cohesion, making the city a community which is able to shape wealthy, eco-friendly, energy clean and safe urban environments, leading to civic engagement and participation, protecting the humans and nonhumans, and following a smart green approach to urban growth, leading to social innovations coherently with responsible innovation pillars and practices in order to ensure high and top quality of living, strengthening social participation and fostering sustainable inclusive urban growth. The smart city urban planning aims at shaping the city a smart innovative community, leading to collaborative processes that support urban social value creation and innovation, enhancing co-innovation, co-determination and co-decision making as organisational arrangements and framework that shape the mind set and the modus operandi of smart responsible innovative urban communities, putting the community and people first, leading to building collective social urban intelligence.

The smart city urban planning of Berlin refers to the policy document *Gemeinsam Digital: Berlin (GD:B)* that supports the role of a city able to make a collaboration-led and social innovation-oriented urban community. The aim of urban policy makers is to adopt a smart city mind set to make the city a sustainable and innovative community acting as an effective agent of social and responsible innovation, following the smart thinking as a pillar that supports urban actors and stakeholders to make collaborative efforts in order to work together for common good and form alliance to drive innovation processes coherently with responsible innovation values and principles. Smart city vision helps shape the city a smart innovative and responsible community that develops smartness as a capability for inclusive and sustainable urban growth. The role of smart city framework is to make a cooperative, socially innovative and cohesive city, and enable the city a technology-led and social platform that enables all the urban private and public stakeholders to *gemeinsam* or work together in order to forma alliance and make cooperative efforts in order to drive urban transformation and develop community-led and participatory as well as collaborative solutions for leading to responsible innovation issues that relies on cooperative vision and arrangements. The role of municipal administration is to connect the urban actors for cooperative frameworks and arrangements, and to facilitate digital transformation processes to drive cultural change and support initiative and policies that meet the common good of the urban community, fostering community creative participation to drive responsible urban innovation, following a sustainable way to urban growth.

5 Discussion and Conclusions

European cities are adopting a smart city view and mind set in organizing the urban spaces coherently with designing the city a smart innovative and responsible community able to contribute to improving

the quality of life of people and urban communities. Cities are rethinking on making smart and collaborative urban communities that drive responsible future and innovation and contribute to the implementation of policies and actions that help improve the quality of life and drive sustainable innovation processes. The urban spaces provide an opportunity for making the city and engine of responsible innovation, combining the potential of technologies and empowering citizens and communities to employ and mobilise social energies and capabilities to support social issues and innovation in order to achieve urban sustainability. In particular, cities make and enhance collaborative urban meeting places and spaces, adopting a smart city view to drive urban innovation, following a responsible way by planning initiatives and policies that contribute to social value and issues, enabling human-centric urban communities, leading to multi-actor collaborative innovation, beyond techno-centric views, focusing on human and social capital, putting the people and community first. Paris smart city planning and vision supports itineraries to urban sustainability, and enhances a circular model in which connecting the members of the urban community by technologies is a means to drive community participation and engagement opportunities leading to the open city, a method to engender innovation issues and processes in order to achieve the sustainable city. The Vienna smart city framework relies on enabling technological sources as facilitators for empowering urban communities that support collaborative processes, and contribute to building pathways for co-participation, co-decision-making, enhancing inclusion to develop organisational frameworks and values that drive urban responsible innovation a key source to achieve sustainable growth. The Berlin smart city framework relies on a responsible framework for driving innovation, focusing on empowering the city a smart collaborative community. The smart city framework enables the urban community as the pillar and engines of sustainable, resilient and innovative processes that contribute to the urban growth. The city of Berlin is planning a smart responsible and future design, identifying satisfying organisational arrangements, by shaping a cohesive, participatory and inclusive urban community, empowering the citizens to proactively contribute to the quality of urban life improvement, strengthening community participation, and fostering stakeholder engagement. Cities are identifying smart city plans that address the pathways for making the cities resilient and cooperative urban communities, meeting contemporary urban challenges, following human-centred, social-driven, and participatory-led approaches to urban development, by promoting citizen and community participation, leading to human-centered and community-led collaborative approaches that help urban communities to achieve urban value creation and develop multi-actor and collaborative innovation processes, making socially inclusive cities, leading to smart socially innovative and responsible communities that contribute to urban sustainability.

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COMMUNITY CINEMAS AND PLACE LEADERSHIP FOR CULTURAL SUSTAINABILITY: THE CASE OF KRITERION CINEMA

Short Paper

Adriano Solidoro, University of Milano-Bicocca, Milan, Italy, email: adriano.solidoro@unimib.it
Gianluigi Viscusi, Linköping University, Linköping, Sweden, email: gianluigi.viscusi@liu.se
Barbara Quacquarelli, University of Milano-Bicocca, Milan , Italy, email: barbara.quacquarelli@unimib.it
Francesco Giovanni Paoletti, University of Milano-Bicocca, Milan , Italy, email: francesco.paoletti@unimib.it

Abstract

This paper explores how community cinemas, through place-based and relational leadership, contribute to cultural sustainability and civic innovation. Focusing on the case of Kriterion Cinema in Amsterdam—a student-run institution—we examine how democratic governance and local embeddedness enable alternative cultural infrastructures. Drawing on an interpretive case study and grounded theory methods, we analyze Kriterion's sociocratic structure, participatory programming, and civic role within Amsterdam's urban ecosystems. Our findings suggest that Kriterion operates as both a cultural venue and a civic laboratory, where experiential learning, democratic practice, and leadership development intersect. The case illustrates how community cinemas not only resist market logics but also generate civic spillovers, strengthening social capital and supporting urban regeneration. By integrating frameworks of place and relational leadership, the study contributes to theories of hybrid organization and suggests policy directions that recognize the civic value of participatory cultural institutions in shaping inclusive, sustainable urban futures.

Keywords: Community cinema, Place leadership, Relational leadership, Spillover theory, Sociocracy

Introduction

Independent cinemas offer an alternative model of film distribution and exhibition with distinct cultural and social functions. They often emerge from citizen-led efforts to reclaim urban space and foster community life (Forsher 2003; Wallers 2023). Rooted in local contexts, these cinemas support inclusive programming, local filmmakers, and critical engagement with media, particularly in response to the decline of traditional independent venues (Wallers 2023). Like participatory media, community cinemas promote popular education and social transformation (Rodríguez 2001; Tufte & Mefalopulos 2009). As community media, they serve local needs, connect with civil society, and challenge commercial media logics (Carpentier et al. 2003; Wallers 2023). While not all operate participatorily (McQuail 2005), many emphasize collective decision-making, audience collaboration, and critical dialogue (Carpentier 2011, 2016; Hackett 2018; Fuchs & Sandoval 2015; Wallers 2023). Despite scarce resources and limited visibility, their participatory ethos helps build dedicated communities and aligns cultural programming with local realities.

In this paper, we consider the community cinemas as a form of organizing characterized by a place and relational leadership (Hambleton, 2014; Sotarauta & Beer, 2017; Horlings et al. 2017). To this end, we conduct an interpretive case study on Kriterion Cinema, located in the heart of Amsterdam, the Netherlands, to understand the dynamics and characteristics of the community cinemas and whether they can represent a sustainable alternative to mainstream digital platforms in the access to cultural products, like movies. Thus, the research question guiding the study is:

- *How does the establishment, sustainability, and impact of community cinemas require or develop place leadership?*

The paper is structured as follows. First, we discuss the theoretical background for the study. Then, we describe the research method adopted before discussing the case considered. Finally, we outline the next steps.

Theoretical Background

Place Leadership and Community Cinemas: Independent cinemas, often run by families or collectives, navigate industrial pressures while fostering strong local ties (Kenix, 2011; Holmlund & Wyatt, 2005; Wasko, 2003). Their leaders operate in urban and regional settings marked by socio-economic flux, aligning with the concept of place leadership—a form of leadership grounded in mobilizing local assets, narratives, and relationships to promote inclusive development (Hambleton, 2014; Sotarauta & Beer, 2017). Community cinemas enact this by enhancing cultural life, encouraging social inclusion, and interacting with other local institutions in ways that reflect both autonomy and embeddedness (Powell & DiMaggio, 1991). They also challenge dominant institutional norms by adopting participatory models and hybrid governance (Thornton et al., 2012). Unlike hierarchical models, place leadership is about mobilizing collective aspirations and resources around shared visions of place (Beer et al., 2019). In cinemas, this translates into democratic management, cultural programming rooted in local realities, and contributions to territorial cohesion and civic life (Sotarauta, Horlings, & Liddle, 2012).

Relational Leadership and Social Capital: Community cinemas foster participatory engagement through volunteering, curation, and collaborative governance (Hambleton, 2015). They function as hubs for civic dialogue and social movements, building social capital—a key driver of local resilience (Grint & Holt, 2011).

Relational leadership, grounded in trust and communication, emerges through everyday interactions among staff, audiences, and stakeholders (Horlings et al., 2017). In this way, cinemas act as "civic laboratories" where social learning and participatory culture take root.

They also support urban regeneration, stimulating foot traffic and business activity, while anchoring the creative economy (Beer & Clower, 2014). Effective place leaders advocate for policies and investments that recognize this role.

Cultural Sustainability and Identity: Independent cinemas contribute to cultural sustainability by promoting local storytelling, creative expression, and inclusive programming (Kenix, 2011; Rauch, 2016). They strengthen the film ecosystem by supporting local talent and engaging with regional identities (Raagmaa & Stead, 2014).

Through locally relevant content, they act as cultural mirrors, reinforcing collective memory and pride (Collinge, Gibney, & Mabey, 2010). Visionary leaders align these narratives with urban identity and development strategies (Bentley, Pugalis, & Shutt, 2017).

Spillovers and Civic Impact: This paper adds to the literature on plural leadership, particularly forms that span organizations and time (Denis et al., 2012). By integrating place and relational leadership with spillover theory, we show how participatory governance in cinemas generates broader civic benefits.

Following Pateman (1970), and more recent work (Budd et al., 2018; Vieta, 2020), we argue that democratic practices—negotiation, leadership, communication—transfer from organizational settings to the public sphere. Community cinemas, embedded in meaningful local contexts, cultivate civic capacities both inside and beyond their walls.

Ultimately, community cinemas such as Kriterion serve not only as cultural venues but also as microcosms of civic innovation. Through their integration of place-based leadership, relational governance, and participatory organization, they cultivate both cultural sustainability and democratic capacity—demonstrating the enduring significance of community-based cultural institutions in shaping more inclusive and resilient local futures.

Research Method

This article presents a single interpretive case study (Alvesson & Kärreman, 2007; Walsham, 1995, 2006), focused on Kriterion Cinema in Amsterdam. Framed as an exploratory case (Yin, 2009), it examines the intersection of democratic organizational practices, spillover effects, and place-based leadership in a student-led, community-rooted cinema cooperative. Given the novelty of this phenomenon within organizational and cultural studies, a qualitative and context-sensitive design was deemed appropriate.

Following the Gioia methodology (Gioia, Corley, & Hamilton, 2013), we privileged informants' lived experiences and emic categories in the coding process. First-order codes derived from participants' language were gradually abstracted into second-order theoretical themes through constant comparison and analytical iteration (Mantere & Ketokivi, 2013; Ketokivi & Mantere, 2024).

This method aligns with our goal of theorizing democratic participation as an embedded practice, shaped by local histories, spatial dynamics, and processes of social learning. Its iterative structure accommodates the emergent interplay between individual development (e.g., democratic competencies), collective governance, and community spillovers. Drawing on grounded theory techniques (Glaser, 1978, 1992), we engaged in both open and selective coding to ensure theoretical depth.

Data collection included semi-structured interviews, field observations, and respondent-driven sampling, capturing diverse perspectives from current and former Kriterion members. Field notes and analytic memos supported ongoing interpretation. Coding was independently conducted by two authors, while all three met regularly to refine themes and ensure analytical rigour (Silverman, 2013).

This abductive, interpretive case design enables us to illuminate how democratic organizing, relational leadership, and place-based practices interact within a specific urban ecosystem, contributing to theory at the intersection of organizational studies, cultural analysis, and critical urbanism.

The Case: Kriterion Cinema

Kriterion Cinema in Amsterdam is a historic, student-run cultural institution, founded in 1945 by anti-Nazi resistance students to support student welfare and promote alternative cinema. Today, it is one of Amsterdam's leading independent cinemas, known for its participatory governance and deep local embeddedness.

Historical Roots and Organizational Model: emerging from post-war ideals, Kriterion was built on principles of autonomy, cultural engagement, and collective governance. After a pivotal student occupation in 1984, management shifted to the Vereniging Kriterion, a legally recognized student association. It maintains a non-hierarchical, democratic structure where all members participate in operations—from programming to finances—on a rotating basis. Though the original foundation remains the legal building owner, the cinema functions independently under a sociocratic, student-led model.

Programming and Civic Role: Kriterion screens around nine films daily across three rooms (198, 85, 67 seats), ranging from arthouse to socially engaged cinema. Its programming includes collaborations with Amnesty International (Movies That Matter), major festivals (IDFA, Imagine), and community events like children's clubs and Obama's 2008 victory night. As part of Cineville, Kriterion ensures broad access through subscription-based pricing and discounted tickets.

Its role extends beyond film: the café hosts live music and lectures, affirming Kriterion as a "third place" that fosters cultural inclusion, social cohesion, and democratic participation.

Governance and Operations: The cinema is structured around 14 student-led committees, covering areas such as programming, hospitality, infrastructure, events, and finance. Weekly general assemblies ensure

transparency and shared decision-making. Members rotate tasks and responsibilities, reinforcing equity and skill development. Partnerships with the University of Amsterdam strengthen its civic and educational footprint. The legal form of a Vereniging (association) prohibits profit distribution, yet the model mirrors a cooperative ethos, prioritizing reinvestment and democratic governance.

Replication and Global Influence: Kriterion has inspired similar ventures, including Studio/K in Amsterdam and new Kriterion cinemas in Sarajevo, Liberia, and Kosovo. These adaptations highlight the flexibility and resilience of Kriterion's model, especially in post-conflict and resource-constrained contexts. It offers a scalable blueprint for student-led, socially engaged cultural infrastructure.

Preliminary findings

1. *Not Just a Company: Between Association and Enterprise*: Participants describe Kriterion as a gezelligheidsvereniging—a student association rooted in social bonding rather than formal authority, aligning with communitarian logic in organizational theory (Etzioni, 2014; Bell, 2024). Yet, its operational demands position it within a tension between community and market logics (Thornton et al., 2012). Members navigate this duality through relational leadership (Horlings et al., 2017), balancing egalitarian collaboration with the pragmatic need to "make the place run."

2. *Rule vs. Praxis: Learning in Action*: Kriterion's governance relies on participatory structures like weekly assemblies, but members distinguish between formal rules and "praxis"—emergent, negotiated practices (Nicolini, 2013). This tension fosters adaptability and supports civic spillovers (Pateman, 1970; Budd et al., 2018), where democratic competencies acquired internally may extend into broader civic life.

3. *Learning-by-Doing: Embodied Democratic Practice*: Members emphasize experiential learning (Kolb, 1984), where roles are rotated and knowledge is acquired in practice rather than through pre-existing expertise. This supports distributed leadership (Raelin, 2016), cultivating leadership through shared learning and role fluidity.

> "Criterion is a place where you learn things by doing them." (M1)

4. *Inside and Outside: Boundary-Making and Identity*: Strong organizational boundaries—social, spatial, and symbolic—shape Kriterion's identity (Albert & Whetten, 1985). These boundaries reflect place attachment (Manzo & Perkins, 2006) and reinforce community belonging. Language expectations (e.g., Dutch fluency) and shared political values further sustain internal cohesion while resisting external pressures (Sotarauta & Beer, 2017).

> "You're more alone in the world when you leave here…" (M1)

Discussion

This study explores Kriterion Cinema as a site where place leadership, democratic governance, and civic spillovers converge. More than a cinema, Kriterion acts as a civic platform embedded in Amsterdam's cultural and educational ecosystems—what Mulgan (2006) calls a *civic innovator*. Its collaborations with universities, social movements, and local residents illustrate how cultural institutions can contribute to urban regeneration, social inclusion, and public value.

Kriterion's model contrasts with mainstream commercial cinemas by promoting *cultural distinction* (Bourdieu, 1984) through accessible, politically engaged programming. This mission-driven orientation is sustained through democratic participation and experiential learning—hallmarks of *relational* and *place-based leadership* (Horlings et al., 2017; Sotarauta & Beer, 2017).

Internally, its structure reflects sociocratic principles: rotating roles, consensus decision-making, and collective accountability. These features foster democratic capabilities—leadership, collaboration, and civic-mindedness—that extend beyond the workplace, supporting spillover effects (Pateman, 1970; Budd et al., 2018; Vieta, 2020).

Students develop both technical and interpersonal skills across committees, echoing findings from democratic workplace studies (DuFays et al., 2020; Mychajluk, 2023). Many alumni carry these competencies into broader professional and civic life, reinforcing the organization's role as a *transformative learning site* (Lave & Wenger, 1991; Vieta, 2020).

Kriterion's value also lies in its spatial embeddedness. Its identity is shaped by the Roeterseiland district—a hub of academic and civic innovation—creating favorable conditions for what Young-Hyman et al. (2023) term *real utopias*: aspirational, yet operationally viable organizations.

Economically, Kriterion is financially independent, relying on ticket sales, café revenues, space rentals, and minimal public support (e.g., Europa Cinemas). It contributes to the cultural economy (Scott, 2000) and supports local business clusters (Porter, 1995), while resisting commercial pressures through strategic innovation (e.g., hybrid events, institutional partnerships).

In governance and pedagogy, it exemplifies informal, practice-based learning (Burawoy, 1979; MacPherson, 2002), developing *associative intelligence* and civic agency through everyday collaboration and negotiation.

In sum, Kriterion illustrates how participatory cultural institutions can act as engines of civic learning, democratic practice, and urban vitality. Its hybrid nature—as cooperative, cultural venue, and civic actor—supports the argument that democratic workplaces generate spillovers that enrich both individuals and communities (Vieta et al., 2024; Schlachter & Már, 2024).

Conclusion

This paper has offered a preliminary exploration into how community cinemas, and particularly Kriterion Cinema in Amsterdam, enact and embody forms of place-based and relational leadership that contribute to cultural sustainability and civic innovation. Drawing on a rich historical and empirical context, we have shown how Kriterion's participatory, student-led governance structure not only sustains a unique cultural institution but also functions as a site of civic learning, democratic experimentation, and socio-spatial transformation.

While our study is still at an early stage—currently in the process of selective and theoretical coding—our findings already suggest that community cinemas like Kriterion represent a fertile ground for advancing both organizational theory and urban policy. Theoretically, our study contributes to the ongoing dialogue on plural forms of leadership by integrating the frameworks of place leadership (Hambleton, 2014; Sotarauta & Beer, 2017), relational leadership (Horlings et al., 2017), and democratic workplace spillovers (Budd et al., 2018; Vieta, 2020). Kriterion exemplifies how these frameworks can intersect in situated, hybrid organizations where cultural production, organizational learning, and civic capacity are deeply interwoven. It also responds to Denis et al.'s (2012) call for expanding leadership theory beyond formal authority by highlighting how democratic practices can be distributed across spatial and organizational boundaries.

From a practical perspective, the case of Kriterion holds relevance for urban practitioners, policymakers, and civic planners. It shows how grassroots cultural organizations can act as catalysts for inclusive urban development—not merely as cultural venues but as sites of leadership development, democratic engagement, and community regeneration. The participatory nature of such organizations fosters social capital and supports the emergence of civic leaders, many of whom go on to contribute to broader urban, educational, and creative sectors. This aligns with the aims of policies that seek to build resilient, participatory, and culturally vibrant cities.

Furthermore, our research suggests that recognizing and supporting the civic role of community cinemas could help policymakers design more responsive cultural and urban policies. Rather than treating such venues as marginal or ancillary, local governments could integrate them into broader strategies for social cohesion, youth empowerment, and place-making. In a time when public trust in institutions is declining, organizations like Kriterion offer valuable lessons in participatory governance and civic inclusion.

In conclusion, this paper lays the groundwork for a larger inquiry into how participatory organizational forms foster leadership, democratic capacity, and sustainable cultural ecosystems. As we proceed with the next phases of our analysis—deepening the theoretical framework and refining empirical categories—we aim to provide further insights into the mechanisms through which cultural organizations become embedded civic actors. By studying Kriterion, we hope to contribute not only to

the academic understanding of hybrid organizations but also to the practical discourse on how cultural infrastructure can shape more democratic, inclusive, and sustainable urban futures.

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GOVERNING DATA ACROSS ORGANIZATIONS: LESSONS FROM PUBLIC AND PRIVATE DATA COLLABORATIONS

Short Paper

Niloofar Kazemargi, Universita' Degli Studi G. D'Annunzio Di Chieti - Pescara, Pescara, Italy, niloofar.kazemargi@unich.it
Federica Ceci, Universita' Degli Studi G. D'Annunzio Di Chieti - Pescara, Pescara, Italy, f.ceci@unich.it

Abstract

Data governance plays a critical role in enabling organizations to balancing innovation and risks. Previous research has focused on data governance practices mainly at the organizational level. Yet, despite this valuable work, it is still unclear how data governance unfolds at the inter-organizational level. These collaborations are gaining increasing attention as companies collaborate and interact to create value from data. To address this gap, this study employs qualitative case study of a municipality to examine how data governance is unfolding across organizations. The findings provide insights into the ways public and private organizations share data responsibilities and how decisions about data are made at interorganizational level.

Keywords: Data governance, data collaboration, inter-organization, data ecosystem, data creation, data use, government, citizens.

Introduction

In the contemporary digital landscape, data stands as a pivotal asset driving innovation, strategic decision-making, and economic growth across various sectors. To derive value from data, organizations need to establish robust data governance practices. Data governance ensures that data is managed, secured, and utilized in a manner that supports organizational objectives.

Data Governance is defined as "a system of decision rights and accountabilities for information-related processes, executed according to agreed-upon models which describe who can take what actions with what

in- formation, and when, under what circumstances, using what methods" 1. Literature on data governance focuses on the allocation of decision rights and the deployment of mechanisms to ensure the alignment of activities with organizational goals (Khatri & Brown, 2010). Literature suggests different frameworks to ensure that data decisions are aligned with goals and objectives (Gregory et al. 2018; Tiwana et al. 2013) by identifying different roles within an organization (Abraham et al. 2019; Khatri and Brown 2010); for example, data governance leader, data owner, data producer, and the data consumer to name a few (Abraham et al., 2019; Jarvenpaa & Essén, 2023).

The existing literature on data governance has mainly focused on the organizational level (Abraham et al., 2019): how an enterprise handles and uses its organizational assets. However, organizations increasingly rely on other organizations' capabilities and resources to create, collect, store, integrate, exchange, and process data (Oliveira & Lóscio, 2018), since a single organization does not possess all the required capabilities and resources. As data collaborations occur beyond organizational boundaries, we need to shift the focus from the organizational to the ecosystem level (Abraham et al., 2019; Davidson, Wessel, Winter, & Winter, 2023; Jagals & Karger, 2021b). However, we still know little about inter-organizational data governance. Thus, in this study, we investigate how data governance is unfolding across organizations. We examine the collaboration of a local government administration with private companies to create value for citizens. We design a case study combining several sources of data and analyze how decisions about data are made at interorganizational level.

Literature review

Data ecosystems

Data ecosystems are defined as "socio-technical complex networks in which actors interact and collaborate with each other to find, archive, publish, consume, or reuse data as well as to foster innovation, create value,

[1] https://datagovernance.com/the-data-governance-basics/definitions-of-data-governance/

and support new businesses"(Oliveira, Lóscio, & Lima, 2019, p. 590). Data ecosystems create value by having one group of actors produce or provide data while other actors within the ecosystem consume it (Janssen et al. 2012).

The literature categorizes data ecosystems based on the governance structure as market, hierarchy, network and bazaar (Lis & Otto, 2021). Data ecosystems can have different degrees of openness. In open data ecosystems, any actor can join the ecosystem and use data with no constraint. The primary goal of an open data ecosystem is to enhance transparency and support decision-making. Contrary, in closed data ecosystems, only certain actors have permission to access and use the data (Gelhaar, Groß, & Otto, 2021; Janssen et al., 2012). Another distinction can be made based on infrastructure. Data ecosystems can rely on proprietary infrastructure managed and owned by an actor -for instance, social media platforms (Alaimo et al. 2019)- or on distributed infrastructure to store, process and exchange data (Gelhaar & Otto, 2020).

Data Governance

Data Governance is defined as "a system of decision rights and accountabilities for information-related processes, executed according to agreed-upon models which describe who can take what actions with what information, and when, under what circumstances, using what methods" 2. Literature on data governance focuses on the allocation of decision rights and the deployment of mechanisms to ensure the alignment of activities with organizational goals (Khatri & Brown, 2010). Literature suggests different frameworks to ensure that data decisions are aligned with goals and objectives (Gregory et al. 2018; Tiwana et al. 2013) by identifying different roles within an organization (Abraham et al. 2019; Khatri and Brown 2010); for example, data governance leader, data owner, data producer, and the data consumer to name a few(Abraham et al., 2019; Jarvenpaa & Essén, 2023).

The existing literature on data governance has mainly focused on the organizational level (Abraham et al., 2019): how an enterprise handles and uses its organizational assets. However, recently, scholars have seen

[2] https://datagovernance.com/the-data-governance-basics/definitions-of-data-governance/

a need for shifting the focus from the organizational to the ecosystem level as organizations increasingly rely on sharing and accessing data both within and outside the organizational boundaries (Abraham et al., 2019; Jagals & Karger, 2021a). The current frameworks although provide insights about data governance in inter-organizational context, do not fully address the challenges, complexity and dynamics that emerged from data collaboration and interactions of heterogeneous ecosystem actors (Lis & Otto, 2020). Only recently, Micheli et al. (2020) empirically investigated and compared governance mechanisms among different data ecosystems.

Research Method

To answer our research question, we conducted a qualitative case study. We selected case based on theoretical sampling (Eisenhardt & Graebner, 2007). For this study, we selected an Italian municipality in which the local government administration collaborates with other public organizations and private companies to create value from data for citizens. The selection of the case was guided by their potential contribution to a deeper understanding of our research question (Flyvbjerg, 2006). While the municipality has own a huge and diverse set of data, the application development projects mainly were assigned to the private sector. Our research draws on both primary and secondary data sources. Primary data was collected through semi-structured interviews with key informants, while secondary data consisted of information from company websites and press releases. In total, we conducted 23 interviews with informants of the municipality and its service providers. On average, the interviews lasted 60 minutes.

Our data analysis began during the data collection phase. We adopted an inductive qualitative study (Myers, 2019). We nalyzed data in three phases. First, we analyzed data open coding of the interviews to identify first-order codes. In doing so, we adhered closely to the language used by the informants or a short description that was closely aligned with the data (Glaser & Strauss, 1967). In the second phase of analysis, we conducted a constant comparison of the first-order codes. These second-order codes represented broader

themes that captured the underlying meanings and connections within the data. The final stage of our analysis involved the development of aggregated themes from the second-order codes.

Preliminary Findings

In this section, we present our preliminary findings how data governance is unfolding across organizations. Following the strategic planning outlined at the macro area level by the mayor, several data projects have officially commenced. These initiatives were directly aligned with the broader vision and priorities set by the administration, aiming to enhance decision-making, improve public services, and foster innovation across the municipality. Each project reflected a targeted response to the key objectives defined during the strategic planning phase. Importantly, the strategic planning was also informed by new normative, which emphasize interoperability and cybersecurity. Compliance with these evolving norms was not only a legal requirement but seen as a strategic opportunity to modernize infrastructure and architecture in a way that is secure, and citizen focused. Four data-driven initiatives closely aligned with the strategic direction were: 1) Cloud Migration; 2) National-Level Data Interoperability; 3) Cybersecurity Enhancement; 4) Citizen-Centered Digital Services (Table 1).

Projects	**Description of the projects**
Cloud Migration	Transitioning legacy systems and data storage to secure, scalable cloud environments to improve accessibility, efficiency, and resilience.
National-Level Data Interoperability	Ensuring that local systems can seamlessly communicate and share data with national platforms, promoting integrated public services and more coherent policy implementation.
Cybersecurity Enhancement	Strengthening digital defenses to protect sensitive information, ensure compliance with data protection regulations, and build public trust in digital systems.
Citizen-Centered Digital Services	Designing and delivering digital services that are intuitive, accessible, and tailored to the real needs of citizens, with a focus on user experience and inclusivity.

Table 1- Main data-driven projects

To support the increasing data projects, the municipality has recruited several experts specializing in information systems due to the growing need for data management competences, especially in the evolving

regulation landscape. The new multidisciplinary team brought technical and legal knowledge to set minimum requirements for service providers to data security and responsibility. While the team was responsible for defining the ex-ante service level agreements (SLAs), a dedicated commission—comprising both technical and legal experts—played a key role in selecting the most suitable service provider, based on pre-established evaluation criteria. The team maintained an active role throughout the development phase, providing oversight and guidance to service providers to ensure proper data handling.

Some informants mentioned that the difficulties in data access and negotiating with service providers. However, the new regulations and normative such as NIS 2 have increased the power of the municipality to dictate terms and conditions within the service agreement. For instance, the new normative provides guidelines and indicators for service providers to ensure data interoperability.

Discussion

A growing body of research focuses on the operational level to unfold data governance practices (Benfeldt, 2020; Monteiro & Parmiggiani, 2019; Parmiggiani & Grisot, 2020). Our aim in this study was to add to this literature by unfolding data governance practices at the inter-organizational level. Based on our case study, we offer new insights for understanding data governance. We showed that data governance is merely following and adopting a static framework, especially as the target of data governance (i.e., data, models, dashboards) has an evolving nature. We found that data governance is not just about defining internal rules within an organization, but also requires collaboration and alignment between the public and private sectors, each with very different interests, capabilities, and incentives. For this reason, effective governance relies on negotiating in continuous way how data is collected, stored, accessed, shared, and protected. In complex data ecosystems, especially those involving both public and private actors, governance must also address issues such as standardization, interoperability, ethical use of data, and sustainability over time.

Contributions to theory and practice

Our analysis has promising potential to provide a number of insightful findings related to data governance. This work contributes to the literature on data governance ecosystems by interweaving studies on organizational dimensions (Winter & Davidson, 2017) in three ways. First, while IS scholars focus on data governance practices at the organizational level (Benfeldt, 2020; Monteiro & Parmiggiani, 2019; Parmiggiani & Grisot, 2020), our study complements and extends current research by showing how data governance practices unfold at the inter-organizational level.

Second, it expands our understanding of 'data governance' as a matter of coordination between different stakeholders with regard to the collection, use, sharing, and/or reuse of data (Madison, 2020).

For managerial implications, we provide a fine-grained understanding of data governance practices at the inter-organizational level. Our insights help both government administrations and private organizations to understand their active role in data governance.

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MANAGING THE DATA VALUE CHAIN OFF-SITE: EXPLORING CHALLENGES ALONG THE PATH

Short Paper

Loris Santarelli, G.d'Annunzio University of Chieti-Pescara, Pescara, Italy, loris.santarelli@unich.it

Federica Ceci, G.d'Annunzio University of Chieti-Pescara, Pescara, Italy, f.ceci@unich.it

Abstract

The rapid growth of data-driven technologies has introduced significant challenges in collecting, processing, and extracting meaningful value from data. Integrating these steps and their underlying technologies into core operations and processes remains complex. These challenges are further amplified in off-site operations, where heterogeneous data sources and outsourced data handling are common. This study investigates how organizations manage the Data Value Chain (DVC) and highlights the specificities of configurations where a significant share of data originates not only from digital sources but also from the physical environment. Our research focuses on the National Park of Abruzzo, Lazio, and Molise (PNALM), where technologies are essential for supporting environmental and wildlife conservation strategies. Drawing on observational data, interviews, and archival documents, we identify the main challenges and actions required to manage a highly integrated DVC, emphasizing the need for robust use of data technologies and seamless coordination to effectively extract value from data.

Keywords: data value chain, data management, collaboration, challenges

1 Introduction

Technological advancements have significantly increased the volume and diversity of data organizations must manage, making data a critical strategic asset (Cohen et al., 2017; Dosi, 1982). To extract value, organizations must configure the Data Value Chain (DVC), which involves several steps essential for managing inputs, operations, tools, and outputs, ultimately enhancing both data quality and their value (Brynjolfsson & McElheran, 2016; Curry, 2016; Curry & Ojo, 2020; Watch, 2017).

While digital technologies provide significant advancements in deriving value from data, challenges persist, particularly because the DVC activities frequently take place not only in virtual environments but also in physical contexts, such as manufacturing facilities (Åkerman et al., 2018; Schreiber & Metternich, 2022), retail locations (Martijn et al., 2015), logistics operations, or smart city infrastructures (Marchesani, 2023; Zhang et al., 2013). These challenges are particularly acute in the context of grand societal challenges, where organizations address issues such as environmental protection or poverty reduction. In these settings, effective coordination across highly heterogeneous and geographically dispersed data sources becomes essential. Although interest in data management is increasing, there remains limited understanding of how organizations structure the DVC process and coordinate inputs, operations, technological tools, and outputs to extract value from such diverse and distributed data (Akter et al., 2024a; Angeli et al., 2022; George et al., 2016). Therefore, we ask: *How do the coexistence and interaction of digital and physical data sources impact the data value chain in organizations within the grand challenges framework?*

This study examines the National Park of Abruzzo, Lazio, and Molise (PNALM) an organization committed to preserving wildlife and natural landscapes. PNALM engages in numerous data-related activities, such as wildlife monitoring and scientific research, that rely on both digital and non-digital technologies and require close collaboration across multiple organizational units. These activities aim to track behaviours, births, and key areas to better understand and manage wildlife population trends over time. Drawing on qualitative data, comprising open-ended interviews, participatory observations, and archival materials, we investigate how organizations cope with the configuration of the DVC in grand challenge contexts to extract value from data, develop real-time solutions, and enable data-driven decision-making (Åkerman et al., 2018; Akter et al., 2024a).

2 Theoretical Background

2.1 Data Value Chain

Organizations that leverage data-driven technologies as strategic assets typically manage a series of processes, ranging from data acquisition to its utilization, in order to generate meaningful value (Curry, 2016; Rayport & Sviokla, 1995). These steps are included in the DVC model proposed by Curry (2022), which encompasses data acquisition, analysis, curation, storage, and usage (Curry, 2016). An overview of each step is provided below:

- **Data acquisition**, involves collecting, verifying, and organizing data from various sources.
- **Data analysis**, refers to preparing and processing data to make it usable for specific domain applications
- **Data curation** ensures the quality, consistency, and reliability of data throughout its lifecycle.
- **Data storage** focuses on preserving data to guarantee its availability and potential for future reuse.



Figure 1. Data Value Chain from Curry (2016).

Data sources of varying nature produce distinct types of data that must be recognized, captured, standardized, stored, and analyzed to maximize their usefulness (Cavanillas et al., 2016). While

technical systems are often designed to collect data from multiple sources, not all data originate from technological devices. Human agency plays a vital complementary role, especially in physical environments such as manufacturing plants, retail settings, logistics operations, and field-based research (Cavanillas et al., 2016; Wirén et al., 2019). In these contexts, organizations manage large volumes of unstructured data alongside structured data, necessitating multiple preparatory steps to enable their virtualization and, ultimately, extract value (Cavanillas et al., 2016; Wirén et al., 2019). This virtualization process depends on the presence of a physical environment where human actions must be translated into meaningful digital data. As such, beyond technological infrastructure alone, human agency is essential in value creation, facilitating access to diverse data types and bridging the physical and digital domains through human activities and interactions with machines (Wirén et al., 2019).

Organizations operating across multiple remote locations often rely on a mix of technologies to collect data from scattered sources and must also deal with the processing and storage of physical samples. Such operational complexity introduces substantial challenges related to coordination and managerial oversight (Cavanillas et al., 2016). Addressing this complexity requires organizations to establish integrated data value chains, underpinned by technologies such as IoT and cloud platforms. These infrastructures enable the extraction of value from data by uncovering patterns, enabling real-time solutions, and informing data-driven decisions (Akter et al., 2024b; Brous et al., 2016). Although existing literature has addressed data-related challenges across various sectors, it is only in recent years that scholars have begun to examine their role in addressing grand societal challenges. These contexts introduce novel and often more complex difficulties compared to traditional sectors (Angeli et al., 2022; George et al., 2016). Characterized by dispersed fieldwork, the involvement of multiple stakeholders, and the need for additional resources, such settings give rise to new concerns regarding data governance. These include questions about how data are managed, interpreted, and utilized effectively (Abraham et al., 2019; Davidson et al., 2023b; Faik et al., 2020).

3 Methodology

3.1 Empirical context

The empirical setting for this study is the National Park of Abruzzo, Lazio, and Molise (PNALM), a public organization committed to environmental protection and the conservation of natural ecosystems. Operating under the guiding principle that "*to protect, you need to know*," the Park implements a broad array of initiatives aimed at preserving biodiversity and ecological integrity. These efforts involve multiple internal units, including technical, surveillance, and scientific departments, that collaborate on monitoring programs, applied research, and experimental projects. Spanning a wide and diverse territory, these units gather large volumes of data using an array of technologies to investigate and manage pressing ecological issues such as climate change, biodiversity decline, ecosystem functioning, and the health of natural landscapes.

To support these activities, PNALM has developed a DVC that enables continuous tracking of wildlife populations, reproductive cycles, and habitat use. Data are gathered through a mix of traditional and digital tools, including GPS collars, mobile apps, and centralized databases, and require coordination across teams working in remote natural environments. The combination of physical fieldwork, diverse technologies, and complex environmental goals makes managing the DVC particularly challenging, laying the groundwork for our investigation.

3.2 Case study design and data collection

This study adopts a single-case research design, drawing on archival documents, open-ended interviews, and participatory observations to investigate data management in an organizational setting marked by highly diverse data types and simultaneous use of digital and traditional tools. Guided by an inductive approach, the analysis began with open coding informed by the conceptual framework of the DVC. We developed a vocabulary and categorized activities according to each step of the DVC. Figures 2 and 3 present the emerging data structure.

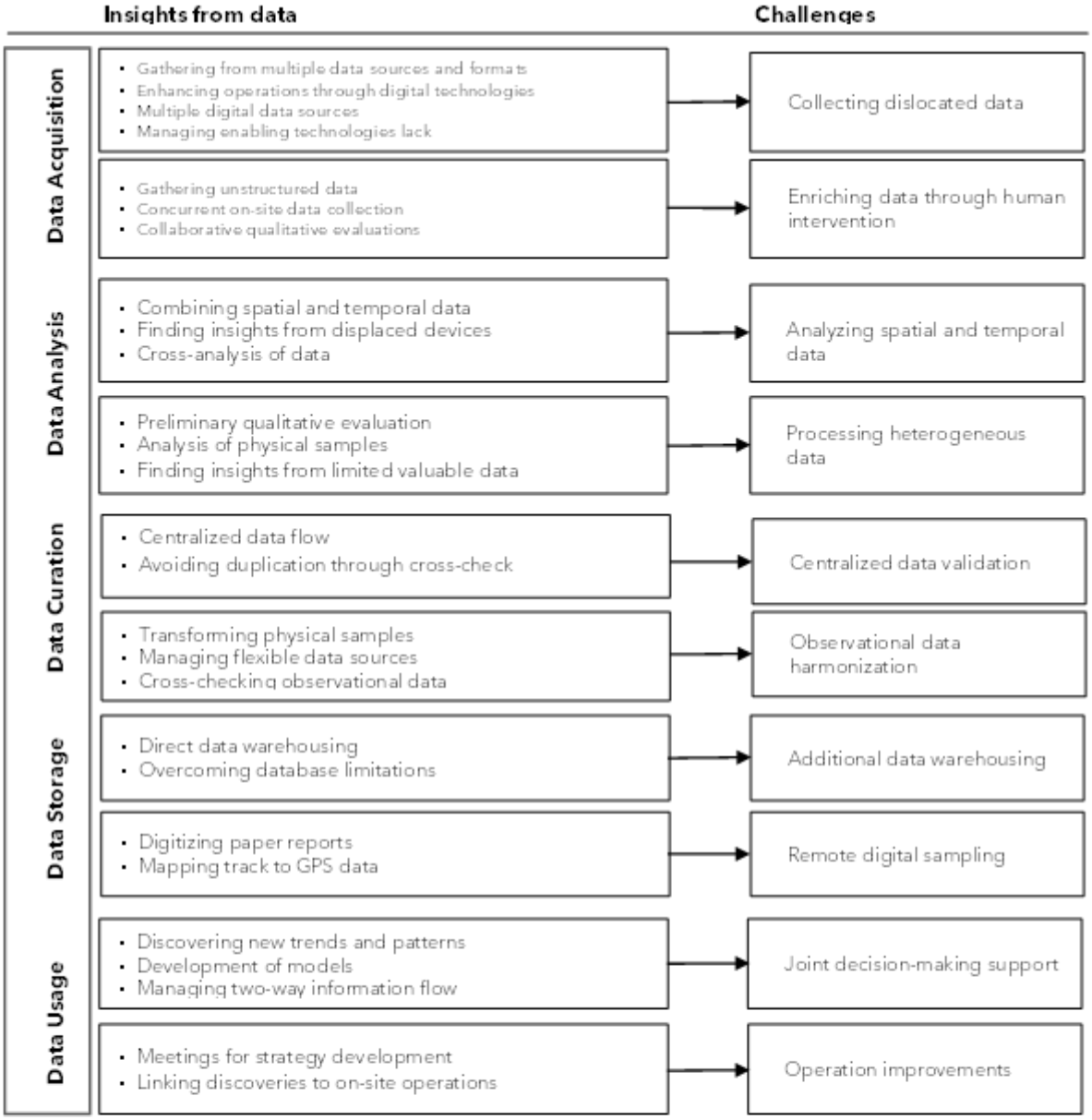


Figure 2. Data coding structure – Challenges.

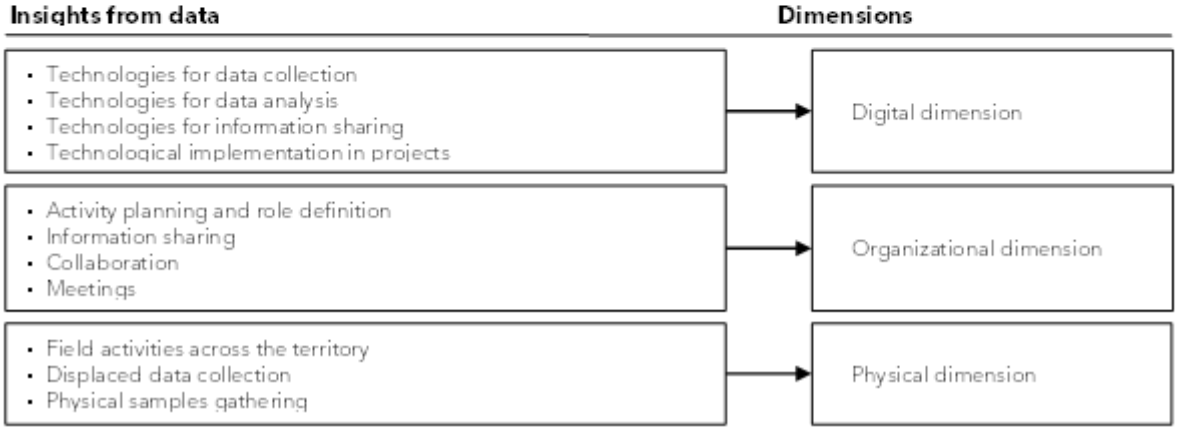


Figure 3. Data coding structure – Dimensions.

We then analyzed the relationships between the DVC steps and the emerging dimensions with NVivo software, employing the Matrix Coding Query to identify patterns and relational structures across the coded data. This feature allowed us to find co-occurrences between the two concepts and understand how their relationships unfold (see results in Table 1).

	Dimensions		
DVC Phases	**Digital**	**Organizational**	**Physical**
Data Acquisition	**379**	**322**	**458**
Data Analysis	**714**	80	120
Data Curation	**353**	**303**	15
Data Storage	**301**	**305**	**232**
Data Usage	181	**842**	165

Table 1. Matrix Coding Query: DVC Challenges and Dimensions.

4 Findings

We analyzed data management operations involved in organizing and coordinating the DVC by PNALM. Our findings highlight a range of challenges across the three categories: technical,

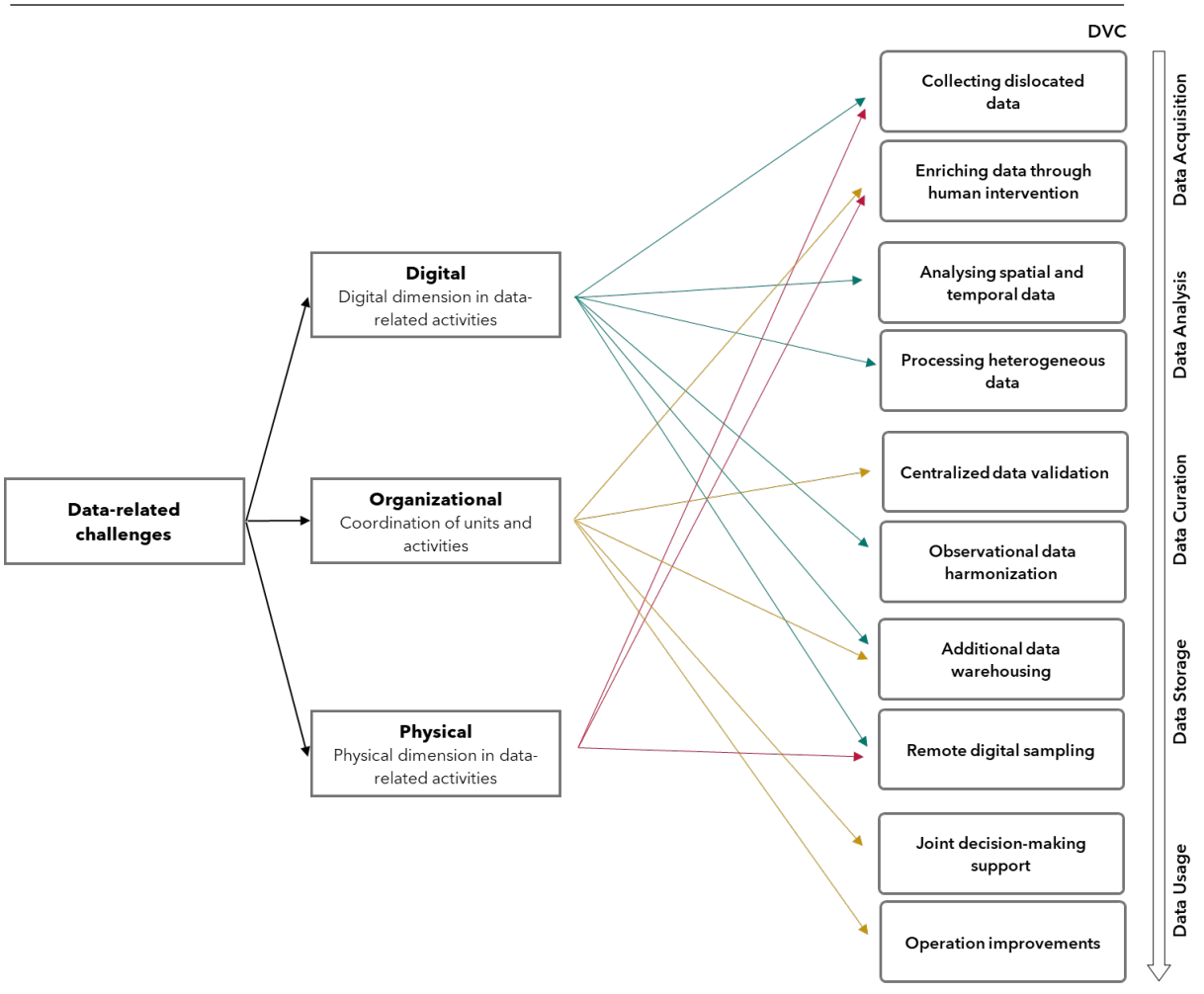


Figure 4. Array of data management challenges in complex contexts.

organizational, and managerial dimensions. The dimensions form a taxonomy of challenges that organizations face in data management operations along the DVC. Figure 4 illustrates this relationship.

Our findings highlight the centrality of the physical dimension, particularly in the data acquisition and storage phases, where collecting and organizing information across large, dispersed areas poses significant difficulties. This process relies on two complementary strategies: a technology-driven approach using tools such as sensors and IoT devices to capture large volumes of data, and a human-centered approach where field personnel gather unstructured, qualitative insights that add context and depth. The integration of both ensures data richness and relevance. Maintaining data veracity, integrity, and adaptability requires coordinated technical and organizational efforts, which will be further discussed in the sections that follow.

Unsurprisingly, the digital dimension emerged as a key enabler across all stages of the DVC, with particular relevance in data acquisition, analysis, curation, and storage. In line with existing literature, tools such as IoT systems, GPS devices, analytical platforms, and database technologies are crucial for sustaining data flows and ensuring operational efficiency. Nevertheless, despite the abundance of quantitative data generated by these tools, collecting rich qualitative information continues to rely heavily on human involvement, particularly in challenging, remote environments where direct observation and fieldwork remain indispensable.

Finally, our analysis highlights the critical importance of the organizational dimension in overcoming challenges across the DVC. In the case examined, coordination was supported by mechanisms such as structured monitoring plans, spatial task distribution, defined time schedules, and the real-time exchange of information. These practices helped mitigate issues like data duplication or loss and allowed for the integration of human input to complement automated data collection. As such, the organizational layer serves as a connective element between the technical and physical dimensions of the DVC, enabling effective coordination, communication, and informed decision-making throughout the organization.

5 Discussion and Conclusion

This study contributes to existing research on data management by shedding light on the multi-dimensional challenges organizations encounter when technological systems and human activities intersect in data-related processes. Unlike earlier work that tends to concentrate on a single dimension, typically technical or managerial (Åkerman et al., 2018; Curry, 2016; De Simone et al., 2023; Hernández-Moral et al., 2021b; Watch, 2017), our findings highlight the interdependence of multiple dimensions – technical, organizational, and physical – and their combined impact on the effective configuration of the DVC.

By foregrounding the challenges organizations encounter in complex operational environments, this study reinforces the link between the DVC framework and the literature on grand societal challenges (Akter et al., 2024a; Angeli et al., 2022; Ferraro et al., 2015; Gümüsay et al., 2022). The three dimensions identified in our analysis offer a practical reference point for organizations, particularly those conducting off-site activities where data processes unfold across both physical and digital domains. Acknowledging these multidimensional challenges enables organizations to better anticipate obstacles, select and configure appropriate technologies, and improve coordination across units working toward societal impact.

The challenges identified along with the DVC can guide the configuration of data-related activities to ensure effective data management, implementation, and value extraction from data. While enabling technologies are critical, especially for field-based data collection, it's essential to recognize that some challenges cannot be resolved solely through technological solutions. Effective data management requires a strong organizational dimension, as organizations must overcome various coordination challenges throughout the DVC. This dimension acts as a bridge between technological and human activities related to data.

This study has several limitations that open pathways for future research. First, as it relies on a single case study, the transferability of findings to other contexts remains constrained. Second, while the DVC framework offers a useful conceptual lens, the alignment of identified challenges with its specific steps may prioritize certain issues while overlooking others, thereby reducing analytical flexibility. Future studies could explore these dynamics in other sectors, such as healthcare, finance, or additional grand challenges contexts.

6 Acknowledgements

We acknowledge financial support under the National Recovery and Resilience Plan (NRRP), Mission 4, Component 2, Investment 1.1, Call for tender No. 104 published on 2.2.2022 by the Italian Ministry of University and Research (MUR), funded by the European Union – NextGenerationEU – Project Title 'Language in Entrepreneurial Ventures' – CUP D53D23008360006 – Grant Assignment Decree 967 del adopted on 30/06/2023 by the Italian Ministry of Ministry of University and Research (MUR).

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Connecting the dots: A bibliometric analysis on SMEs in the era of Data Ecosystems

Short Paper

Simona Leonelli, University of Modena and Reggio Emilia, Modena, Italy, simona.leonelli@unimore.it

Filippo Ferrarini, University of Modena and Reggio Emilia, Modena, Italy, filippo.ferrarini@unimore.it

Abstract

Research on data ecosystems is becoming an emerging field of study. Defined as socio-technical networks where actors collaborate to share and use data to foster value creation, these kinds of ecosystems are particularly important for small and medium enterprises (SMEs) as they can benefit from data, technology and resources, while becoming important actors which support the ecosystem itself. However, research connecting SMEs and data ecosystems has been largely overlooked so far. Therefore, the aim of this study is to a bibliometric analysis to examine the current trends regarding data ecosystems and SMEs. The analysis is performed by using Biblioshiny package on articles coming from Scopus database. Results reveal how the importance of this topic has increased over time. At the same time, the findings outline how this topic is tightly connected to innovation, competition, information and knowledge management, supply chains and decision-making processes.

Keywords: data ecosystems, SMEs, bibliometric analysis, data.

1 Introduction

In the current economic and technological landscape, data has been acquiring a central role for private and public organization as a strategic resource for creating value (Rozkrut, 2023). In this extent, the capability to collect, elaborate and share data by organizations is a key dimension to foster innovation, competitiveness and efficiency (Ramalli & Pernici, 2023). As organizations normally do not have all the necessary capabilities to manage and retain the value of data, data ecosystems emerge as a new concept of collaborative models that can support co-creation activities for value generation by means of data creation, data use and data sharing (Heinbach et al., 2024). In this extent, data ecosystems are defined as socio-technical networks that enable collaboration between actors such as enterprises, institutions, and individuals and facilitate knowledge discovery to create value (Oliveira. et al., 2019; Ramalli & Pernici, 2023). Along this vein, the main foundations of data ecosystems are: (I) the network of actors involved in the production, sharing and use of data; (II) the collaboration among actors to provide access to data and resources to partners; (III) the creation of value, as data ecosystems are value driven (IV); the self-organization, as in data ecosystems value is not generated through a linear sequence of steps, but it is the output of multiple interconnected actors; (V) interoperability as data come from different sources, the technical ability to exchange data effectively is paramount (Heinz et al., 2022; Möller et al., 2024; Oliveira & Lóscio, 2018).

In this extent, the concept of data ecosystems is also recognized by public institutions. For instance, the European Union (EU) underlines the importance of data generation, sharing and use, highlighting the substantial societal and individual benefits that data can yield (European Commission, 2020). Therefore, public legislation strongly recommends the creation of data ecosystems through public actions (i.e. constitution of data spaces), involving businesses, civil society and the public sector (European Union, 2022).

In this extent, data ecosystems are particularly beneficial for small and medium enterprises (SMEs). In fact, the literature highlights how SMEs are considered important actors in the context of data ecosystems. In fact, SMEs are equipped with important resources (i.e., skills, competences, technology, flexible structures) which can make them key actors for the development of data ecosystems in order to deliver innovative value (European Commission, 2020). At the same time, SMEs can have relevant benefits in participating into data ecosystems as they can have access to important resources such as data, technology, competences, and relationships which can foster their digitalization process, innovative capabilities and market competitiveness (Gašpar et al., 2025; Hafeez et al., 2025; Huber et al., 2020).

Nevertheless, so far, the literature has posed little attention on understanding the relationship between SMEs and data ecosystems. This is surprising given the fact that SMEs are the backbone of the economy (Satı, 2024). In addition, the role and the importance of SMEs in data ecosystems has been emphasized by public institutions. In fact, data economy should make possible to give access to data and knowledge for those SMEs that have limited financial, technological and administrative resources (European Union, 2022).

Therefore, following the current reasoning, the aim of this paper is to collect contributions from a quite dispersed and fragmented literature by conducting a bibliometric analysis in order to explore the intersections between SMEs and data ecosystems. Hence, the following research question is formulated: *Which are the current trends linking SMEs and data ecosystems?*

Addressing this research question is important as it can contribute to provide an up-to-date understanding of the relationships between SMEs and data ecosystems. At the same time, synthetizing the findings from a quite fragmented and dispersed literature is important in order to deliver a comprehensive understanding of a such recent phenomenon. Thus, it will help to guide future studies on a promising field of research which has been largely financed by public policy programs. Moreover, responding to such question is important to collect information in order to guide policymakers to make tailored policy interventions.

2 Data and methods

Articles were retrieved in November 2024 from Scopus database by using sets of different keywords. The first keyword was “Data ecosyst*”, which retrieved 185,975 documents. Then synonyms were added as additional keywords such as “software ecosyst*” or “open data ecosyst*” following prior studies on the topic (Cui et al., 2020; Möller et al., 2024; Oliveira et al., 2019). Then, by using AND - OR Boolean terms, other keywords referred to the themes of interests were added such as “SME*”, “Participat*”, “Influenc*” and their relative synonyms. These terms were included as prior research highlights that SMEs are not passive actors, but active participants whose engagement can influence the development, structure, and outcomes of the entire data ecosystem (e.g. Jackson et al., 2024).

The initial search process retrieved 4.877 articles across multiple subject categories. To enhance the relevance and quality of results, several filters were applied. Specifically, the temporal range was limited to publications from 2011 to 2024, in alignment with the literature review by Oliveira et al. (2019). The search was further refined by restricting the subject areas to business and management, econometrics, social science, computer science, and environmental science. Only document classified as article, book chapter, conference paper, book, review and written in English, were included. Conference papers were retained due to their relevance in computer science. The filtering process reduced the dataset to 2.820 articles. Further refinement was conducted by excluding all journals not indexed in the ABS (academic journal guide) database, resulting in a final sample of 2.294 articles.

To further refine the dataset, four-member research team undertook a manual screening process, selecting only those articles deemed relevant to the research themes. As a result, 1,716 articles were excluded for falling outside the scope of interest (see Table 1). The final dataset consisted of 148 articles, which were analyzed through the Biblioshiny package of the R programming language.

Related topic	N. of articles deleted
Finance	665
Marketing	394
Enterprise culture and development	198
Leadership and HRM	173
Not related to data management	51
Others not pertinent articles	235

Table 1. Number of articles excluded during the screening phase (n=1,716).

3 Results and discussion

Table 2 presents the main characteristics of the dataset. A total of 425 authors contributed to writing the documents, with an average of 2.87 authors per document. The annual growth rate of publications on the topic is 11.60%.

Description	Results
Documents	148
Sources	133
Timespan	2011:2024
Annual growth rate	11.60%
Author's keywords	575
Average citations per document	21.95
Authors	425
Documents per author	0.35
Authors per document	2.87
Co-authors per documents	2.92
Document average age (years)	5.61

Table 2. Number of articles excluded during the screening phase (n=1,716).

As illustrated in Figure 1, scholarly interest has steadily increased since 2011, with a significant surge observed from 2021 onwards.

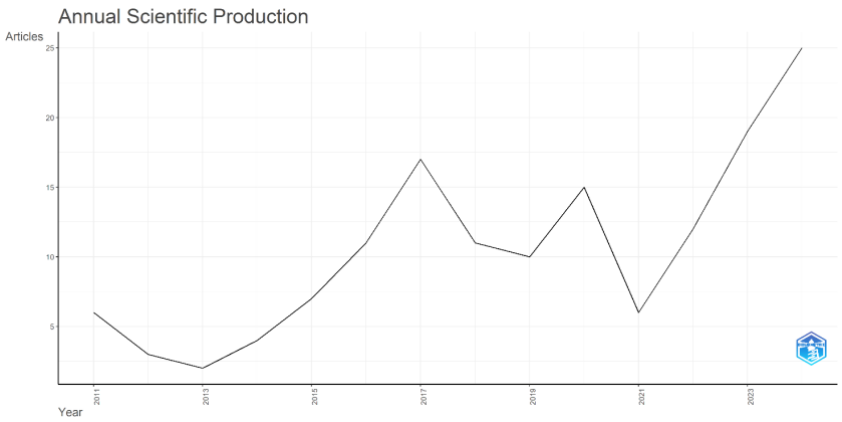


Figure 1. Trends of publication.

Figure 2 instead displays countries' scientific production. It is possible to notice the scientific production is somehow global, nevertheless, the leading countries are the UK (40 articles), followed by Italy (37), China (34), the USA (27), Germany (23) and India (20).

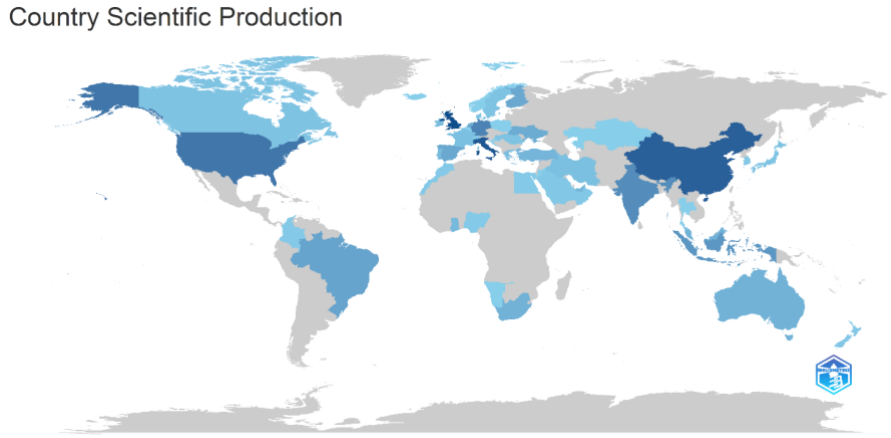


Figure 2. Trends of publication.

Moreover, looking at the most relevant articles in terms of citations in the field it is possible to highlight that the first top three articles are (1) Ceccagnoli et al. (2012) – 677 citations; (2) Razmerita et al. (2016) – 281 citations; (3) Micheli et al. (2020) – 145 citations. Then for position number 4 to 6 we have (4) Martínez-Román et al. (2011) – 145 citations; (5) Cunningham & Link (2014) – 110 citations (6) Elmagrhi et al. (2017) – 95 citations. Finally, the list is concluded by (7) Maroufkhani et al. (2020) – 86 citations; (8) Song et al. (2016) – 76 citations; (9) Jin & Hurd (2018) – 65 citations; (10) Kude et al. (2011) – 57 citations.

If we look at those articles, we can find that the leading article is Ceccagnoli et al (2011). This is an important article which outlines that the participation of a platform ecosystems by small enterprises improve their business performance in terms of sales, thereby highlighting the importance of inter-firm collaborations. Their findings are in line with the work of Jin & Hurd (2018), where they outline how digital platforms ecosystems, help to internationalize SMEs, by reducing their entry barriers into new markets. On this way, it is worth to mention the work of Micheli et al. (2020), which highlight the most important roles for the actors involved into data ecosystems, which depends on inter-organizational relationships, values and governance principles. In this extent, the articles touch some of the foundations of data ecosystems, such as the importance and value of data, data generation and data and knowledge sharing, as well as the importance of industry 4.0 technologies for bringing new values to organizations, thereby the governance and organizational mechanisms and dimensions that encourage (or discourage) organizations to collaborate.



Figure 3. Words cloud.

Interesting is also the Word cloud in Figure 3 which highlights the most used keywords. Those keywords which indicated the same word such as “big data” or “open data” or “data analytics”, as well as, “small and medium-sized enterprise” or “sme” or “smes” or the “innovation” and “innovative output” or “innovation activity”, were aggregated into main umbrella keywords. The the most frequent keyword is “Small and medium enterprises”, followed by “ecosystems”, then by the word “innovation” which has 28 occurrences, and information management. Interesting is the fact that the keywords can be grouped in different clusters that can be tightly related to data ecosystems dimensions, such as ‘SMEs’, which is the main actor investigated in this article, which is important for the development of the ecosystems, industry 4.0 technology which are the levers for data ecosystems in order to use and exploit data (Blaiszik et al., 2019; Cui et al., 2020). Value generation (i.e. innovation, decision and making), as data ecosystem aim to create value by fostering innovation among actors involved while improving the decision-making process (Oliveira et al., 2019). Knowledge management, ecosystems and supply chain, which are referred to the inter-organizational collaboration which are the foundations of data ecosystems (Heinz et al., 2022), as well as information, data and knowledge management, which can be related to absorptive capacity of the actors involved.

The current analysis brings interesting insights to SMEs and data ecosystems. Firstly, the results show that the topic of data ecosystems and SMEs is gaining attraction since the scientific production is expanding rapidly. Therefore, this underline that the topic is currently a fertile ground to be explored. At the same time, data show how data ecosystems is global phenomenon, encompassing different countries. While some countries are leaders such as China, USA, Italy and UK, others are following rapidly. In addition, the World Cloud highlights how SMEs and data ecosystems can be linked to relevant topics with are at the core of data ecosystems literature such as value creation (i.e. innovation and decision making), absorptive capacity (i.e. information, data and knowledge management), digital technologies (i.e. business and data analytics, digital platforms data warehouses and data spaces).

All these topics should be further investigated while considering data ecosystems context. For instance, potential future enquiries of research could be: *How do SMEs belonging to data ecosystems improve their absorptive capacity? How do SMEs improve their value creation when collaborating within data ecosystems? How much are digital technologies relevant for SMEs which are part of data ecosystems?*

These future lines of investigation would help to deepen the scholarly understanding regarding the dynamics between SMEs and data ecosystems. For example, the development of both quantitative and qualitative research in order to answer to such research questions would be particularly beneficial in order to bring sound results on this emerging topic. At the same time, it would be crucial to develop questionnaires or interviews to understand the dynamics among the SMEs involved, such as how and why they use data, how they can benefit from data for their internal capabilities, and how threats and opportunities affect the value creation of SMEs when they participate in data ecosystems. This would broaden the scholarship understanding of this topic.

The main limitation of the current work is certainly the fragmentation of the literature across multiple fields, as well as the use of only one main source for data retrieval (i.e., Scopus database). Therefore, future research could consider incorporating other alternative databases, such as the Web of Science database in order to add further value to this research.

Acknowledgements

We acknowledge financial support under the National Recovery and Resilience Plan (NRRP), Mission 4, Component 2, Investment 1.1, Call for tender No. 1409 published on 14.9.2022 by the Italian Ministry of University and Research (MUR), funded by the European Union – NextGenerationEU– Project Title Data4Innovation- Data ecosystem governance toward enhancing data sharing for innovation: implications for organizations – CUP C53D2300807001 - Grant Assignment Decree No. 1409 adopted on 14/09/2022 by the Italian Ministry of Ministry of University and Research (MUR).

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RULES AND ROLES IN SMART CITY GOVERNANCE: EXPLORING THE ARCHITECTURE OF DATA VALUE CHAIN

Short Paper

Filippo Marchesani, Department of Management and Business Administration, University of Chieti-Pescara, Pescara, Italy. Email: filippo.marchesani@unich.it

Federica Ceci, Department of Management and Business Administration, University of Chieti-Pescara, Pescara, Italy. Email: f.ceci@unich.it

Abstract

This study investigates how medium-sized municipalities organize and manage the Data Value Chain (DVC) during their smart city transition, focusing on the case of Pescara, Italy. Drawing on 22 interviews and content analysis, we explore how internal roles and inter-organizational rules shape data governance under resource constraints. Findings highlight the pivotal role of operational management in translating strategic objectives into concrete actions, the use of formalized agreements to govern collaborations with corporate and Semi-Public partners, and the lock-in mechanisms that preserve municipal control over data usage. Our results extend current debates on smart city governance by shedding light on organizational capabilities, constrained open innovation, and data sovereignty in medium-sized municipalities.

Keywords: Smart City, Data Value Chain, Data Architecture, Pescara, Public Administration , Data

1 Introduction and Research Gap

Smart cities have been placed at the center of worldwide policies and urban planning in the past decade, with digital technologies acting as key enablers in the transition from traditional cities to smart cities (Caragliu & Del Bo, 2019; Kar et al., 2019). This transformation is driven by the promise of improving efficiency, sustainability, and livability in urban environments (Vanolo, 2014). However, despite their potential benefits, the implementation of smart cities and their associated data architectures—both within and beyond municipal boundaries—presents significant challenges that remain underexplored in the academic literature (Kitchin & Moore-Cherry, 2021; Wilhelm & Ruhlandt, 2018).

Data architecture and big data have revolutionized the ways information is generated, processed, and leveraged within urban governance systems (Constantiou & Kallinikos, 2015). In cities, data architectures encompass the systems used to acquire, process, and analyze real-time data through sensors, digital services, and infrastructure (Fu & Zhu, 2020; Marchesani & Ceci, 2025). These systems hold the potential to inform urban planning and decision-making processes, creating opportunities for evidence-based policies and more responsive public services (Chatterjee et al., 2018; Kar et al., 2019). Yet, while there is growing emphasis on the technological and infrastructural aspects of smart cities, the governance mechanisms required to manage and coordinate data architectures—especially within the Data Value Chain (DVC)— still need further clarification (Lnenicka et al., 2022; Wilhelm & Ruhlandt, 2018).

The nexus between city governance and the data ecosystem is a critical focal point of current academic debates (Bonina & Eaton, 2020; Gagliardi et al., 2017; Kitchin & Moore-Cherry, 2021; Komninos et al., 2019). In this line, the DVC provides a framework for tracing the journey of data, from acquisition and curation to analysis, storage, and strategic use in urban governance (Curry, 2016; Tiwana, 2014). However, much of the existing research has concentrated on large metropolitan centers, where significant financial resources and technical expertise often support the transition (Capdevila & Zarlenga, 2015; Nam & Pardo, 2014). In contrast, medium-sized and small cities face unique challenges, including limited budgets, fragmented capabilities, and a misalignment between national policies and local needs (Giffinger et al., 2007; Spicer et al., 2021). To date, these complex organizational challenges, including the dynamics of inter-organizational collaboration, have received little attention in the smart city literature (Mora, 2023, p. 1559). To address this gap, this study builds on the perspective that considers a smart city as one with a "smarter government", a concept that emphasizes internal governance capabilities and inter-organizational coordination as critical enablers of digital transformation (Nam & Pardo, 2014). Therefore, in the present work, we want to address the following research questions: “How do municipalities organize and manage the data value chain in the smart city transition?” and “How do the rules and roles of internal and external actors and capabilities shape the coordination and management of the data value chain in smart city projects?”.

To address those questions, this study employs a single-case study methodology centered on Pescara, a medium-sized city located in central Italy. Pescara is particularly suitable for this research due to two main factors: (i) it is the leading medium-sized city in digital development in Italy, consistently ranking among the top 10 digitalized cities according to the Italian Smart City Ranking, and (ii) it is currently undergoing a merger with two neighboring cities, a process set to conclude by 2027, increasing its population from 130,000 to 200,000 residents and reshaping its urban ecosystem and governance structure. This transformation, driven by bureaucratic and supranational pressures, has significantly accelerated its digitalization efforts.

Through this study, we aim to elucidate the governance mechanisms involved in organizing, coordinating, and integrating the DVC during the smart city transition, both within the organization and in collaboration with external actors (e.g., corporate firms, semi-public firms, and private firms). By focusing on the roles and rules of internal management, this research seeks to fill a critical gap in the literature by addressing the organizational and inter-organizational dynamics of medium-sized municipalities. Our findings offer practical contributions for city managers and governance bodies,

providing actionable insights into how the DVC can be leveraged to enhance smart city governance, particularly for cities operating under resource and capabilities constraints.

2. Research Method

This study employs a qualitative case study approach, focusing on Pescara, Italy, as a representative medium-sized municipality undergoing a smart city transition. This merger, set to increase its population from 130,000 to 200,000 residents by 2027, represents a significant transformation of its governance structure, urban ecosystem, and data-driven initiatives as anticipated in the previous section.

2.1 Data Collection and Analysis

Data were collected over 15 months, from January 2023 to April 2024, through semi-structured interviews with key stakeholders, including municipal managers, external corporate partners, and private-sector representatives involved in Pescara's smart city projects. A total of 22 interviews were conducted, ranging from 20 to 65 minutes, and were digitally recorded and fully transcribed. The interviews were designed to explore five key themes such as (i) respondents' roles, responsibilities, and competencies; (ii) analysis of representative initiatives, focusing on their operational processes, stages, benefits, and challenges; (iii) technologies and Software adopted for data collection, analysis, and management; (iv) technical (hard skills) and interpersonal (soft skills) competencies of internal actors and stakeholders involved and (v) post-implementation monitoring, control, and project impacts on the local context.

To analyze the data and establish the analytical framework, we followed the approach outlined by Hannah and Robertson (2015) to create interview summaries of the data analysis process. The 22 interviews were transcribed, generating approximately 228 pages, over 2 million words, and 160,000 sentences and concepts, excluding the interviewer's questions. To understand how managers and units within smart city contexts develop and integrate capabilities and skills to orchestrate smart city projects, as well as the roles and rules within these integrations, the data was subjected to thematic analysis. Thematic analysis is an effective method for identifying patterns in large and complex datasets and for establishing connections within analytical themes (Byrne, 2022).

The clustering of various thematic areas, informed by both the literature (Barham & Daim, 2020; Caragliu et al., 2011; Caragliu & Del Bo, 2019; Gupta et al., 2023; Lupu et al., 2023; Marchesani et al., 2025; Nam & Pardo, 2014; Paskaleva, 2011; Vanolo, 2014) and guidelines provided by the European Union1, allowed us to identify key themes and develop a grounded framework delineating the internal configuration. Initially, we built on prior literature on smart city organizational patterns (Barham & Daim, 2020; Benevolo et al., 2016; Gupta et al., 2023; Mora, 2023) to guide the formation of theoretically rooted overarching themes within the smart city configuration. Subsequently, we drew on the information systems literature, particularly the DVC framework (Curry, 2016; Löfgren & Webster, 2020; Tachizawa et al., 2015), to understand the linkage between the data chain (i.e., data acquisition, data analysis, data curation, data storage, and data usage) and smart city configuration. To achieve this, we adhered to the thematic coding approach proposed by Braun and Clarke (2006), coding based on the close reading of transcribed data and notes using MAXQDA software (version 2023.2). Each interview transcript was read multiple times, with phrases and passages related to the research purpose and overarching themes being carefully marked. In total, we identified five codes representing smart city organizational patterns and five codes representing the DVC.

[1] Source: European Commission; Guideline on smart city projects in Europe: https://commission.europa.eu/eu-regional-and-urban-development/topics/cities-and-urban-development/city-initiatives/smart-cities_it

2.2 Content Analysis Procedure and Analysis

Following the methodological framework outlined by Shelley & Krippendorff (1984), we conducted a detailed content analysis to investigate the interactions between internal organizational structures, the DVC, and both internal and external actors and capabilities within smart city governance. The context units were defined as individual sentences, selected to capture the nuanced meanings inherent in the Italian language, where synonymy and contextual dependencies often influence interpretation (Kassarjian, 1977). Utilizing MAXQDA12 software, we developed a coding that systematically mapped relevant keywords and phrases to specific constructs within our analytical model to assess the relationship between DVC and internal organization. To enhance objectivity, two independent coders applied the schema to the dataset, meticulously verifying each coding decision to ensure consistency and mitigate subjective biases. The coding process involved the use of keywords for key concepts and the evaluation of individual sentences to define internal and external actors and their relationships. This approach ensured that the analysis accurately reflected the underlying structures and interactions within the smart city governance framework.

3. Results and discussion

The diffusion of smart city projects in medium-sized municipalities follows complex paths shaped by governance roles and rules. While previous research has focused on technological and innovation aspects (Caragliu & Del Bo, 2019; Kummitha, 2018; Linde et al., 2021; Marchesani et al., 2023; Mora et al., 2023), and governance mechanisms (Arellano-gault et al., 2013; Gil-Garcia et al., 2018; Kitchin & Moore-Cherry, 2021; Wilhelm & Ruhlandt, 2018), especially in large cities (Capdevila & Zarlenga, 2015; Nam & Pardo, 2014) this study advances the understanding of how roles and rules within the DVC shape the managerial and governance dynamics of smart cities operating with limited budgets, expertise, and capabilities extending the contemporary debate on organizational challenges in smart cities and their inter-organizational collaboration (Mora, 2023).

Using Pescara as a case study, we identified key mechanisms that the municipality employs to organize and manage the DVC during the smart city transition. Operational and strategic management plays a pivotal role in bridging strategic vision with actionable implementation, ensuring integration across all DVC phases. Rules governing interdepartmental coordination and external collaborations establish a framework for achieving digital transformation while maintaining public accountability. Corporate and private firms contribute to technological capabilities under agreements that prioritize municipal ownership of data through the DVC, safeguarding sensitive information while limiting reciprocal knowledge exchange. As one interviewee noted, partnerships with external firms are highly project-specific, and constrained by governance protocols aligned with municipal objectives.

The study confirms the still evolving discourse about smart city organization (Gupta et al., 2023; Mora, 2023) end organizational capabilities for smart city implementation (Chatfield & Reddick, 2019; Lee et al., 2014; Linde et al., 2021) reveals a dual-layered governance structure where roles and rules are distinctly distributed. Internal actors, such as strategic, financial, and operational management, oversee objectives, while external firms serve as technical enablers without influencing strategic decision-making or accessing municipal data for independent use. In this line, our findings highlight (i) the bridging role of operational management in translating strategic objectives into implementation; (ii) the constrained open innovation rules to ensure data security and municipal control; the (iii) lock-in mechanisms preserving municipal oversight over external partnerships; and the (iv) tailored roles in the DVC, defined by governance rules that address the specific needs of each phase. These insights enhance our understanding of the roles and rules underlying smart city governance, contributing with critical perspectives on the organizational dynamics of urban data ecosystems.

Acknowledgements

We acknowledge the financial support provided under the "National Recovery and Resilience Plan (NRRP), Mission 4, Component 2, Investment 1.1, Call for tender No. 1409" published on 14/09/2022 by the Ministry of University and Research (MUR), funded by the "European Union – NextGenerationEU– Project," for the project titled "Data4Innovation – Data ecosystem governance toward enhancing data sharing for innovation: implications for organizations P2022HXLBF CUP D53D23017780001 – Grant Assignment Decree No. 1376," issued on 01/09/2023 by the Ministry of University and Research (MUR).

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PODCRAFT: A PODCAST-BASED LEARNING TOOL FOR CRAFT ENTREPRENEURS' LIFELONG LEARNING

Short Paper[1]

Francesca Leonardi, University of Rome Tor Vergata, francesca.leonardi.2@uniroma2.it
Luca Pareschi, University of Rome Tor Vergata, luca.pareschi@uniroma2.it

Abstract

Globalization, new digital technologies, the use of generative AI, together with an increased sensitivity toward a balanced life and meaningful jobs, are rapidly changing the work environment. The craft sector is particularly interested in this change, with young urban people who leave their office jobs to embark on a craft-based career, and with experienced craft-makers who still have educational gaps in several areas and need to adapt their business models to societal and market changes. Craft education is either part of artistic training or technical practice, consequently lacking business skills, marketing competencies, communication and fiscal knowledge. To address these educational gaps in the most accessible way, we developed a multilingual podcast (PodCraft) as a complementary learning tool for craft makers, part of a lifelong learning methodology to provide necessary training in skills for the facilitation of craft making as a vehicle for social cohesion and personal and professional fulfilment.

Keywords: Craft work, lifelong learning, podcast, education

1 Introduction

Globalization, new digital technologies, the use of generative AI, together with an increased sensitivity toward the quality of life and more meaningful jobs (e.g. the Great Resignation), are rapidly changing the work environment, especially in the knowledge economy and the creative sector. In this changing context, people are required to constantly upgrade their skills throughout their lives to cope with technological and digital innovation, environmental issues, and entrepreneurial change in their work.

In the craft sector, this change is exemplified by the "third wave" of craft-making revival, endorsed by young urban people who decide to leave their office "bullshit" jobs (Graeber 2018) to embark on a craft-based career, creating the new phenomenon of "neo-craft" (Gandini, Gerosa 2023). The neo-craft-makers are generally young urban workers who plan to rebalance their lives toward a more "authentic" and cool lifestyle, centred around reconnection with the community or nature/rural environment through the start of a craft business. The change of career necessitates the acquisition of new skills and competencies, mainly handmade but also technical and entrepreneurial. However, also craft-makers and craft entrepreneurs who did not change careers over time still have educational gaps in several skills, especially in business and marketing, new technologies, and sustainability (Pareschi, Leonardi 2024; Frenette, Tepper 2016; England 2022; Bridgstock, Cunningham 2016), and they need to adapt their

[1] This work has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement ID 101095123, HEPHAESTUS Project. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Commission. Neither the European Union nor the granting authority can be held responsible for them.

business models and curricula to societal and market changes. Moreover, learning craft skills can also be interesting and attractive for people who are not professional craft-makers but who want to approach it as a hobby or as a practice of self-development (Nasseri, Wilson 2017). So, lifelong learning is a fundamental perspective on work and education that should be adopted and implemented, especially in the craft sector.

Lifelong learning is defined as "providing second chances to update basic skills and also offering learning opportunities at more advanced levels" (Laal 2011) throughout the life of workers, so it "is the continuous building of skills and knowledge throughout the life of an individual" (Laal, Salamati 2012). It means that learning should take place using different methodologies and integrating formal and informal learning, according to different workplaces and community environments. Education should, therefore, be diverse, flexible, and adapted to the individual worker or entrepreneur, be available throughout their entire lives to improve their skills and reach personal fulfilment, and learners should be understood not as passive receivers of knowledge but as active researchers. Knowledge should not only follow a top-down approach (from specialists/managers/teachers in courses), but it should be translated in many different forms, possibly collaboratively in the context of work. Lifelong learning aims to help people achieve their goals but also take an active part in life, improve their health and wellbeing, and generally benefit society (Laal, Salamati 2012).

Craft education comprehends formal, informal, and peer-to-peer learning. Acknowledging the distinction between formal and informal learning as to where the learning takes place, formal learning takes place in institutions that also award credentials, whereas informal learning happens outside of them and usually does not require any sort of certification (Callanan et al. 2011). Formal education in craft includes technical and professional studies and courses on specific craft techniques and materials, university-level study in design or visual arts, and postgraduate learning, and it is structured as lessons in classroom settings or frontal teaching courses, requiring a final assessment. Informal learning in craft refers to apprenticeship and training in craft workshops where the apprentice learns by observation of the master and repetition of the same movements. Informal learning is non-didactic, embedded in meaningful activity, builds on the learner's initiative, and generally does not involve assessment external to the activity (Rogoff et al. 2016). This informal learning is also a way to transfer tacit knowledge that is based on embodied knowledge usually hard or impossible to verbalize (Bruni in Gherardi 2008). Other forms of informal education include self-learning using different materials, acquiring transversal skills (e.g. networking), which are not explicitly taught but are learnt through interaction with the community. The lack of consensus on the definition of informal learning makes it similar and entwined also with vocational training (Li et al. 2023). Peer-to-peer learning happens among craft-makers who connect and share ideas to solve practical problems related to craft-making, or the provision of materials, sharing of spaces, or exchange of competencies. This kind of learning also happens in communities of craft-makers who practice together, help each other, and network (Marchand, 2021).

So, craft formation is either framed in formal training related to artistic education, or in practice-based learning situated in technical mastery. Consequently, craft-makers often lack business skills, marketing and client management competencies, digital and communication knowledge, and fiscal and administrative knowledge. We tried to address these issues in a wider research project, targeted at craft makers working with different materials (e.g. pottery, wood, glass, textile, stone, etc.) whose production can be generally referred to as "artistic craftsmanship", so food, agriculture, beverage, constructions, etc. craft activities are not included. Our contribution stems from a wider research project, the Hephaestus Project, a Horizon Europe project funded by the EU (GA 101095123), which investigates the education of craft and related skills gaps, the business models and histories, and the imaginaries of craft-making practices in four craft ecosystems: Venice (Italy), Bassano del Grappa and Nove (Italy), Bornholm (Denmark), Dals Långed (Sweden). While our results confirm the picture above, when asked if they plan to fill these skills gaps, craft-makers generally reply that they do not have the time or the

money to dedicate to these courses, because spending time learning means taking away time from work, and paying for courses is too expensive. Some craft-makers also lamented the fact that attending courses on managerial skills in a classroom setting or through frontal teaching is not helping them because they cannot focus for too long sitting and "doing nothing" (Pareschi, Leonardi 2024), while they would prefer to learn by doing or interacting with each other. Furthermore, literature suggests that the introduction of new technologies has affected craft people in the acquisition of new knowledge but little is known about the extent to which higher education craft programmes are adapting to these new trends for providing updated curricula (Choi, Song 2022).

Integrating lifelong learning with the specificities of craft-makers' education and skills needs, this article suggests that the podcast can be an innovative and effective tool for a lifelong learning methodology in craft, which provides new skills and competencies, as well as peer-to-peer exchange. The podcast is an innovative learning tool for craft-makers and those interested in approaching this profession. In particular, the article focuses on PodCraft: Stories and Skills from the World of Craft-Making, a podcast designed to offer accessible, engaging, and modular learning experiences. Unlike traditional training programs, PodCraft aligns with the unique needs of craft-makers by allowing them to learn while working, leveraging the popularity of audio content to deliver education in an efficient and convenient format. Indeed, the choice of a podcast as a learning tool is driven by flexibility (i.e. the need for craft-makers to listen while working, reducing time constraints), accessibility (i.e. availability in multiple languages), scalability (i.e. possible integration into formal education or professional training programs), and affordability (i.e. available for free on streaming platforms, reducing economic constraints).

The key learning areas covered in this podcast will include: (1) technical skills and innovation (i.e. 3D printing, AI applications, and material experimentation); (2) business and management, (i.e. business models, strategies, intellectual property law, leadership, and marketing); (3) communication and digital presence, (i.e. social media, e-commerce, and branding); (4) sustainability and circular economy; and (5) peer mentorship for lifelong learning, encouraging community-driven education and knowledge exchange.

The first episode of this podcast was released in February 2025, and new episodes will be published at least until 2027. As of July 2025, nine episodes have been published, while another seven have already been recorded. The podcast wants to offer craft-makers grassroots solutions, with other craft-makers sharing the problems they have faced and the solutions they have found, thus avoiding having only academics teaching craft-makers how to do their job. Moreover, it is a multilingual podcast to make it as accessible as possible.

2 Methods

The Hephaestus Project used a mixed methodology —interviews, focus groups, co-creation workshops, informal conversations with craft-makers, an online survey on skills and education, and art-based approaches to craft. Insights from these activities led to three main conclusions that now shape the project's proposed learning methodology.

- Time is the scarcest resource for craft-makers, who are constantly striving to find a work-life balance that allows them to live off their craft without being consumed by it. Time for learning is very limited, and artisans prefer to develop technical and craftsmanship skills. However, when artisans are working, their hands are busy, as are their eyes, but their ears are free.Indeed, many artisans listen to podcasts while working. For this reason, we decided to develop a podcast that does not replicate the countless online resources already available but instead offers something additional and different.
- Different topics require different approaches. Many artisans have a dual attitude toward promotion and communication: "If I weren't on Instagram, I wouldn't exist, but I don't want to be on Instagram," said a craftswoman from the Venetian ecosystem. Communication, pricing,

product photography, time management, and mastery of management techniques are perceived as crucial yet underdeveloped skills. For these topics, short podcast lessons can be effective in introducing craft-makers to the subjects, thereby reducing perceived learning barriers. For this reason, we also involve other craft-makers who can share exemplary success stories, recognizing that peer-to-peer communication plays a fundamental role in learning.

- Every ecosystem - and even every craft-maker - requires tailored solutions. Even when the challenges are the same, every ecosystem demands tailored solutions, and craft-makers facing similar problems require different solutions. Therefore, the podcast can be paired with other learning activities, such as a mentoring program for craft-makers, which is something that will be done during the project, as more episodes become available. Moreover, following the podcasts, focus groups will be organized where artisans can co-create the editorial plan.

So, the idea of a podcast for craft makers originated directly from their needs: during a conference in Dals Långed, at the end of the first year (May 2024), some craft-makers mentioned that the meeting would have been more enjoyable and easier to follow if, instead of sitting idle and trying to focus, they could have participated in a craft workshop during the conferences to stay more engaged and more focused also on the talks.

Moreover, having the possibility to listen to a 20/30-minute episode focused on a specific matter regarding craft-making techniques or an interview with an international craft-maker makes these issues more accessible and programmable in terms of time, work schedule, and tone, rather than reading a hundred-page manual.

Thus, the podcast is a complementary learning tool thought first for craft-makers but also for scholars, professionals, and other interested people in the topic of contemporary craft-making. It is part of the new lifelong learning methodology for craft-makers to provide necessary training and micro-credentialing in skills and key competencies for the facilitation of craft-making as a vehicle for social cohesion and personal and professional fulfilment, including digital and technology-based competencies, interpersonal and intergenerational learning skills on active citizenship, entrepreneurship, cultural awareness and expression, gender gap awareness in craft ecosystems and how to address it.

3 Main findings and contributions

The podcast is titled "*PodCraft: Stories and skills from the world of craft making*" and it delves into the life of craft makers, why people choose a craft life, and what it really takes to be a great craft-maker. The podcast has two series: *Craft Tools* and *Craft Talks*. The first investigates the tools of craft-making including new materials, cutting-edge technologies, communication, sustainable innovations, and workplaces; while *Craft Talks* explores the business models, success stories and entrepreneurial insights of craft makers in the four ecosystems, analyzing the challenges and the innovative aspects of their practices in how to make a living out of craft. The first nine episodes of the podcast, available in both Italian and/or English, are centred around academic knowledge (why it is important to focus on craft-making in today's economic and cultural context; the protection of intellectual property and the tools available to craft-makers; and the relationship between innovation and tradition in the craft-making sector) and interviews with three craft-makers (Valentina Stocco, a ceramicist based in Venice, talks about her research, including her work with clays from the lagoon; Rob Curran, an Irish craft-maker of the Dals Långed community, talks about his work with wood and the relationship between art and craft-making; Nynne Rosenkrantz Christiansen, a ceramic artist based in Bornholm, Denmark, shares how experimenting with crystal glazes, embracing slow making and imperfection, and drawing on her diverse artistic background have shaped her tactile, immersive sculptures). Another episode is with Alberta Menegaldo (FabLab in Venezia Mestre), who talks about how new technologies can enrich craft work.

Pod-Craft explores seven themes, offering a rich and varied learning experience for craft-makers. The first is on craft-making skills, highlighting both technical and artistic dimensions,

including art-based research and hands-on accounts like experimenting with local clays from the Brenta River or the Venetian Lagoon. Technology is the second major theme, featuring FabLab tools, as well as sustainable innovations such as micro-crushing glass and ceramics. Business skills are also addressed, including intellectual property, leadership, authenticity, training methods, and the role of districts, tourism, and project management. Other episodes focus on training methodologies, the interplay between craft and tourism, the importance of districts, and project management skills. Sustainability will also be a recurring topic. Effective communication is another pillar of the podcast, as many craft-makers struggle to showcase their work in the digital age (e.g. digital visibility, e-commerce, marketing, and pricing strategies). An essential part of the podcast will focus on making a living from craft, with stories from artisans based in Bornholm, Venice, Bassano, and Dals Långed. Other episodes examine business models and ecosystems, like Nove's ceramic district, Venice's balance of craft and tourism, the circular economy in Bornholm, and the craft-maker community in Not Quite (Sweden). Sister projects, which are other projets funded under the same call by Horizon Europe, are featured to share collaborative tools and methods. These projects are working together in the Craftour initiative (https://projects.madineurope.eu/craftour), which aims to promote shared policy briefs and suggestions for practitioners.

Blending technical knowledge, personal stories, and academic insights, the podcast features diverse voices - academics, professionals, artists, and craft-makers - aiming to foster a European peer-to-peer learning community through audio storytelling.

Each episode is recorded and edited by the Hephaestus team and is disseminated on Spotify (https://tinyurl.com/pod-craft) and on the project website (https://hephaestuscraft.eu/podcraft/podcraft-english-version/). A very important aspect concerns the language: since it cannot be expected of all artisans to be able to listen to podcasts solely in English, the episodes will be translated into multiple languages (English, Danish, Swedish, Italian), using AI and automatic translation tools and voice simulation. The use of AI is pretty innovative as it is used to dub the original recording into different languages to provide maximum inclusivity. The idea of subtitling the podcasts is not an option, as this would make it impossible to simply listen to them. All participants in the podcast are requested to sign a release form in compliance with GDPR regulations.

Contributions of this paper rely on the creation of a podcast as a learning tool for lifelong learning methodologies for craft-makers, adding an innovative informal learning tool tailor-made to the necessities of the same craft-makers. Indeed, as more and more online courses, reports, or manuals on different topics are published daily, a podcast on craft-making like PodCraft is currently missing. The podcast is not intended to substitute formal, informal, or peer-to-peer learning. On the contrary, it represents a complementary tool which can be accessed by anyone at any time, does not require previous knowledge, and does not include any assessment. However, if included in formal learning programs, such as university courses, mentoring, online courses, etc., it can provide a comprehensive learning experience during different stages of the life of craft-makers. If inserted into formal education, the podcast can also be subject to micro-credentialing as a specific learning package and be part of craft education and curricula. In conclusion, the podcast is a very adaptable learning tool, ideal for delivering short learning units but also for covering extensive topics and adopting an informal language to reach as many craft-makers as possible.

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SOFT SKILLS, HARD TRUTHS: THE ROLE OF SUSTAINABILITY-RELATED SKILLS FOR ENGINEERING-PROJECT MANAGERS

Short Paper

Franca Cantoni, Università Cattolica del Sacro Cuore, Piacenza, Italy, franca.cantoni@unicatt.it

Primiano Di Nauta, Università degli Studi di Foggia, Foggia, Italy, primiano.dinauta@unifg.it

Antonio Mastrogiorgio, Università di Roma "Unitelma Sapienza", Roma, Italy, antonio.mastrogiorgio@unitelmasapienza.it

Marco Arcuri, AMPM Consulting, ASSOPM, Roma, Italy, m.arcuri@ampmconsulting.it

Abstract

Engineering-project managers are at the forefront of complex and high-impact projects that demand not only technical expertise but also a robust set of transversal competences. This study investigates the role of sustainability-related soft skills in project management, particularly in the evolving landscape of engineering projects. Using data from the STEPS4EU Erasmus+ project, which collected insights from 149 project managers, executives, and HR professionals across Italy, Poland, Germany, Finland, and the Netherlands, the research highlights the most critical competences for project managers in the future. Findings indicate that teamwork and collaboration, adaptability and flexibility, and problem-solving are the top-ranked skills, yet sustainability-related competences—such as ethical commitment, social responsibility, and intercultural understanding—are often undervalued. This paper calls for a paradigm shift in engineering project management, advocating for a stronger integration of sustainability-related skills as a key driver for resilience, stakeholder engagement, and long-term project success.

Keywords: soft skills, sustainability, engineering project manager

1 Introduction

Project managers in engineering fields increasingly operate within volatile, uncertain, complex, and ambiguous environments that demand not only technical expertise but also a broader set of transversal competencies. As global challenges such as climate change, resource scarcity, and social inequality intensify, sustainability has emerged as a pivotal dimension influencing project design, execution, and evaluation. Regulatory pressures, stakeholder expectations, and the imperative for long-term value creation have elevated sustainability from a peripheral concern to a strategic priority in project management. Despite this paradigm shift, sustainability-related competencies remain insufficiently integrated into conventional project management training programs and competency models, which continue to emphasize traditional hard and soft skills. This paper investigates the critical yet underexplored intersection between soft skills and sustainability competences in engineering project management. By identifying and analyzing this gap, the study contributes to a more comprehensive understanding of the evolving skill set required to navigate the future of project delivery in an increasingly sustainability-driven context.

The working paper is structured as follows: Section 2 presents an excerpt of the review of the relevant literature, highlighting the significance of soft skills in project management and the emerging role of sustainability competences. Section 3 outlines the methodology employed, including the mixed-methods approach combining survey data and qualitative insights from focus groups. Section 4 details the key findings, identifying which competences are most valued by professionals and exposing the undervaluation of sustainability-related skills. Section 5 offers a discussion of the implications of these findings in light of ongoing regulatory and strategic shifts. Finally, Section 6 concludes with reflections on the necessity of rethinking project management training and competency frameworks and outlines future research directions.

2 Literature Review

Soft skills play a pivotal role in the field of PM, contributing significantly to the success and efficacy of project outcomes *(Elkbuli et al., 2024; Alvarenga et al., 2020;* Marin-Zapata *et al., 2022; Stevenson and Starkweather, 2010; Azim et al., 2010; Pant and Baroudi, 2008).* While technical expertise and domain knowledge are undoubtedly crucial, the ability to effectively navigate interpersonal dynamics, communicate clearly *(Strohmeier, 1992),* and lead teams with empathy and emotional intelligence is equally indispensable *(Ahmad et al., 2022; Slattery & Sumner,2011).* Moreover, in the intricate landscape of PM soft skills serve as the glue that binds together diverse stakeholders, facilitating collaboration conflict resolution and consensus-building (*Magano et al., 2020*). Effective communication skills enable project managers to convey objectives, expectations, and feedback transparently, fostering alignment and understanding among team members (*Elkbuly et al., 2024*) Furthermore, adept interpersonal skills empower project managers to navigate the complexities of team dynamics, harnessing individual strengths and mitigating conflicts to maintain cohesion and momentum *(Ojiako et al., 2011).* Additionally, soft skills are instrumental in leadership within project contexts (*Anderson, 2010*). A project manager's capacity to inspire and motivate team members, fostering a culture of collaboration, resilience, and accountability, enhance team engagement and productivity, ultimately driving project success.
While technical competencies are undoubtedly crucial, the ability to effectively apply them is often the differentiating factor between a good project manager and a truly exceptional one. Recognizing and cultivating these skills is paramount for project managers seeking to optimize performance, foster innovation, and deliver value in today's dynamic and interconnected business environment *(Hefley and Bottion, 2021).*

3 Methodology

The study adopts a mixed-methods approach, integrating multiple research techniques to ensure a comprehensive analysis. It begins with a Computer-Assisted Web Interviewing (CAWI) online survey, gathering insights from 149 professionals, including executives, project managers, and human resource managers, all operating within engineering-related sectors across five European countries. To complement and further contextualize the survey findings, focus group interviews are conducted with HR directors, CEOs, and senior project professionals. These discussions serve to validate the data and provide a deeper understanding of the competencies required in the evolving landscape of project management. Additionally, factor analysis is employed to identify clusters of key competencies, enabling a structured ranking of their perceived importance for project managers in the future.

4 Key Findings

The survey findings underscore a remarkable convergence of perspectives regarding the most critical competencies for project managers in 2030. As shown in Fig. 1, among the wide array of skills assessed, teamwork and collaboration emerge as the foremost priority, reflecting the increasing need for seamless coordination in complex and dynamic project environments. Closely following are problem-solving abilities, which remain indispensable for navigating unforeseen challenges, and adaptability coupled with flexibility, a testament to the ever-evolving nature of the global business landscape. Critical thinking secures a prominent position, emphasizing its role in strategic decision-making, while personal communication rounds out the top five, reinforcing the significance of effective interpersonal interactions in project success.

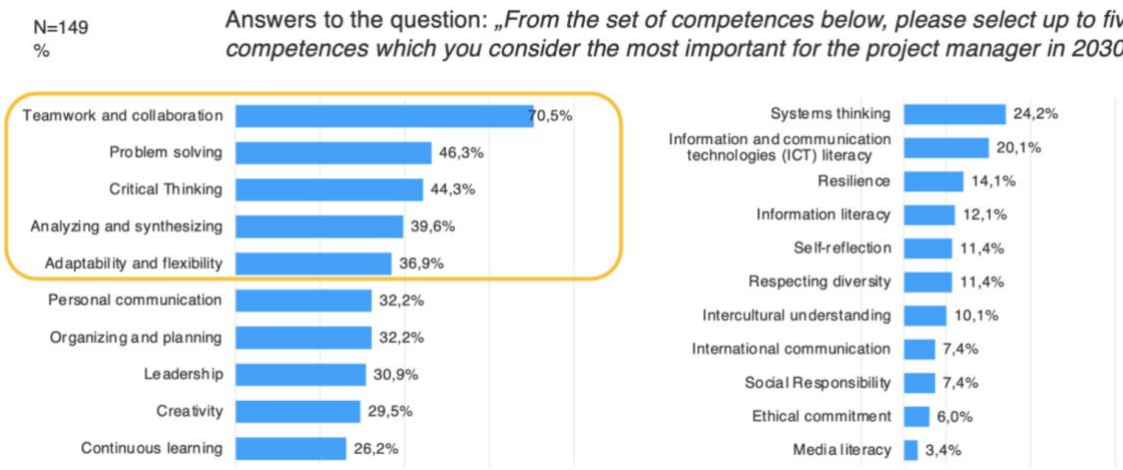


Figure 1. Ranking of the soft skills according to their relevance for project managers in 2030

While these competencies are recognized as fundamental in addressing uncertainty and driving innovation, the survey also reveals a striking contrast in the perceived importance of sustainability-related skills (Martens & De Carvalho, 2017).

Ethical commitment, respect for diversity, social responsibility, and intercultural competence—though essential in fostering long-term, responsible leadership—are ranked considerably lower. Their positioning suggests a potential misalignment between the growing emphasis on sustainable business practices and the competencies currently prioritized by industry professionals, raising important questions about the future direction of leadership development in project management.

Although these skills are critical for addressing global sustainability challenges, stakeholder alignment, and long-term project success, they were perceived as secondary to more immediate operational concerns.

To uncover latent patterns in how professionals assess the importance of project management competences, a factor analysis was conducted on the responses of 149 participants. The analysis extracted eight distinct factors, explaining approximately 69% of the total variance, and revealed clusters of competences that tend to be perceived similarly (Fig. 2).

	FACTOR							
	1	2	3	4	5	6	7	8
Critical thinking	,224	,036	-,378	-,293	-,317	-,309	,414	,272
Analyzing and synthesizing	,349	,559	-,271	-,206	-,177	-,001	-,107	,222
Creativity	,347	,192	,235	,465	-,086	,123	,218	-,329
Systems Thinking	,369	,202	-,565	,042	,264	,155	,085	,027
Teamwork and collaboration	,407	,366	,449	-,210	,198	,127	,032	,131
Problem solving	,238	,682	,270	-,006	-,143	-,005	,242	-,134
Adaptability and flexibility	,215	,047	,409	,318	,298	-,490	-,071	,320
Leadership	,370	,174	,084	,160	,238	,494	-,115	,542
Personal communication	,465	-,308	,203	-,239	,490	,172	,139	-,194
International communication	,427	-,178	,196	,310	-,336	,052	-,135	-,218
Organizing and planning	,462	,632	-,035	-,260	-,009	,164	-,128	-,305
Self-reflection	,350	-,377	,061	-,112	-,019	,257	,613	,148
Continuous learning	,531	,024	,041	,254	-,310	-,111	,310	,034
Resilience	,578	-,029	,136	-,135	,395	-,331	,212	-,163
Respecting diversity	,748	-,114	-,020	-,181	-,011	-,281	-,327	,037
Intercultural understanding	,733	-,135	-,045	-,006	,076	-,180	-,151	,082
Ethical commitment.	,658	-,243	,180	-,376	-,345	,050	-,225	-,103
Social responsibility	,636	-,376	,075	-,162	-,238	,098	-,059	,072
Information and communication technologies (ICT) literacy	,421	-,249	-,467	,098	,198	,259	-,076	-,196
Information literacy	,501	,118	-,491	,345	,194	-,275	,021	-,144
Media literacy	,581	-,064	-,032	,477	-,209	,171	-,106	,193

	first values			sum of factors squares		
Factor	total	% variance	cumultative variance w %	total	% variance	cumultative variance w %
1	4,883	23,252	23,252	4,883	23,252	23,252
2	2,005	9,547	32,799	2,005	9,547	32,799
3	1,644	7,830	40,629	1,644	7,830	40,629
4	1,390	6,619	47,248	1,390	6,619	47,248
5	1,321	6,289	53,537	1,321	6,289	53,537
6	1,177	5,605	59,142	1,177	5,605	59,142
7	1,089	5,184	64,326	1,089	5,184	64,326
8	1,011	4,816	69,143	1,011	4,816	69,143
9	,829	3,948	73,091			
10	,817	3,891	76,981			
11	,709	3,375	80,356			
12	,650	3,094	83,451			
13	,580	2,763	86,214			
14	,535	2,546	88,760			
15	,487	2,319	91,079			
16	,450	2,142	93,221			
17	,396	1,884	95,105			
18	,351	1,673	96,778			
19	,300	1,428	98,206			
20	,233	1,109	99,315			
21	,144	,685	100,000			

Figure 2. Factor Analysis results

The results highlighted seven coherent groups of skills:

- Teamwork and collaboration, adaptability and flexibility emerged as a distinct group, underscoring their shared relevance in managing dynamic project environments;
- Analytical and Executional Cluster: Problem solving, organizing and planning, and analyzing and synthesizing formed a strong cluster tied to cognitive and task-oriented skills;
- Strategic Reflection Cluster: Critical thinking and self-reflection appeared together, indicating their joint role in reflective and forward-thinking leadership;
- Communication and Resilience Cluster: Personal communication, resilience, and systems thinking were grouped, suggesting an interplay between interpersonal effectiveness and systemic awareness;
- Leadership and Digital Skills Cluster: This group included leadership and ICT literacy, reflecting the convergence of strategic vision and digital competence in modern project management;
- Innovation and Learning Cluster: Creativity, continuous learning, information literacy, and media literacy constituted a group emphasizing adaptability to technological and informational complexity;
- Sustainability and Ethical Values Cluster: Respect for diversity, intercultural understanding, ethical commitment, and social responsibility were grouped together, yet ranked lower in perceived importance—indicating a potential undervaluation of sustainability-related competences.

These findings not only validated key skill sets but also revealed significant gaps in the prioritization of sustainability-related competences, pointing to the need for recalibrating competency models in line with emerging global challenges.
The results are the examined in terms of correlations and results are hightlighted in Fig. 3.

		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.
1.	Critical thinking	1	,257**	-,028	,164	,024	,062	-,072	-,057	-,038	,011	,016	,152	,135	,110	,160	,142	,141	,170	,071	,173	,031
2.	Analyzing and synthesizing	,257**	1	,056	,209*	,172	,282**	-,005	,184	-,010	-,015	,472**	-,021	,128	,039	,274**	,187	,153	,023	,051	,228*	,197*
3.	Creativity	-,028	,056	1	,044	,192	,217*	,100	,096	,131	,207*	,199*	,080	,241*	,156	,128	,141	,097	,093	,048	,184	,360**
4.	Systems Thinking	,164	,209*	,044	1	,040	,071	-,052	,220*	,109	-,007	,286**	,056	,148	,170	,172	,226*	,041	,140	,305**	,388**	,164
5.	Teamwork and collaboration	,024	,172	,192	,040	1	,308**	,210*	,273**	,270**	,019	,379**	,060	,173	,248*	,284**	,143	,230*	,143	-,011	-,002	,163
6.	Problem solving	,062	,282**	,217*	,071	,308**	1	,114	,146	-,060	,142	,470**	-,044	,225*	,177	-,008	,063	,029	,015	-,132	,058	,012
7.	Adaptability and flexibility	-,072	-,005	,100	-,052	,210*	,114	1	,114	,118	,104	-,063	-,053	,152	,227*	,154	,196*	-,003	,098	-,083	,128	,120
8.	Leadership	-,057	,184	,096	,220*	,273**	,146	,114	1	,161	,113	,167	,132	,099	,099	,159	,265**	,078	,167	,134	,077	,310**
9.	Personal communication	-,038	-,010	,131	,109	,270**	-,060	,118	,161	1	,168	,088	,333**	,045	,421**	,272**	,307**	,320**	,321**	,282**	,123	,058
10.	International communication	,011	-,015	,207*	-,007	,019	,142	,104	,113	,168	1	,080	,127	,237*	,098	,235*	,330**	,348**	,265**	,132	,159	,331**
11.	Organizing and planning	,016	,472**	,199*	,286**	,379**	,470**	-,063	,167	,088	,080	1	-,053	,144	,236*	,244*	,249*	,319**	,104	,122	,238*	,094
12.	Self-reflection	,152	-,021	,080	,056	,060	-,044	-,053	,132	,333**	,127	-,053	1	,240*	,228*	,096	,257**	,244*	,285**	,130	,041	,191
13.	Continuous learning	,135	,128	,241*	,148	,173	,225*	,152	,099	,045	,237*	,144	,240*	1	,227*	,293**	,284**	,291**	,353**	,174	,272**	,341**
14.	Resilience	,110	,039	,156	,170	,248*	,177	,227*	,099	,421**	,098	,236*	,228*	,227*	1	,471**	,431**	,275**	,238*	,142	,300**	,179
15.	Respecting diversity	,160	,274**	,128	,172	,284**	-,008	,154	,159	,272**	,235*	,244*	,096	,293**	,471**	1	,649**	,611**	,463**	,246*	,360**	,349**
16.	Intercultural understanding	,142	,187	,141	,226*	,143	,063	,196*	,265**	,307**	,330**	,249*	,257**	,284**	,431**	,649**	1	,423**	,399**	,258**	,365**	,354**
17.	Ethical commitment.	,141	,153	,097	,041	,230*	,029	-,003	,078	,320**	,348**	,319**	,244*	,291**	,275**	,611**	,423**	1	,648**	,168	,041	,305**
18.	Social responsibility	,170	,023	,093	,140	,143	,015	,098	,167	,321**	,265**	,104	,285**	,353**	,238*	,463**	,399**	,648**	1	,315**	,111	,359**
19.	Information and communication technologies (ICT) literacy	,071	,051	,048	,305**	-,011	-,132	-,083	,134	,282**	,132	,122	,130	,174	,142	,246*	,258**	,168	,315**	1	,364**	,249*
20.	Information literacy	,173	,228*	,184	,388**	-,002	,058	,128	,077	,123	,159	,238*	,041	,272**	,300**	,360**	,365**	,041	,111	,364**	1	,336**
21.	Media literacy	,031	,197*	,360**	,164	,163	,012	,120	,310**	,058	,331**	,094	,191	,341**	,179	,349**	,354**	,305**	,359**	,249*	,336**	1

*Figure 3. Correlation Matrix between the 21 skills (Pearson, ** sign lev. 001 [green boxes]; * sign. Lev. 0.05)*

The correlation matrix offers a detailed representation of the relationships among the 21 competences assessed in this study. The analysis reveals several noteworthy patterns that reflect the internal structure and conceptual alignment of the evaluated competences.

A particularly strong set of positive correlations was observed among the sustainability-related competences, specifically *respecting diversity*, *intercultural understanding*, *ethical commitment*, and *social responsibility*, with Pearson correlation coefficients exceeding 0.60 in multiple pairings. These results suggest that these competences constitute a tightly interrelated construct centered on sustainability, ethics, and global responsibility. Their statistical coherence reinforces the factor analysis findings and supports their conceptual classification as a distinct latent dimension. Despite their comparatively lower ranking in terms of perceived importance, their internal consistency underscores the relevance of integrating sustainability-oriented competences into project management frameworks.

Furthermore, the analysis identifies *personal communication* and *resilience* as key bridging competences. Personal communication displays moderate to strong correlations with resilience (r = 0.421), respecting diversity (r = 0.272), and intercultural understanding (r = 0.307), indicating that effective communication is closely tied not only to interpersonal fluency but also to cross-cultural sensitivity and adaptability—capacities essential in contemporary, multicultural project environments. Similarly, resilience correlates moderately with both *continuous learning* (r = 0.227) and *self-reflection* (r = 0.228), highlighting its role in self-regulation and professional development.

The correlation patterns also reinforce the existence of a cohesive cluster of technical-analytical competences. *Problem solving*, *organizing and planning*, *analyzing and synthesizing*, and *critical thinking* exhibit moderate to strong inter-correlations—for instance, between problem solving and organizing/planning (r = 0.470), and between analyzing and planning (r = 0.472). This cluster aligns with what can be described as a "cognitive-executive core" of competences, commonly emphasized in traditional project management models. In addition, *creativity* emerges as a bridging competence between analytical and adaptive skill domains. It shows significant positive correlations with *continuous learning* (r = 0.241), *media literacy* (r = 0.360), and *information literacy* (r = 0.184), suggesting that creativity is closely linked to an individual's capacity to acquire, integrate, and apply knowledge in novel and dynamic contexts. This highlights its potential value in environments characterized by digital transformation and innovation.

While the competences related to *ICT literacy*, *information literacy*, and *media literacy* show moderate inter-correlations, they tend to remain on the periphery of the interpersonal and sustainability-related clusters. This pattern suggests that digital competences, while essential, occupy a more specialized and distinct dimension within the broader competence landscape, separate from interpersonal or ethically grounded domains.

Finally, *leadership* appears as a multi-dimensional connector. It correlates moderately with *intercultural understanding* (r = 0.265), *creativity* (r = 0.096), and *teamwork* (r = 0.273), indicating its cross-functional nature, bridging operational effectiveness with relational and innovative capacities.

Nevertheless, its comparatively weaker associations with sustainability-related competences point to a potential gap in the integration of ethical and inclusive leadership practices—a gap that may warrant further attention in future leadership development initiatives within engineering project management.
In sum, the correlation matrix not only reinforces the factor structure of competences but also highlights key integration gaps, especially between traditionally valued operational competences and the emerging importance of sustainability-related skills.

5 Findings

Findings are consistent with the ongoing evolution of the project management discipline at the international level, as evidenced by the development of major standards and frameworks such as ISO 21502 (ISO, 2020) and the PMBOK® Guide (PMI, 2021). In particular, the evolution of project management is increasingly oriented toward prioritizing stakeholder engagement and value creation, moving away from traditional approaches that focused primarily on the delivery of project outputs within the constraints of time, cost, and quality (Morris, 2013). This paradigm shift reflects a broader transition toward more holistic, strategic, and outcome-oriented project management practices. However, this evolution has been notably slower within the engineering sector, which remains strongly anchored to conventional, plan-driven methodologies and output-based performance metrics (Smyth & Morris, 2007; Cicmil et al., 2006).
The findings of this study expose a crucial disjunction between the skills perceived as essential for future engineering project managers and the broader, systemic competencies required to navigate an increasingly sustainability-driven project landscape. While the prioritization of soft skills such as teamwork, problem-solving, and adaptability confirms the continued centrality of interpersonal and cognitive competencies in project environments, the persistent underestimation of sustainability-related competences raises critical concerns about the readiness of project managers to address grand societal and environmental challenges.
From a theoretical standpoint, this gap underscores a lag between evolving institutional and regulatory frameworks—particularly those emerging within the European Union—and the operative perceptions held by professionals within engineering project management. The consistently low ranking of competences such as ethical commitment, social responsibility, and intercultural understanding suggests that the operational logic of many organizations remains rooted in short-term deliverables and efficiency metrics, rather than in value-driven, long-term project outcomes aligned with ESG (Environmental, Social, and Governance) principles.
Notably, the results from the factor and correlation analyses provide empirical validation of sustainability-related competences as a coherent latent construct. Their statistical cohesion, despite being undervalued in priority rankings, signals a shared conceptual space that resonates with contemporary models of responsible leadership and stakeholder-oriented governance (Martens & De Carvalho, 2017). This contradiction—internal consistency versus external marginalization—highlights a tension between recognized theoretical imperatives and prevailing professional practices.
Moreover, the emergence of "bridging competences" such as personal communication, resilience, and leadership points to potential leverage points for the integration of sustainability competences. These skills correlate significantly across traditionally siloed domains (interpersonal, analytical, ethical), indicating that strategic interventions—such as leadership development programs that emphasize ethical communication and systemic thinking—could catalyze broader competence integration without undermining existing operational strengths.
The undervaluation of sustainability competences is not merely a cognitive or cultural oversight; it may reflect deeper institutional misalignments and structural inertia. As project environments become more multi-stakeholder, multi-sectoral, and transnational, competences like intercultural understanding and social responsibility become not ancillary but foundational. Their exclusion from the dominant competence hierarchy could compromise project legitimacy, stakeholder alignment, and long-term impact. Finally, these findings challenge existing project management competency models—such as

those advanced by IPMA, PMI, and other certification bodies—to expand their frameworks to explicitly include sustainability and ethical dimensions as core elements rather than optional or peripheral attributes. This recalibration is essential to align professional training, hiring practices, and leadership development with the demands of complex, sustainability-oriented project contexts.

6 Conclusions

This study provides empirical evidence of a significant misalignment between the competences currently prioritized by engineering project management professionals and those increasingly demanded by the sustainability-driven context in which contemporary projects are conceived and executed. While transversal competences such as teamwork, problem-solving, and adaptability maintain their centrality in professional discourse and practice, sustainability-related competences—namely ethical commitment, social responsibility, and intercultural understanding—are consistently undervalued, despite their internal coherence and theoretical relevance.

The factor and correlation analyses conducted confirm that these sustainability-related competences form a statistically robust and conceptually integrated cluster. Their marginal ranking, however, suggests a persistent reliance on legacy competency models that remain largely anchored in efficiency-driven paradigms, with insufficient attention to systemic, ethical, and long-term considerations. This gap reflects not only cognitive inertia within professional communities but also structural misalignments in education, certification, and organizational development frameworks.

In light of intensifying global challenges, shifting regulatory landscapes, and increasing stakeholder scrutiny, the integration of sustainability competences into the core fabric of project management should no longer be treated as ancillary. Rather, these competences must be reframed as essential components of professional efficacy and strategic leadership. The current underrepresentation of such skills constitutes a potential vulnerability in the profession's ability to deliver projects that are not only operationally successful but also socially legitimate and environmentally responsible.

To address this, a paradigm shift is required—one that moves beyond the dichotomy of technical versus interpersonal skills and embraces a multidimensional competency architecture inclusive of sustainability, ethics, and intercultural competence. This reconfiguration has implications for curriculum design, competence assessment, and organizational capability-building, and represents a foundational step toward aligning project management practice with the broader imperatives of sustainable development and responsible innovation.

7 Future research avenues

As a future research direction, we intend to conduct a role-based analysis of the findings to discern how the perceived importance of competences varies across different organizational positions. This approach will enable a deeper understanding of potential misalignments between executives, HR professionals, and project managers regarding skill prioritization and the integration of sustainability-related competences into project management frameworks

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Funding

This paper received support from STEPS4EU "Shaping the Engineers' Personal & Interpersonal Skills for Enterprises& Universities" under the Erasmus+ Program, specifically within the framework of Key Action "Cooperation among Organizations and Institutions" and Action Type "Cooperation Partnerships in Higher Education". The funding was provided through Grant Agreement No.: 2023-1-IT02-KA220-HED-000154118. This support made it feasible to showcase the results in this paper. Views and opinions expressed are however those of the authors only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

GOVERNANCE OF MARINE PROTECTED AREAS: THE ROLE OF LOCAL COMMUNITY INVOLVEMENT FOR BIODIVERSITY CONSERVATION AND HUMAN WELL-BEING

Research Idea

Silvia Del Principe, University of Pisa, Pisa, Italy, silvia.delprincipe@phd.unipi.it

Abstract

This research investigates the governance of Italian Marine Protected Areas (MPAs), focusing on the role of local community involvement in achieving biodiversity conservation and human well-being. Using the Social-Ecological Systems framework and Elinor Ostrom's Commons theory, the study provides a comprehensive analysis of governance challenges across the Italian MPAs and explores the potential of local community involvement to improve their effectiveness. A qualitative approach is adopted, employing the Italian MPAs as a case study. Data will be collected through surveys and focus groups with managers of the Italian MPAs and community representatives. The research identifies institutional barriers and opportunities for governance effectiveness. Findings aim to inform governance strategies that align ecological goals with community needs in socio-ecologically complex and high-pressure coastal areas. Improving our understanding of the effectiveness of MPAs is crucial to improving their acceptance by the community and, in turn, to reaching the 30x30 target.

Keywords: Marine Protected Areas, MPAs, Governance.

1 Introduction

MPAs are explicitly identified as a primary method to reach the 30x30 Global Biodiversity Framework target (Zhao et al., 2024). According to the International Union for Conservation of Nature (IUCN), an **MPA** is defined as "a clearly defined geographical space, recognised, dedicated, and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values' (Dudley, 2008). The effective MPAs are relevant for reaching the **30x30 target**, that is to ensure and enable that by 2030 at least 30% of marine and coastal areas are effectively conserved and managed through ecologically representative, well-connected and equitably governed systems of protected areas (Convention on Biological Diversity, 2022).

There is an urgent need to understand how MPAs can be effective. Recent approaches (Lockwood et al., 2010; Hockings et al., 2006), rooted in Social-Ecological theory, assess MPAs **effectiveness** along three dimensions: ecological outcomes (e.g., biodiversity), social outcomes (e.g., well-being), and social-ecological interactions (e.g., reduced human pressures). Moreover, studies suggest that the governance of the MPAs (Borrini-Feyerabend & Hill, 2015; Gill et al., 2017) and the local community involvement in decision-making (Di Franco et al, 2020; Ghoddousi et al., 2022) are key drivers of biodiversity conservation and local human well-being (Huber et al., 2023). Ensuring that positive human well-being outcomes are associated with implementing and maintaining MPAs is important for the acceptance and effectiveness of MPAs (Ban et al., 2019).

Based on the current literature, **this research focuses on two elements that could improve the effectiveness of MPAs** in achieving biodiversity conservation and human well-being: governance and local community involvement, particularly within the Italian Coastal context. In the field of natural conservation, **governance** concerns the powers, authorities, and responsibilities exercised by organizations and individuals (Lookwood et al., 2010). Particularly, governance can be defined as the

interactions among structures, processes, and traditions that determine how power and responsibilities are exercised, how decisions are taken, and how citizens or other stakeholders have their say (Graham et al., 2003). The **local community involvement** in the governance of MPAs is crucial for their effectiveness and acceptance. Reviews and case studies suggest that local community involvement significantly increases compliance with MPA regulations (Andrade & Rhodes, 2012) and may positively affect social and ecological effectiveness in MPAs (Huber et al., 2023; Giakoumi et al., 2018).

Globally, the governance of the MPAs has undergone an evolution from a historical focus on conserving biodiversity through access restrictions to more equitable approaches for both the local community and nature (Andradi-Brown et al., 2024). In **the Italian context**, the complexity of the institutional landscape, with overlapping and sometimes conflicting regulations, presents major challenges for conflict resolution and effective and integrated governance (D'Anna et al., 2016). Efforts to promote more inclusive, transparent, and participatory governance models are underway, but progress is slow and uneven across regions and MPAs.

2 Aims of the study

Despite these efforts, the governance of MPAs is often overlooked, especially in Europe and the Mediterranean (Jones et al. 2013; Garcia Rodrigues et al., 2024). Researchers recommend further research into context-specific governance (Zhao et al., 2024), particularly in regions like the Mediterranean, where social-ecological complexity is high. (D'Anna et al., 2016; Andradi-Brown et al. 2023). In line with the literature, **this research aims to: (1) provide a comprehensive analysis of governance challenges** across the Italian MPAs; **(2) identify the barriers** to governance effectiveness; and (3) **explore the potential of local community involvement** to improve effectiveness.

3 Theoretical background

This research uses the framework of the **Social-Ecological Systems (SESs)** and the lens of **the Commons theory of Elinor Ostrom** to analyse the governance of Italian MPAs and identify the barriers to governance effectiveness. Both have already been applied in the context of MPAs. The **SESs framework** denotes how relations between society and nature, and their processes and dynamics, are intertwined (Berkes, 2004) and enables a holistic understanding of MPAs as a complex system where decisions taken about how to manage natural resources will impact societal development and, conversely, decisions made for societal development will affect MPAs (Cumming & Allen 2017). The **Commons theory** identified the main principles required for effective governance of the natural resources. Based on these principles, it is possible to administer common resources used by small groups of people who interact according to common rules that are respected and accepted by all the members, involving institutions at different levels (Lima et al., 2021).

4 Method

The research employs an inductive approach to qualitative research. **Qualitative research** related to the human dimensions of conservation of natural resources is growing in quantity (Macura et al., 2019). This research can provide a rigorous evidence base for a deeper understanding of the implementation and effectiveness of governance interventions, and the diversity of perspectives and voices (e.g., park managers, local stakeholders, fishers) fundamental for tackling wicked conservation issues.

A case study approach is used to analyse the governance challenges of Italian MPAs, identify the barriers to governance effectiveness, and explore the potential of local community involvement. A Case study is an in-depth description and analysis of a bounded system (Tisdell et al., 2025). In this research, the bounded system (the "case") corresponds to a group, that of the Italian MPAs. Literature underlines the benefits of using a case study approach to understand the governance of MPAs. For instance, a case study approach helps understand the relationship between institutions, the local community, and the ecosystem, which raises concerns about their governability (Jentoft et al., 2007); moreover, a case study approach leads to more holistic and effective management (Jones et al., 2014).

Data will be collected through: (1) a **survey** and semi-structured interviews with MPA Directors and managers; (2) a **focus group** with administrators and researchers to identify governance barriers and perspectives on community involvement; and (3) a **focus group** with local community representatives to explore their views and potential roles in MPA governance.

4.1 Study area

The research focuses on the 29 **Italian MPAs**. Like many in the Mediterranean, Italian MPAs are often multiple-use areas that must balance conservation goals with economic activities such as fishing and tourism. This requires a governance strategy that effectively integrates stakeholder interests to ensure compliance and success (Russi, 2020; Lai et al., 2020). However, Italian MPA governance also has some distinctive features, for example, they have decentralized management. While overall governance is state-led (government governance), day-to-day management is often delegated to local entities such as municipalities or environmental organizations.

4.2 Limitations

The research focuses on Italian MPAs, potentially limiting the generalizability of findings. Additionally, while qualitative methods provide depth, they may present challenges in ensuring replicability.

5 Research and practical implications

The findings are expected to identify key drivers of effective MPAs governance in the Italian MPAs. Practically, this research will propose recommendations for improving MPAs governance, especially in socio-ecologically complex and intensely human-pressure regions, such as the Mediterranean Sea. Despite the growing interest in MPAs, there remains a significant gap in comprehensive research on how governance structures (Eklund & Cabeza, 2017) and local community involvement influence MPA effectiveness (Huber et al., 2023). This research uses the SESs framework and the Commons theory to address governance challenges and explore the potential of local community involvement in MPAs under intense human pressure. It contributes novel insights into adaptive governance strategies that align biodiversity conservation with local community well-being, advancing both theoretical understanding and practical applications in marine conservation. Improving our understanding of the role of MPAs governance and local community involvement is crucial to improving the effectiveness of MPAs and their acceptance by the community, and in turn, to reaching the 30x30 target.

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INSTITUTIONAL PRESSURES AND THE EU TAXONOMY: TOWARD SUSTAINABLE TRANSITION WITHIN THE EMILIA-ROMAGNA INDUSTRIAL ECOSYSTEM

Short Paper

Francesco Virili, Catholic University of the Sacred Heart, Piacenza, Piacenza, Italy, francesco.virili@unicatt.it

Michele Cipriano, Catholic University of the Sacred Heart, Piacenza, Piacenza, Italy, michele.cipriano@unicatt.it

Franca Cantoni, Catholic University of the Sacred Heart, Piacenza, Piacenza, Italy, franca.cantoni@unicatt.it

Diego Boerchi, Catholic University of the Sacred Heart, Milano, Milano, Italy, diego.boerchi@unicatt.it

Abstract

This study explores the institutional drivers that shape organisational engagement in circular economy and sustainability practices, focusing on adopting the EU Taxonomy. The reported evidence is based on a large survey of the industrial production ecosystem in the Emilia-Romagna region (N=2000, >10% of the entire population). The statistical analysis based on effect sizes shows that isomorphic forces play a significant role in voluntary adoption choice (still very limited). Through Principal Component Analysis (PCA), the study identifies two homogeneous groups of institutional factors indicative of a complex, multidimensional legitimacy-seeking process. The findings highlight the predominant influence of normative logic, especially those associated with competitive advantage and alignment with supportive institutional frameworks, which increasingly inform approaches to resource governance and stakeholder involvement. These insights contribute to a deeper understanding of how institutional logics evolve and interact in shaping sustainable organisational behaviours, thereby enriching the broader discourse on institutional change and environmental governance.

Keywords: EU Taxonomy, Adoption, Ecosister, Isomorphism, Institutional theory.

1 Introduction

Institutional logics, understood as socially embedded frameworks of values, norms, and rules that shape organisational behaviour, provide a valuable theoretical lens for examining how organisations interpret and respond to sustainability and circular economy initiatives (Thornton & Ocasio, 2008). In particular, small and medium-sized enterprises (SMEs) often navigate multiple and occasionally competing logics, including those driven by market efficiency, civic engagement, and professional expectations (Currie & Spyridonidis, 2016).

Institutional theory offers a robust framework for analysing the behavioural dynamics underpinning transitions toward sustainability. This study focuses on understanding the adoption dynamics associated with a specific type of non-financial reporting: the "EU Taxonomy" of green activities (The European Parliament and of the Council, 2020). The EU Taxonomy offers a detailed classification system for economic activities (such as production processes), allowing organisations to evaluate their alignment with the EU's climate objectives. The resulting alignment scores aim to facilitate the redirection of financial flows toward environmentally sustainable enterprises, increasing transparency and mitigating the risk of greenwashing.

This research is framed within the broader scope of the Ecosister project[1], including the design and development of a large-scale survey involving 2000 companies operating within the Emilia-Romagna region's industrial ecosystem. In particular, it is built upon the preliminary work conducted by Cipriano et al. (2025), presenting the design of a survey intended to investigate the factors influencing the adoption of the EU Taxonomy and its implications for organisational behaviour within this industrial context. Based on this data collection effort, this study proposes a preliminary empirical analysis of the institutional forces influencing the adoption of EU Taxonomy and circular economy practices for sustainable transition. In particular, different forms of institutional pressures can explain the nuances of adoption patterns.

Institutional isomorphism, a concept introduced by DiMaggio and Powell (1983), describes the process by which organisations tend to become more similar over time through three primary mechanisms: coercive (e.g., regulatory compliance), normative (e.g., professional expectations), and mimetic (e.g., emulation of industry leaders) (DiMaggio & Powell, 1983). Viewed through this lens, such forces influence organisations in distinct yet often complementary ways, contributing to convergence in organisational decisions, practices, and structural configurations. Such dynamics are particularly relevant in emerging institutional frameworks, including new accounting frameworks like the EU taxonomy.

Coercive isomorphism stems from both formal and informal pressures imposed by entities upon which organisations are dependent, as well as broader societal expectations. Regulatory requirements, for instance, frequently drive firms to adopt environmentally responsible practices to comply with government policies, environmental legislation, or international sustainability standards (Yusoff et al., 2019). Moreover, coercive pressures may also be embedded in supply chain relationships, where larger firms require their suppliers to conform to specific environmental or ESG criteria, thereby inducing the diffusion of such practices across organisational networks.

Mimetic isomorphism arises when organisations model their behaviours and practices on those of peers perceived as more legitimate, innovative, or successful. Within the context of sustainability, this often translates into benchmarking against best practices established by leading firms in the sector. For instance, if a prominent company introduces an advanced recycling system, other organisations may adopt similar approaches to remain competitive and enhance their legitimacy. Mimetic tendencies are also evident in the voluntary uptake of widely accepted sustainability frameworks and certifications (Gasparyan, 2024; Hedley et al., 2024). The adoption of Global Reporting Initiative (GRI) standards for sustainability reporting, for example, can be seen as an instance of mimetic behaviour, particularly when organisations emulate the reporting choices of industry frontrunners.

Normative isomorphism, on the other hand, stems from processes of professionalisation and the diffusion of shared norms and practices through education, training, and professional networks. Sustainability practitioners often possess similar educational backgrounds and subscribe to common standards, which fosters the propagation of standardised sustainability practices across organisations (Peng & Zhang, 2022). Engagement in professional associations and networks (such as the Italian Network for Business Reporting (NIBR) and the Global Compact Network) further facilitates the alignment of organisational strategies through the dissemination of guidelines, tools, and knowledge resources (Ruggie, 2002; Schembera, 2018).

In practice, sustainability-related behaviours often result from the interplay of coercive, mimetic, and normative pressures. The widespread production of Corporate Social Responsibility (CSR) reports, frequently aligned with GRI standards, exemplifies this convergence. Such reporting practices are influenced by normative expectations from professional communities and mimetic adaptation to

[1]Funded by the "NextGeneration EU plan" and Italy's "Piano Nazionale Ripresa e Resilienza" (PNRR). Ecosister is a major research initiative involving multiple institutions, including six universities, four public research centers, and thirteen private innovation centers. With an investment of €110 million over three years (2023-2025), the project engages over 800 researchers to drive Emilia-Romagna's sustainable transition. Key research areas include sustainable materials, clean energy, green manufacturing, intelligent mobility, and ecological transitions supported by high-performance computing and data technology.

industry benchmarks. Similarly, the adoption of renewable energy technologies across sectors reflects coercive influences (e.g., policy incentives and regulatory mandates), mimetic drivers (imitation of leading organisations), and normative pressures (prevailing industry standards promoting energy transition) (MASE, 2024). Waste reduction initiatives also exemplify this dynamic: they may be initiated in response to environmental regulations, inspired by peer organisations' success stories, or encouraged through shared best practices circulated within professional sustainability networks (Boccia et al., 2019; Haque et al., 2023; Secondi et al., 2019).

From this perspective, it is acknowledged that isomorphic forces can exert a considerable influence, acting as catalysts for organisations in the adoption of non-financial accounting disclosure practices (Mejía et al., 2020; Mosconi & D'Ingiullo, 2023; Velte, 2023). Drawing on the tradition of institutional theory (Anlesinya et al., 2023; Davidson & Chismar, 2007; Hinings et al., 2018; Kwabena Amoako et al., 2021), this study aims to examine the ways in which these forces might shape an organisation's approach to the EU Taxonomy (European Commission, 2023).

Specifically, an empirical analysis based on the results of a large-scale survey is proposed to identify the main institutional drivers that influence the adoption of the EU Taxonomy, with a perspective view on its influence on the implementation of circular economy practices as part of the transition towards sustainability.

Thus, the central research question is framed as follows: *RQ1: What is the influence of institutional forces on taxonomy adoption?*

From a broader perspective, the proposed analysis, which centres on adoption, may later evolve to provide a more comprehensive understanding of how institutional isomorphism shapes the long-term organisational transition toward circular economy practices. Building on these initial findings, a subsequent line of inquiry could refer to the question: *RQ2: What role do institutional forces play in the actual implementation of circular economy practices?* This question, which is demanded here for future research, could support a deeper examination of the mechanisms through which external pressures influence adoption and the operational integration of sustainability principles.

The following section presents the operationalisation and interpretation of the variables related to the main isomorphic forces, the adoption decision, and the methodology for data collection and analysis.

2 Methodology and Data Collection

The adoption of the EU Taxonomy by a company entails mapping its internal activities and calculating the proportion of activities that are considered "eligible" and "aligned" with the standard classification (European Commission, 2023).

A specific question in the survey was designed to assess the actual adoption of the taxonomy. This question is presented in the Appendix (available at the link: https://bit.ly/SP3WP5_2000Survey)[2] and serves as a representation of the variable "ADOPT".

In the Appendix, three sets of questions are outlined, each aimed at measuring one of the three isomorphic forces (i.e., normative, coercive, and mimetic). The corresponding variables are identified as NORM1-NORM10, COERC1, COERC2, and MIM1. As shown in the Appendix, the 13 questions pertaining to the isomorphic forces are measured using a 5-point Likert scale (1-5), whereas the target variable ADOPT is quantified using binary values (0/1). The sample comprises 2000 companies, which is highly representative of the entire productive ecosystem of Emilia-Romagna, including a substantial statistical proportion (over 10%) of the total population. For additional context, Table 1 summarises the sample of enterprises based in Emilia-Romagna, categorised by industry areas.

Industrial ecosystem area	**N.**	**%**	**Cumulative**

[2] with respect to the project's disclosure of interest, we provide only the essential sections of the survey relevant to the current study.

Agri-food system	305	15.25	15.25
Building and construction system	447	22.35	37.60
Mechatronics and engine system	381	19.05	56.65
Health and wellness industries	35	1.75	58.40
Cultural and creative industries	10	0.50	58.90
Tourism Industry	12	0.60	59.50
Innovation in services, digital transformation and logistics	57	2.85	62.35
Energy and sustainable development	53	2.65	65.00
Other	700	35.00	100.00
Total	**2000**	**100.00**	

Table 1. Information concerning the composition of the observed sample.

An interesting question arising from the survey is: how many of the 2000 companies adopted the EU Taxonomy? Currently, the mandatory adoption of the EU Taxonomy in Italy is minimal. As of the time of the survey, only large multi-utilities were legally required by Italian legislation to report their EU Taxonomy scores publicly. However, these companies represent a negligible proportion of the regional ecosystem, consisting of only a few entities. Regarding voluntary adoption, 98 companies from the original sample of 2000 responded affirmatively to the question about their adoption of the EU Taxonomy, representing approximately 5% of the full sample.

Notably, only companies actively engaged in Circular Economy (CE) projects, 530 out of the 2000 surveyed, were included in the analysis of isomorphic drivers. This targeted selection makes the sample particularly suitable for evaluating, in subsequent research stages, the impact of isomorphism on the adoption of the EU Taxonomy and on actual participation in CE-based sustainable transition projects.

Our exploratory analysis focuses explicitly on this subset of 530 companies involved in CE projects. Within this group, 59 companies (approximately 11% of the sample) reported having adopted the EU Taxonomy. The initial statistical analysis of the two target groups (i.e., adopters (59) and non-adopters (471) aims to estimate the effects of the isomorphic variables on the adoption decision. In particular, the analysis seeks to determine the magnitude of the effect that variations in isomorphic forces may have on adoption (effect size). Additionally, it investigates whether the effect size is sufficient to suggest a statistical relationship between the isomorphic variables and the adoption variable.

A further consideration is whether it is possible to identify homogeneous groups of variables that could form meaningful constructs for structural equation modelling. To explore this, the 13 potential isomorphic variables were aggregated into composite constructs with consistent meaning. To assess the feasibility of this aggregation, a Principal Components Analysis (PCA) was conducted, revealing the presence of two Principal Components (PCs) that could be utilised for the formation of such constructs.

3 Results

Cohen's d was employed to estimate the effect size. Table 2 reports the outcomes of the effect size estimation, showing the differences in mean between "adoption" and "non-adoption" groups of companies.

Isomorphic variable	**Effect size estimation**	**Legenda**
NORM2	0,5270	d = 0.2 → small effect
NORM10	0,4490	d = 0.5 → medium effect
NORM4	0,4220	d = 0.8 → large effect
COERC2	0,3740	
COERC1	0,3590	

NORM8	0,3290
NORM9	0,3290
NORM5	0,3250
MIM1	0,3130
NORM1	0,2900
NORM3	0,2370
NORM7	0,1910
NORM6	0,1150

Table2. Effect size (Cohen's d) estimation based on the analysed sample.

Specifically, the reported Cohen's d standard estimator of the effect size shows that in the adopters group of companies (N = 59), the average values of isomorphic forces are higher than in the non-adopters group of companies (N = 471). Accordingly, some isomorphic variables are more strongly associated with adoption than others (detailed description follows below).

The PCA was conducted using the IBM SPSS Statistics (version 29.0.0) software (George & Mallery, 2024; Liu et al., 2003). As known, PCA is a data reduction technique typically used to identify uncorrelated linear combinations (components) of the original variables (Ahamad & Bharti, 2020; Kassambara, 2017). In this study, PCA is used to identify distinct meaningful groups of the 13 isomorphic variables, potential candidates for the formation of latent constructs.

For the purposes of this study, we report the most pertinent statistical outcomes, with particular emphasis on the first two principal components. Factor rotation was performed using the Direct Oblimin method to enhance the interpretability of the component structure (Ahamad & Bharti, 2020; George & Mallery, 2024).

Following extraction, two principal components (PCs) were retained, together accounting for approximately 56.4% of the total variance, specifically, 46.9% for the first component (PC1) and 9.5% for the second (PC2). The component scores for each isomorphic variable are presented in Table 3 below.

Isomorphic Variable	**PC1: Regulation and incentives**	**PC2: Awareness and values**
COERC2	0,783	0,156
NORM10	0,745	
MIM1	0,729	
NORM5	0,715	
COERC1	0,672	
NORM2	0,520	-0,309
NORM8	0,513	-0,336
NORM6	-0,188	-0,909
NORM7		-0,825
NORM3		-0,772
NORM1	0,274	-0,559
NORM9	0,364	-0,49
NORM4	0,240	-0,486

Table 3. Principal component scores.

PC1, which we label "Regulation and Incentives", is primarily characterised by high scores on variables such as (*COERC2)* and (*NORM10)*, indicating strong relevance of regulatory pressures and financial

requirements, particularly those imposed by the European Union and the credit system. This component also includes MIM1, NORM5, COERC1, and NORM2, suggesting the influence of formal institutional expectations and imitative behaviour within the organisational field.

PC2, which we interpret as "Awareness and Values", captures internal drivers of adoption, reflected in the scores of *NORM6*, *NORM7*, and *NORM3*. These variables relate to the awareness, commitment, and engagement of internal stakeholders, that is, managers, employees, and supply chain actors in sustainability and ESG practices (and their role played in adoption).

4 Conclusion

Our analysis highlights the predominance of normative forces, particularly those tied to competitive advantage (NORM2), which appear to initiate a cascade of institutional logic. These logics evolve from strategic motivations toward more embedded practices, such as the alignment with banking institutions (NORM10) and structured resource governance (NORM4). Interestingly, a factor initially classified as coercive (COERC2), relating to European directives and policy frameworks, is included in the "Regulation and incentives" component, together with many normative variables (NORM10, NORM5, NORM 2 and NORM8), suggesting that regulatory demands are increasingly internalised as shared norms rather than as externally imposed constraints. This shift underlines the dynamic interplay between coercive and normative elements in the institutionalisation process. Among the normative factors, multi-level stakeholder engagement emerged as a relevant concept: market product demand (NORM8), community (NORM9), and supply chain partnerships (NORM5) illustrate varying degrees of normative pressures involving stakeholders at different levels.

All in all, these variables suggest the potential identification of a first latent factor that aggregates normative with partially coercive and mimetic dimensions, indicating a convergence of legitimacy-seeking strategies into the "Regulation and incentives" component. The "awareness and values" component includes sustainability awareness, sensibility and value sharing by top managers (NORM6), employees (NORM7), and customers and suppliers (NORM3). These variables suggest the potential identification of a second latent factor, taking into account "softer", cultural, and value-oriented aspects of normative pressures.

In conclusion, while the study provides valuable insights into the role of institutional forces in the voluntary adoption of the EU Taxonomy within a regional context, we also acknowledge some limitations. The cross-sectional design limits causal inference, and focusing on a single region (Emilia-Romagna) may constrain generalisability. Further research could benefit from longitudinal data to capture dynamic adoption patterns over time and comparative studies across different regulatory or cultural contexts. Additionally, as PCA revealed interesting paths to build potentially meaningful constructs, we plan to employ structural equation modelling to validate and refine these dimensions in a further step. However, our first findings already have important implications for policymakers and financial institutions, suggesting that internalised normative logic and stakeholder engagement play a crucial role in advancing sustainable practices beyond mere regulatory compliance.

5 Acknowledgements

This study was funded by the "National Recovery and Resilience Plan (NRRP), Mission 04 Component 2 Investment 1.5 – NextGenerationEU, Call for tender n. 3277 dated 30/12/2021, Award Number: 0001052 dated 23/06/2022".

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SUSTAINABILITY MOTIVES AND MECHANISMS: A STEWARDSHIP PERSPECTIVE IN FAMILY BUSINESSES

Short Paper

Giovanna Afeltra, San Raffaele University, Rome, Italy, giovanna.afeltra@uniroma5.it
Elias Hadjielias, Cyprus University of Technology, Cyprus, Grece, elias.hadjielias@cut.ac.cy
Emanuele Gabriel Margherita, Link University, Rome, Italy, e.margherita@unilink.it

Abstract

Family businesses, with their focus on legacy, intergenerational continuity, and strong community ties, are uniquely positioned to contribute to sustainability. However, the idiosyncratic motives and mechanisms underlying this type of value creation remain largely unaddressed. To respond to this gap, we draw on stewardship theory to investigate the way stewardship influences and shapes the motives and mechanisms behind sustainability in the family business. Drawing on an in-depth single case study of a third-generation Italian family business, we reveal the role of stewardship-driven sustainability mechanisms which are grounded in three stewardship motivations – business, community, and environmental. These mechanisms help operationalize organizational practices to achieve organizational sustainability within the family business context. Our study contributes theoretically to the family business literature through context-based theorization and a conceptual framework of motives, mechanisms, and outcomes in family business.

Keywords: Organizational sustainability, Family business, Stewardship theory, Case study

1. Introduction

Family businesses across the globe increasingly focus on sustainable practices to create lasting value, essential for their longevity (Hadjielias & Discua Cruz, 2024). The ability to simultaneously address essential environmental, social, and economic challenges – the very essence of organizational sustainability (Afeltra et al., 2022; Margherita, 2023)– can help address problems related to the failure of many family businesses in successfully transitioning to the next generation (Olson et al., 2003). The need for family businesses to act sustainably has become even more pressing in today's highly demanding word, marked by the introduction of the Sustainable Development Goals and the Paris Agreement on Climate Change (Sachs et al., 2019). In light of these developments, family businesses must embrace sustainability not only to meet stakeholder expectations (Clauß et al., 2022) but also to preserve their stewardship role and deep-rooted embeddedness in local regions (Hadjielias et al., 2022).

While sustainability has historically been defined in various ways, the scholarly community now generally views it as a practice or state that promotes a balance between economic growth, environmental preservation, and social welfare (Krajnc & Glavič, 2005; S. Sharma & Ruud, 2003). By integrating the economic, social, and environmental dimensions, organizations can achieve sustainability goals, leveraging their operations to contribute positively to both the planet and society while ensuring long-term profitability (Hart & Milstein, 2003; Jetzek et al., 2019).

The present study is set to address calls for theorizing the idiosyncratic motives and mechanisms that lead to organizational sustainability in a family business context (Hadjielias et al., 2022; Hadjielias &

Discua Cruz, 2024). We apply the stewardship theory that posits individuals, when entrusted with responsibility, are motivated to act in the best interests of the organisation rather than pursuing self-serving goals (Chrisman, 2019). This contrasts with agency theory, which assumes that managers prioritise personal gain and require oversight to align their actions with organisational objectives (Davis et al., 1997). In stewardship theory, leaders are viewed as caretakers who prioritize collective goals, long-term success, and the well-being of stakeholders. Stewardship theory finds a natural application in family businesses, where values such as trust, loyalty, and long-term orientation often underpin decision-making processes (Chrisman, 2019). Family businesses are characterised by their dual focus on economic success and non-financial goals, such as preserving family legacy and fostering intergenerational continuity (Chrisman, Chua, & Sharma, 2005). These attributes resonate strongly with the principles of stewardship, where leaders act as custodians of both organisational performance and intangible assets, such as reputation and social capital. Two key concepts can be used to analyze the stewardship of organizations: environmental stewardship and community stewardship. Environmental stewardship refers to the responsible management and conservation of natural resources to ensure their availability for future generations (Bennett et al., 2018). This concept highlights the role of organisations and individuals in mitigating environmental impacts through sustainable practices, such as reducing carbon footprints and promoting circular economy principles. In family businesses, environmental stewardship often manifests in initiatives aimed at reducing ecological harm and demonstrating a commitment to sustainable development (Marshall, Coleman, & Reason, 2020). On the other hand, community stewardship emphasises the responsibility of organizations to contribute positively to the social and economic well-being of the communities in which they operate. This involves fostering relationships with local stakeholders, supporting community development projects, and enhancing social cohesion (Shrivastava & Kennelly, 2013; Spence, 2016). Given the deep-rooted connections that family businesses often have with their local communities, they are well-positioned to act as stewards who champion community resilience and well-being. To conclude, both environmental and community stewardship are based on two micro foundations: motives and organizational mechanisms. Motives trigger the need to develop a stewardship action that can be seen as a set of organizational mechanisms that allows them to achieve the (sustainability) goals.

While practices (motives and organizational mechanisms) for organizational sustainability remain under-researched and under-theorized in family businesses, limited insights highlight that these practices depend largely on the symbiotic relationships formed between business families, family businesses, and individual family members with institutions and actors in their local regions (Hadjielias, Discua Cruz, and Howorth, 2023; Sharma and Sharma, 2024). Family members' emotional attachment and sense of responsibility motivate them to collaborate locally to acquire the knowledge, financial, and other form of resources for sustainable entrepreneurship, which not only generates economic value but also address social and environmental issues at both the firm and regional levels (Hadjielias & Discua Cruz, 2024). Building on the above discussion, our study is guided by the following research question: How does stewardship influence and shape the motives and mechanisms for organizational sustainability in the family business context?

To answer this question, we conducted single case study research of a large-sized third generation family enterprise that demonstrates best practices to achieve organizational sustainability. Our analysis identifies the interconnections between stewardship-led motivations, mechanisms and outcomes in family business sustainability. We reveal fix stewardship-driven sustainability mechanisms which are grounded in three stewardship motivations. These mechanisms help operationalize processes to achieve sustainability within the family business.

1 Methodology

1.1 Research design and research site

This study explores the motives and mechanisms that foster organisational sustainability in family firms, adopting a semi-grounded research design (Hadjielias & Cruz, 2024). This approach blends grounded

theory techniques, such as theoretical sampling, with guidance from existing literature during data collection and analysis (Branicki et al., 2021; Bueechl, Pudelko, & Gillespie, 2023). The research adopts a multi-level perspective, examining both the family firm as a whole and individual family members, acknowledging the multi-layered nature of sustainability (Hadjielias & Cruz, 2024).

An in-depth single case study method is employed to investigate dynamics within one organizational context (Eisenhardt, 1989; Yin, 2018). Primary data is gathered through semi-structured interviews, complemented by internal company documents to ensure triangulation and enhance the robustness of findings (Diaz-Moriana, Clinton, & Kammerlander, 2024).

The case focuses on ENEA, a third-generation Italian family firm founded in 1945, specializing in thermoplastic compounds. With a turnover of nearly €200 million and 282 employees, ENEA has a strong legacy of innovation, internationalization, and generational leadership transition. Today, sustainability is a core organizational principle, as outlined in the firm's mission and sustainability manifesto, with strategic emphasis on economic, social, and environmental dimensions.

1.2 Sampling: case and interviewee selection

In line with best practices for single case study selection (De Massis & Kotlar, 2014; Karra, Tracey, & Phillips, 2006), ENEA was chosen based on its distinctiveness and the possibility of deep access. As a family firm with a strong, formalized commitment to sustainability, ENEA offers rich theoretical insights (Yin, 2018) into how sustainability is embedded across operations, from sourcing to environmental initiatives. This made it an ideal candidate for theoretical sampling (Karra et al., 2006).

Access to the firm was facilitated by the first author's strong connections, enabling interviews with managers and staff, supported by extensive internal documentation (De Massis & Kotlar, 2014). A co-author also conducted on-site observation.

Sampling within ENEA followed purposive and snowball methods (Hadjielias et al., 2022). Informants were selected based on role diversity and their capacity to provide deep insight into sustainability practices and value creation processes (Yin, 2018; Hadjielias & Discua Cruz, 2024). Interviewee profiles are detailed in Table 1.

Role of internal interview	**Family member**	**Generation**	**Number of interviews**	**Duration of interviews**	**Sex**
CEO	YES	Third	4	4 hour	F
Group quality health, safety and environment Manager	NO		2	8 hours	M
Quality & CSR Manager	NO		2	1 hour	M
HR Manager People Empowerment	NO		1	1 and half	F
Regulatory and Analysis Specialist (R&D)	NO		1	1 hour	M
CSR & Sustainability Technician	NO		2	1 and half hour	F
Other employees	NO		5	5 hours	2 Males and 3 Females
			17	22 hours	

Table 1. Interviewee Profiles.

2.3 Data collection and data analysis

Data were collected between May 2023 and April 2025 through semi-structured interviews, each lasting 90 to 120 minutes. Interview topics were derived from the literature and aimed at exploring mechanisms contributing to sustainable value creation. The interviews were recorded, transcribed using Panopto, and reviewed by the authors. To strengthen triangulation and ensure robust findings (Eisenhardt, 1989), data were supplemented with internal documents (e.g., sustainability and financial reports) and external sources (e.g., media articles, website content, social media). This multi-source strategy enhanced data validity and reliability (Jonsen & Jehn, 2009).

The analysis followed a three-phase coding process—open, axial, and selective—based on Strauss and Corbin (1998), with an iterative approach to theory development (Gioia, Corley, & Hamilton, 2013). In the open coding phase, line-by-line analysis yielded first-order codes (Lamine et al., 2021). Axial coding then grouped these codes into broader categories, informed by sustainable entrepreneurship literature (Tilley & Young, 2006). A semi-grounded approach guided the analysis, rooted in stewardship theory but open to inductive insights (Bueechl, Pudelko, & Gillespie, 2023).

Thematic analysis was performed independently by each author. Findings were validated through member checks with company managers (Lincoln & Guba, 1985), reinforcing the credibility and rigor of the research process.

2 Results, discussion and conclusion

Regarding the motives for organizational sustainability, our findings highlight three primary stewardship-led motives, stemming from the presence and control of the business by ENEA's owning family across generations: a) family business stewardship, b) community stewardship, and c) environmental stewardship.

Family Business Stewardship: this refers to the responsibility of the owning family to perpetuate the family business, treating it as an important wealth of the family that needs to be stewared so it can be effectively passed to the next generation. It is linked with an innate desire to protect the family's socioemotional wealth to ensure the preservation and prosperity of the business for current and future generations. "As the HR manager, I can say: ENEA has sustainability in its DNA, right from its foundation. Giving back value to the local area is a key aspect, especially from a human perspective" (HR manager).

Community Stewardship: this type of motive emerged as one that is rooted in the desire of the controlling family and the ENEA family business to steward the welfare and development of the internal and external communities associated with the firm. Internally, a commitment to nurture and develop the well-being of employees, while externally contributing to the welfare of the local communities and citizens at the vicinity of the family business. "As the CEO, I can say that the sense of sustainability and connection to the local community, instilled by my grandfather, has endured across generations" (CEO).

Environmental Stewardship encompasses the efforts of the business to reduce its ecological footprint and adopt practices that protect and sustain the natural environment. While controlling family plays a pivotal role in nurturing such stewardship attitudes, ENEA, more broadly, seems to be guided by the same environmental stewardship principles. "In 1945, the founder established a factory to recycle plastic remnants from the war, marking the start of our commitment to the circular economy" (website ENEA).

Moreover, we have found five underlying mechanisms for sustainable value creation, which emerge from the motives discussed in the preceding section: a) integrating socio-emotional wealth preservation with sustainable practices, b) family leadership and governance for sustainability, c) innovations addressing environmental and stakeholder needs, d) local partnerships for regional sustainability, and e) environmental resource management.

Integrating socio-emotional wealth preservation with sustainable practices. In ENEA, the preservation of socioemotional wealth, such as the legacy, core values, and identity that define the business, is deeply

intertwined with its operations. This sense of identity and emotional connection is triggered by family business stewardship. "Sustainability is not just a goal; it's part of who we are. By passing down our values and commitments across generations, we ensure that ENEA' s dedication to sustainability becomes a permanent part of our identity" (CSR and sustainability technician). Family leadership & governance for sustainability. Family leadership plays a crucial role in driving sustainability, providing a unique perspective that prioritizes long-term goals over short term profits. By embedding sustainability at the core of their governance practices, the CEO safeguards socioemotional wealth, honor the commitments to their communities, and prioritizes environmental stewardship. "Having female leadership after two generations of male leadership has certainly brought significant focus to social responsibility, including issues of gender, inclusion, diversity, and equity. The social aspect has become so important that ENEA was transformed into a benefit corporation in 2023. I like to think that, in this way, we have come full circle in sustainability and the circular economy, a journey that began with my grandfather" (CEO). Environmental Resource Management. ENEA is taking proactive steps to manage natural resources responsibly, ensuring their availability for future generations by protecting, "In 2023, ENEA demonstrated its commitment to sustainability by allocating 79% of waste for recovery and only 21% for disposal. (CEO). Local Partnerships for Regional Sustainability: in ENEA Building strong collaborations with local communities, businesses, and government entities is essential for addressing regional sustainability challenges. By working together, ENEA and stakeholders can create impactful solutions that benefit both the environment and society "Our focus is on developing innovative products and sustainable applications, often through strategic partnerships, that meet the highest standards of quality and safety while creating positive environmental and social impacts (R&D manager)". Innovations addressing environmental & stakeholder needs: continuous innovation is at the heart of addressing today's environmental challenges. ENEA is striving to reduce their carbon footprint, adopt renewable energy, and implement effective waste management solutions. "Innovation is the cornerstone of sustainability. By investing in Sustainable Value innovation, we drive solutions that not only meet today's needs but also create a positive impact for future generations" (Regulatory and Analysis specialist (R&D).

To conclude, our analysis identifies the interconnections between stewardship-led motivations, sustainability mechanisms and organizational sustainability goals. It offers a process through which organizations, particularly family-owned businesses, translate intrinsic values and norms (guided by stewardship) into mechanisms that foster sustainability across the economic, social, and environmental dimensions. We provide in Figure 1 the following conceptual framework.

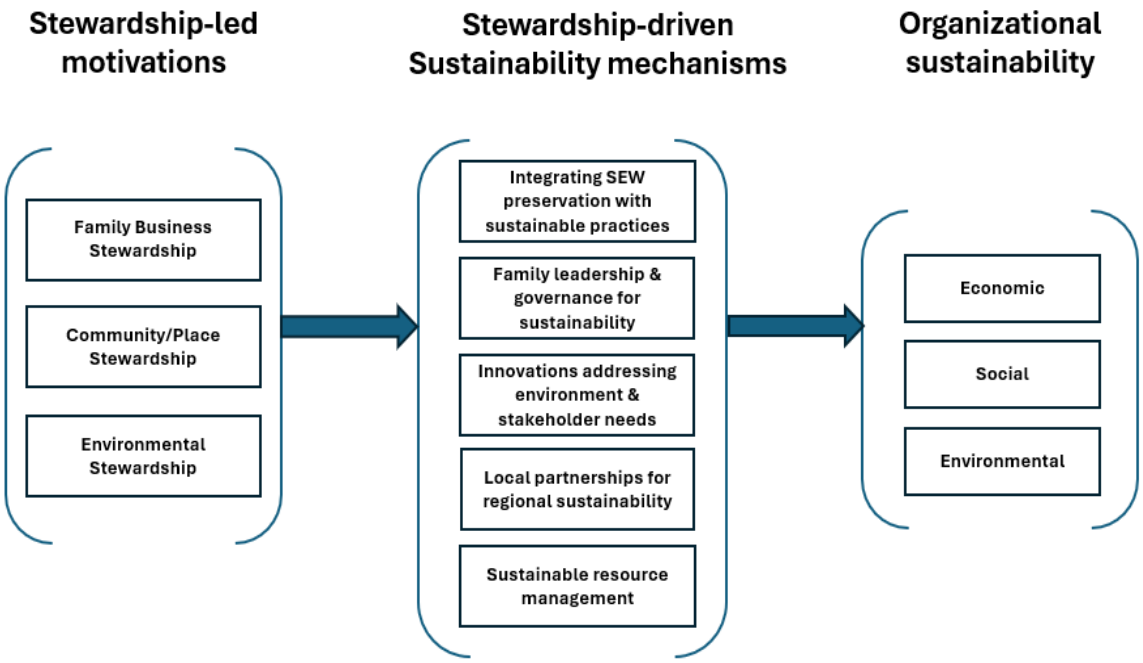


Figure 1. Toward a stewardship-based understanding of sustainability in family business

Our study makes two main theoretical contributions. First, our study contributes to extending stewardship theory in the family business, which, to date, has primarily concentrated on phenomena other than sustainability, such as family business governance (Chrisman, 2019; Madison et al., 2016), financing (Molly et al., 2017), and firm performance (Eddleston & Kellermanns, 2007). Drawing on stewardship to frame our study, we provide stewardship-specific explanations of the motives and mechanisms driving family business sustainability. Secondly, our study contributes theoretically to the family business literature through a conceptual framework explaining how families achieve organizational sustainability by filling the gap of motives and mechanisms for organizational sustainability that have yet to be sufficiently researched and theorized in the family business field (Hadjielias & Discua Cruz, 2024; P. Sharma & Sharma, 2024).

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EXPLORING INTER-ORGANISATIONAL DYNAMICS IN INDUSTRIAL SYMBIOSIS: A NEO-INSTITUTIONAL EXPLORATION IN THE RARE EARTH DOMAIN

Short Paper

Alessio Maria Braccini, Università degli Studi della Tuscia, Viterbo, Italy, abraccini@unitus.it

Abstract

This paper investigates inter-organisational dynamics in industrial symbiosis, focusing on rare earth and critical raw materials within the circular economy. Drawing on the CLOSER EU I3 project, it employs neo-institutional theory to analyse how institutional pressures, logics, and interactions shape collaboration in e-waste management. The study reveals that industrial symbiosis relies on polymorphic interactions, where multiple logics—legal, illegal, linear, and circular—coexist and influence outcomes. While circular logic inscription (e.g., eco-design, digital product passports) promotes sustainable practices, information asymmetry and fragmented institutional norms hinder coordination. The paper highlights the tension between linear and circular logics, emphasising that successful symbiosis requires balancing these paradigms. Preliminary findings underscore the role of institutional pressures, such as normative and mimetic forces, in driving or constraining inter-organisational collaboration. The analysis also identifies challenges, including regulatory fragmentation and social capital gaps, which impede the adoption of circular practices. By framing industrial symbiosis through a neo-institutional lens, this study provides insights into the complexities of aligning organisational behaviour with circular economy goals. The results underscore the need for harmonised institutional frameworks and transparent information systems to sustain industrial symbiosis in the rare earth domain.

Keywords: Industrial Symbiosis, Inter-Organisational Collaboration, Circular Economy, Neo-institutional theory

1 Introduction and motivation

Modern technologies rely on rare earth elements and critical raw materials, raising concerns about resource scarcity, geopolitical tensions, and economic resilience (Crawford, 2021). Circular economy strategies like recycling, urban mining, and industrial symbiosis address these issues by promoting resources reuse and reducing reliance on primary extraction (Gaustad et al., 2018; Ruggieri et al., 2016).

Circular economy eliminates waste and prolongs resource use through reducing, reusing, recycling, and recovering. It is implemented intra-organizationally, where organisations adopt sustainability practices for efficient resource use and waste minimisation (Re et al., 2024), and inter-organizationally, through resource exchanges among independent entities (M. R. Chertow, 2000, 2007; Rajkiran & Almeida, 2024). Industrial symbiosis, a key practice exemplifying resource recycling, is shown in Denmark's Kalunborg (Blackburn et al., 2023; Miller et al., 2025). Research primarily focuses on material flows and process improvement at the intra-organisational level (Piila et al., 2022; Rajkiran & Almeida, 2024), while inter-organisational dynamics remain less explored despite their importance (Walls & Paquin, 2015). Social and organisational factors, such as trust and communication, significantly impact industrial symbiosis success (Herczeg et al., 2018; Walls & Paquin, 2015).

This paper addresses this gap by examining inter-organisational dynamics related to rare earth and critical materials in industrial symbiosis. Using a neo-institutional approach, it investigates the institutional factors influencing industrial symbiosis within the CLOSER EU I 3 project. The research question is: *how do organisations engage in industrial symbiosis within a circular economy*? The paper

focuses on the dynamics that promote or hinder industrial symbiosis, providing insights into inter-organisational exchanges in this context.

2 Conceptual Framing

From a conceptual perspective, this paper draws on the ideas of circular economy and industrial symbiosis. Both concepts are examined through the theoretical lens of institutional theory.

2.1 Circular Economy

The *circular economy concept* gained attention after the 2012 World Economic Forum, where its benefits and pathways were discussed. It mimics biological processes, ensuring materials and nutrients are recyclable into the environment or new production as secondary raw materials (Blériot, 2012).

Circular logic enhances economic systems by boosting industrial sustainability, reducing reliance on natural resources, and improving production resilience. Companies using this approach gain economic benefits and advance long-term goals like strategic independence and ongoing innovation.

Transitioning to a circular economy integrates recycling and reuse into the operational logic of actors within their institutions. This circular logic requires innovative assembly and disassembly practices (Leimeister & Glauner, 2008). Ultimately, these changes modify the workflows of businesses and their stakeholders, affecting processes, models, behaviours, values, and social norms (Park et al., 2010).

Out of the many different ways to operationalise the concept of circular economy, industrial symbiosis emerges as a collaborative inter-organisational approach that has the potential to impact entire industries, not just individual organisations.

2.2 Industrial Symbiosis

Industrial symbiosis (IS) is a setting "engaging traditionally separated industries in a collective approach to competitive advantage involving physical exchange of materials, energy, water, and/or by-products" (Chertow, 2000, p. 313). This collaboration typically reduces waste and improves resource efficiency by treating one firm's output as another's input.

IS plays a key role in operationalising circular principles like waste minimisation and resource circulation at the level of industrial networks (Korhonen et al., 2018). Early examples, such as Kalundborg in Denmark, demonstrated how geographic proximity and spontaneous exchanges among firms can foster a functioning symbiotic network (Ehrenfeld & Gertler, 1997). The concept has since evolved to include planned or facilitated symbiosis, where coordination mechanisms, policies, or third-party facilitators help establish and maintain exchange networks (M. Chertow & Ehrenfeld, 2012).

From an organisational standpoint, IS requires more than technical compatibility among resources and processes. Successful implementation depends on inter-firm trust, communication, and institutional support (Golev et al., 2015). The entities in an IS exchanges not only physical resources, but also shared infrastructure, information, social capital, governance structures, and a skilled workforce (Oughton et al., 2021).

Conceptually, IS can be either self-organised or facilitated. In self-organised settings, firms independently identify mutually beneficial exchanges. In contrast, facilitated models often rely on external actors or policy frameworks to coordinate and manage exchanges (Chertow & Ehrenfeld, 2012). IS can develop over time and is influenced by regional, institutional, and network-level dynamics (Boons et al., 2011). In the circular economy context, IS offers a tangible mechanism to reduce resource consumption and promote environmental sustainability. Its implementation, however, implies new ways of organising business relationships, as well as contextual social and organisational factors (Herczeg et al., 2018; Walls & Paquin, 2015).

2.3 Theoretical Framing

This paper examines circular economy dynamics through institutional theory, a framework that analyses how rules, norms, and beliefs influence organisational behaviour. According to sociologists like Meyer & Rowan (1977) and DiMaggio & Powell (1983), organisations exist within an institutional context that defines legitimate actions. Over time, they tend to conform to these expectations for survival and success, adopting new practices to enhance their legitimacy (Kauppi, 2013).

Institutional pressure leads firms in the same sector to adopt similar structures—this is isomorphism. Neo-institutional theory identifies three mechanisms of isomorphism: coercive, normative, and mimetic pressures (Latif et al., 2020). Coercive pressures from governments force firms to adopt practices to avoid penalties. Normative pressures, driven by societal values and standards, motivate companies to align with stakeholder expectations. Mimetic pressures push firms to imitate successful competitors.

Neo-institutionalism acknowledges agency and change through institutional entrepreneurship. While institutions pressure for the status quo, actors- individuals, organisations, or alliances- can actively pursue change by advocating for new regulations, developing industry standards, adopting information systems, or establishing collaborative networks with a "circular" logic (Arranz et al., 2022; Calzolari et al., 2023; Chen et al., 2011).

Neo-institutional theory effectively explores organisational logics and institutional pressures in developing circular symbiosis (Calzolari et al., 2023). Examining the circular economy institutionally involves assessing how existing forces influence circular practices and how new institutions emerge to support the transition to a circular economy model.

2.4 Research Gap

The shift to a circular economy requires more than technical changes; it demands a transformation in the institutional logic guiding organisational behaviours (Calzolari et al., 2023). While individual organisations adopting circular logic receive much attention, inter-organisational implications in information systems are less studied. This is important as literature shows these settings often fail due to misalignment among social or organisational factors (Herczeg et al., 2018; Walls & Paquin, 2015).

Research on the institutional context supporting or hindering industrial symbiosis is limited. Regulatory frameworks, norms, informal rules, and shared expectations significantly shape organisational collaboration and relevance to circular business models but remain under-explored empirically (Calzolari et al., 2023; Ruggieri et al., 2016). Factors like organisational culture, resource dependency, and past collaboration influence the operationalisation of circular logic and interact with the institutional environment, creating both opportunities and constraints.

3 Research Design

This paper examines rare earth and critical raw materials in e-waste collection. It is based on data gathered during the CLOSER (Circular raw materials for European open strategic autonomy on chips and microelectronics production) EU I3 project, which seeks to develop a European closed-loop system for semiconductors, recycling critical raw materials from e-waste into sustainable chips and microelectronics. In collaboration with 32 partners from 8 European countries, the project aims to establish a circular supply chain for the semiconductor industry. Data was collected from WP7, particularly task 7.1: "Mapping existing waste streams (EU and global) and defining the innovative cross-regional value chain.

The project is regarded as a case unit, and the research is structured as a case study, which is a valuable approach for investigating phenomena in their current developmental context (Yin, 1994). This paper draws on data collected from the project's activities, presented as project deliverables and other official documents, archival data and reports, meeting notes, excerpts from interviews, and field notes compiled during the research activity. The data is aggregated into a single research database and is coded and analysed following the principles of qualitative inquiry involving first and second-level themes (Gioia et al., 2013).

4 Case Description

The CLOSER project sought to create a cross-regional value chain for recovering critical raw materials from waste. It involved analysing waste collection practices, identifying stakeholders, and examining factors that promote circular symbiosis. Central to this is mapping e-waste movements- waste from electrical and electronic equipment at the end of its lifecycle. This e-waste poses environmental and health risks to workers and must be recycled or dismantled properly to comply with regulations. Disposal uncertainties lead to stockpiling in households or landfills, wasting valuable resources. Strategies like raising awareness, urban mining, and remanufacturing enhance the reuse of critical materials and rare earth elements, engaging various organisations and norms.

Key organisational actors include producers, intermediaries, and illegal operators. Producers create EU-compliant electronic products at end-of-life (EOL) and design circular products for easier recycling. Some collaborate with producer responsibility organisations to connect stakeholders for efficient recycling. Illicit operators handle e-waste illegally and reintroduce raw materials. Regulatory bodies enforce varying regulations at international (UN, EU) and national levels based on waste type and lifecycle stage. E-waste regulations focus on recycling devices, managing hazardous materials, and treating batteries, affecting worker safety regulations. The EU aims to extend producer responsibility for e-waste, promote a circular economy, prevent e-waste exit from Europe (noting one ton of e-waste contains more gold than one ton of ore), and establish stricter battery disposal requirements e-waste.

Regulatory frameworks allow illegal e-waste transport to Africa, developing nations, and Eastern Europe. E-waste often hides among other waste or is mislabeled as used goods until disposal. Regulations and stakeholders complicate e-waste treatment. The varied designs of e-waste obscure material composition and disassembly information, causing information asymmetry in the value chain. This issue is partly addressed when producers adopt eco-design principles for recycling or utilise inter-organisational systems like digital product passports to share information. However, these efforts remain voluntary and lack standardisation, burdening producers comply.

5 Discussion: Emerging Themes

The preliminary data analysis indicates an environment where institutional normative pressure does not entirely succeed in fostering a shift to circular logic. From an empirical perspective, rare earth and critical raw materials show some emerging themes.

The first theme involves the presence of multiple logics. One form of logical coexistence pertains to both legal and illegal logics. Legal logic is followed by actors who faithfully adhere to the numerous regulations concerning e-waste and hazardous materials recycling and treatment. Illegal logic is observed by those who disregard these regulations or engage in non-compliance, transporting, transforming, or recycling waste, thus creating severe threats to the environment and the workers involved, while simultaneously detracting valuable resources from the sustainability of industrial symbiosis.

A second coexistence of logic concerns the presence of both linear and circular logic among actors in the institutional environment. Circular logic is adopted by organisations that have integrated all regulations related to extended producer responsibility and manage product decommissioning and recycling independently. In contrast, linear logic is employed by organisations that continue to produce and market products, transferring their producer responsibility to intermediaries who collect end-of-life products or e-waste, redirecting this e-waste to proper recycling.

While legal and illegal logics compete, linear and circular logics operate in synergy, both being essential for sustaining industrial symbiosis. The competition between linear and circular logics bridges the gaps in collaboration that enable industrial symbiosis.

Therefore, industrial symbiosis appears to be grounded more in the concept of *polymorphism*, identified as the first emerging theme, rather than the *isomorphism* outlined in the literature (Latif et al., 2020).

A second emerging theme involves the inscription of circular logic, which promotes circularity in industrial symbiosis. In this regard, the inscription can be found:

- In business practices, through the combination of products and services to ensure the recycling and recovery of critical raw materials;
- In the product by the embedding of demanufacturing and recycling information to promote a circular approach;
- Throughout the value chain, accurate information on material composition and recycling details is shared via digital product passport systems. These systems are currently used voluntarily by producers and stakeholders involved in product or e-waste circulation.

Finally, while the literature indicates that a lack of social capital and trust contributes to the failure of collaboration in industrial symbiosis (Herczeg et al., 2018; Walls & Paquin, 2015), in this case, information asymmetry emerges as the most significant factor that impedes collaboration and logical synergy.

6 Conclusion

This paper examined the institutional environment's role in shaping organisational interactions within industrial symbiosis, emphasising rare earth and critical raw materials in electronic waste management.

Referring to the RQ, polymorphic interaction is the primary form of collaboration that supports the circular economy in industrial symbiosis. It is favoured by circular logic inscription and impeded by information asymmetry. These results are preliminary and arise from the limitations of being based on a single case, as well as stemming from an ongoing research question. The findings will be further refined in the next phases of the research.

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‘IT TAKES A VILLAGE’ TO REVITALISE A VILLAGE: A CASE STUDY ON THEATRE, INCLUSION, AND SOCIAL TRANSFORMATION’

Short Paper

Andrea Prencipe – Luiss University, Rome, Italy – aprencipe@luiss.it

Abstract

Based on a case study on an Italian theatre company – Bottega degli Apocrifi – this paper explores the transformative role that cultural artefacts play in fostering imagination and generating new meanings to tackle social inclusion and promote social change. The paper intends to address the call to pursue research on the power of imagery generated by arts initiatives and how it interacts with social transformation (e.g., Klein & Amis, 2021; Baldessarelli et al., 2022). The paper focuses on two initiatives led by Bottega degli Apocrifi: (a) ‘teatri abitati’ – i.e., inhabited theatres’, an innovative approach to managing public spaces dedicated to live performances, where ‘homeless’ theatre companies ‘inhabit’ unused or underutilized theatres with the aim connect artistic practices with local communities; (b) a ‘personal’ story – a soliloquy written and told by Mamadou Diakite a seasonal farmworker, turned actor.

Keywords: social innovation, social transformation, arts and humanities, community theatre

1 Background

Bottega degli Apocrifi – Apocrifi from now on – is a theatre company based in Manfredonia, Southern Italy, known for its connection to the local community and its innovative approach to performing arts. The Apocrifi was founded in 2000 in Bologna by three university students: Cosimo Severo and Stefania Marrone, studying dramaturgy and theatre disciplines at the University of Bologna, and Fabio Trimigno studying violin at the Conservatory Umberto Giordano in Foggia. The founders decided to move the Apocrifi to Manfredonia in 2004: relocating from Northern Italy to Southern Italy, from Bologna to Manfredonia, the hometown of some of its founders, constituted an unconventional migration. As we read from Apocrifi’s website ‘This move was driven by the ambition to “cultivate the desert” meaning to bring the art of theatre to places where it was absent’. This move echoes research on the role of cultural artifacts such as art, music, theatre and film – if adequately supported – in driving community change (see, e.g., Cleveland, 2002; Frye Burnham, 2010; Manning and Uygur, 2023; Svejenova & Christiansen, 2017).

Apocrifi bet on the idea that theatre could become a viable profession in Southern Italy, traditionally considered a less fertile ground for cultural industries: they focused their philosophy on the inherent relational nature of theatre. Recalling Dewey (1934), the Apocrifi’s founders contend that theatre is a creative act fundamentally based on relationships: it cannot exist in isolation, as performers on stage have no purpose without an audience. ‘Art as Experience’ – published in 1934 by John Dewey – proposed that art is a transformative process deeply embedded in human experience: art is not separate from life but is an integral way of knowing and experiencing the world, capable of fostering personal growth and societal change. More specifically, art is a process that involves a dynamic interplay of

perception, emotion, and intellect, culminating in a unique and meaningful experience. Art is not just about the object itself, it is the whole experience – the interplay between artist, audience, the art itself, and the world around.

The American pragmatist emphasized the importance of the context: this close connection between art – as a process – and its context – i.e., the framework of the performance – renders art a powerful force for personal and social growth and transformation. Art is not just beauty: it is about having a meaningful and transformative experience. On the – potentially virtuous – relationship between art and its context, Ianni (1968: 19) pointed out "…because what really matters is that if the artist wants to act as an agent of social and cultural change he must work with and within the society and the culture he hopes to change. He, like the anthropologist, must become as much a part of it as he can and build from within rather than attempting to impose from the without. And to do this we must understand – not appreciate, but understand – the culture of poverty".

2 Research aims and question

To explore the link between art and its context and the extent to which art may 'impact' its context, I follow the 'pragmatist framework' as proposed by Savaget et al (2024) in their study on social activists dealing with wicked situations – including anti-choice abortion laws worldwide, lack of access to paediatric diarrhoea treatment in Zambia, irregular public expenses in Brazil, challenges for cash-based transfers for humanitarian aid in Nepal, caste discrimination in India, lack of access to water and energy in rural Pakistan. Relying on the notion of 'robust action' – i.e., "a situated, distributed, and processual approach to problem-solving" (Ferraro et al., 2015, p. 2) – Savaget et al (p. 1493) found that "activists pragmatically shy away from pursuing a permanent solution to focus instead on achieving small wins, diagnosing 'symptoms' rather than 'root causes' of problems, and 'working around' institutional constraints instead of directly 'confronting' them." Their findings resonate with Lindblom's approach (1979, p. 520) on small steps as they "do not rock the boat, do not stir up the great antagonisms and paralyzing schisms, as do proposals for more drastic change".

The research question, I set out to address is therefore 'Do art experimentations reframe wicked problems into actionable specifics? Does their 'practical adequacy' (Dewey, 1938) create 'emancipatory moments' (Johnson & Duberley, 2000) to reframe wicked situations like social development?'

3 Research Methods

This paper follows an inductive approach: I am collecting archival data as well as original qualitative data through interviews with the founders, actors, regional and local administrators, and people engaged in the Apocrifi's community. Data are being complemented with non-participant observations in formal and informal meetings of Apocrifi. Based on such data, this paper seeks to contribute to ongoing conversations in organization theory by extending our understanding of activism as a socially embedded, relational, and evolving phenomenon.

4 Initiative #1 – Teatri abitati

4.1 The context

Manfredonia is a large, Southern Italian town: located in a beautiful area, by the sea, historically recognised as the Porta del Gargano 'Door of the Gargano' – the spur of the Italian peninsula and sought-after sea resort by national and international tourists. The nearly 60.000-thousand inhabitants' town has

gone through social, economic and political ups and downs: though Manfredonia attracted generous funds from the EU and Italian national governments in the 1960s and in the 1990s that aimed to spur industrial and therefore economic development, the economy of the town never took off. Youngsters – also graduates – are attracted by large, Northern Italian cities, and increasingly international ones. Local, talented entrepreneurs put in enormous efforts to launch and manage their initiatives. Manfredonia has become the cradle of the so-called 'Quarta Mafia', a group of violent families who control drug dealings and have attempted to take control of the political scene to the extent that the Ministry of Internal affairs decided to dissolve the Manfredonia's City Council due to mafia infiltration – together with the City Councils of nearby towns such as Monte S. Angelo and Mattinata.

4.2 The content

Apocrifi embraced a philosophy of cultural activism: the idea was and is to leverage theatre as a tool for social transformation: the founders' conviction is that the quality of local life can be ameliorated through artistic practices. In 2008, Apocrifi won the call to manage the local Municipal Theatre as part of Apulia's 'Teatri Abitati' initiative – a consolidated model of public/private partnership – funded by the ERDF (European Regional Development Fund – implemented by the Apulia Region in collaboration with the Teatro Pubblico Pugliese (Apulian Public Theatre) whose aim is to encourage theatre companies to turn public spaces into cultural hubs. This model – driven by the regional political will to invest European resources in culture to promote the civil and economic development of the Apulian Region – has offered regional theatre companies the opportunity to deploy their artistic and organizational expertise for programming festivals, audience development and training, production of performances, cultural animation of the territory, and the technical and administrative management of performance venues. Teatri Abitati – a model that combines artistic production with cultural and social engagement – is part of the broader range of regional initiatives supporting the creative industry of the region.

Stefania Marrone – one of the founders – argues that Teatri Abitati has laid the foundations of a virtuous blend, that 'on the one hand, led artists to export processes rather than products, and on the other, transformed the community from passive consumers to drivers of artistic activation.' The initiative contemplated three engagement moments: training – artists educated citizens, i.e., the transfer of skills from artists to citizens; animation, intermediate and informal moments of opening the artistic work processes to the public, so that the citizens involved in the work would become ambassadors to the broader community; production, the final phase of the artistic journey, has been publicly presented to the entire local community.

Echoing Dewey (1934), Apocrifi started building their idea of a theatre as a relational experience from scratch – "We believe in the idea of theatre as an idea of a job; if there is no demand from the market, we need to create demand the desire for theatre: People cannot desire something that does not exist...[hence]…we chose teenagers, knocking on schools' doors, designing theatre labs, again with the idea of creating a new public." (Stefania, Apocrifi founder). Working with school children has become one of the distinctive features of Aprocrifi's idea of a theatre. Not only did they continue to 'knock on schools' doors', but they created a 'structured dialogue' with the towns' youngster community that evolved into one of the mainstays of their identity.

Stefano mentioned "Working with school kids has changed things dramatically: we did not want to be just the 'director', rather it is an 'exchange job', say I take a piece of Moliere, and allocate tasks and roles. We started to listen to them, even in vocational schools: the theatre is there, where students do not have any training whatsoever, it is raw emotions, they are direct. In the meanwhile, as a jigsaw puzzle, neither structured nor fully designed, but surely driven by a desire that had traits of a project, our identity emerged" (Cosimo, Apocrifi founder).

Apocrifi extended such 'structured dialogue' to other age cohorts and indeed segments of the town's populations in their theatrical productions, "…involving different age bands of local people together with professional artists; such productions can be replicated across cities; this impact on the way productions are exported: from exporting a product, to exporting a cultural project, e.g., Sottosopra, Ai Piedi del Muro" (Stefania, Aprocrifi's Founder).

5 Initiative #2 – A personal story

5.1 The context

Borgo Mezzanone, located between Manfredonia and Foggia, is a waypoint for migrants and refugees, particularly those engaged in the region's agricultural labour market. This settlement hosts a governmental reception centre housing over 1,000 people: numbers of people 'passing by' amount to over 4.000 per year – with peaks in Summer, i.e., during the tomato season. The informal settlement sprawls along a disused airport runway, commonly referred to as 'the Pista', which has grown exponentially to accommodate migrants living in precarious conditions. Residents are primarily from sub-Saharan Africa: they play a critical role in the harvesting of tomatoes and other produce for European markets, they work under harsh conditions, they are marginalized socially and economically, with limited access to basic services such as healthcare and housing. Organizations like INTERSOS and Médecins Sans Frontières (MSF) provide medical assistance and humanitarian aid. The settlement also grapples with social problems, including exploitation, violence, and poor infrastructure. Residents live in makeshift shelters lacking adequate sanitation or electricity, exacerbating their vulnerability. The Italian daily, *La Repubblica*, offered a detailed reportage on Borgo Mezzanone to denounce the critical conditions in which the people living in Borgo Mezzanone find themselves.

5.2 The content

Mamadou Diakite is a young citizen of the Ivory Coast who has set off on a journey 'without a valid reason', without a war, without persecution; the brazen story of a boy who thought he had the right to an opportunity in life to pursue a dream. A dream that crossed the desert and the Mediterranean Sea: it begins with the meeting with the most skilled trafficker in all of Africa, Sita the seller, and progresses meetings after meetings, borders after borders, to eventually land in Italy. Mamadou finds shelter in Borgo Mezzanone, he has a broken wrist and cannot work in the fields: he decides to start taking classes in Italian offered by a volunteer Italian language teacher in Borgo Mezzanone.

'Without a valid reason' encourages Mamadou to look for valid reason(s): he replies to a call launched by Apocrifi to recruit actors and actresses for their performance 'Birds' – an edited version of the famous comedy by Aristophanes. The call attracted dozens of applications from young actors coming from the best theatre schools in Italy: despite the fierce competition Mamadou gets selected. 'We saw "something" in him' says Stefania Marrone – a dramaturg and one of the Apocrifi's founders. Mamadou takes classes on acting, rehearses, but when the company is set to start the 'Birds' tour in Italy, the COVID-19 pandemic kicks in, and the tour gets cancelled. Nonetheless, during classes and rehearsals, Mamadou's 'chase of dream' comes through his behaviour and his words to the extent that Stefania Marrone asks him to write his personal story in Italian. The output is a 34-page brilliant story illustrating his journey from the Ivory Coast through the desert, sea, and eventually to Italy. Mamadou sent the 34-page story to the contest DiMMi (Diario di Memorie Migranti).

When COVID-19 starts receding, Apocrifi proposes to Mamadou to turn the story into a performance, a soliloquy. Mamadou's soliloquy becomes a success: over 100 performances across Italy in the last 3

years. Mamadou's journey vividly instantiates mental, physical, emotional difficulties of migrants' travelling experience: it is indeed an emotion ridden, ethically disruptive, culturally rich, and anxiety imbued story. To celebrate the 100th replica, Stefania Decides to turn the story in a book (Marrone, 2024).

Critics get to know Mamadou and write about his performance. Elena Scolari writes in the magazine *Paneacquaculture*, '...a perfect balance of writing that never overplays, yet almost doesn't even touch, the pedal of drama. The harshest events are simply 'stated,' and that is more than sufficient. Diakiteé displays a naturalness and discretion, mastering Italian even in its most refined inflections, and paces his 'reportage' with fluid scenic timing that gives ample space to absorb incredible moments—not necessarily tragic. There's laughter too, in listening to this clean, concise, vibrant, and pulsating chronicle. This approach intelligently addresses the minds of the audience, leaving a mark that stirs thought more than emotion.' Similary, Marianna Masselli praises Mamadou in the magazine *Teatro e Critica*, 'Counterpointed by the fixation on specific moments with a few figures serving as narrative leitmotifs, the story conveys, with balance and simplicity, the reality of the hardships of a journey and its imposed, albeit unwritten, rules. It does so without resorting to any form of pity or rhetoric, allowing, through moments of tenderness and irony, the vividness of the choice to 'chase a dream' to shine through.'

6 Preliminary results and concluding remarks

Apocrifi has become an active part of the local community: their activities include producing original plays, offering educational workshops, and conducting international training projects supported by the European Union. Apocrifi has gained national recognition including the Eolo Prize. "Guglielmo Minervini, one of the most inspiring figures in contemporary Apulia, when invited to Manfredonia for a conference on the legacy of Don Milani, he remarked "Rooting oneself in a specific place, adopting a dialect, does not mean closing oneself off from the world: it becomes a narrow window through which – if you engage your mind and reawaken a vigilant conscience – you can see everything." This statement beautifully encapsulates the balance between local identity and global awareness, emphasizing that true engagement with a place enhances one's perspective of the broader world." (Apocrifi's website).

The Apocrifi's founders claim that they act as *instigators of relationships* 'This is what we have sought to be in Manfredonia…we chose to *stay*…this word transformed its meaning for us. From a verb implying sedentary existence, it became a noun signifying action. "Staying" became a *conditio sine qua non*, not only for our work within the territory but also for our artistic exploration…Our aim is to build a theatrical community capable of keeping awareness alive.' (Apocrifi's website).

7 References

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WORKBENCHES IN BUSINESS SCHOOLS: THE ROLE OF CRAFT IN MANAGEMENT LEARNING

Short Paper

Manfredi de Bernard, Ca' Foscari University of Venice, Venice, Italy, manfredi.debernard@unive.it

Fabrizio Panozzo, Ca' Foscari University of Venice, Venice, Italy, bauhaus@unive.it

Abstract

This paper explores the integration of craft-based pedagogy into management education to address the ecological and material disconnection in contemporary business schools. Arguing for the relevance of embodied, hands-on learning, it proposes the use of craft practices – traditionally associated with manual skill, material engagement, and situated judgment – as a means to reconnect future managers with the physical realities of production and sustainability. Drawing on theories of materiality, organizational studies, and educational practice, the paper envisions "workbenches" in business schools as sites of ecological responsiveness, offering an alternative to abstract, disembodied learning by cultivating responsible, situated, and relational modes of understanding.

Keywords: Craft, Management Learning, Materiality, Embodied Knowledge

1 Introduction

In an era marked by ecological degradation and planetary instability, business schools persist in promoting forms of management education that remain abstract, disembodied, and digitally oriented. This paper suggests that engaging with resource finiteness and socio-ecological breakdowns may require new content and a reconsideration of how material experience and actual making are incorporated into management learning. In particular, the paper claims for the inclusion of craft experiences in management curricula as a valuable tool in cultivating awareness of both the physical dependencies and political implications of managerial decisions.

2 Craft as an Emergent Phenomenon and Theoretical Category

Organization and management studies have recently dedicated growing attention to crafts, either as a setting in which to explore wider topics of general management interest (Mathias et al., 2018) or as a research object in itself (Suddaby et al., 2017), or yet for crafts' potential to respond to some of the current pressing grand challenges when it comes to more sustainable ways of living and producing (Weber et al., 2008). Different phenomena have been explored and labeled as craft, from glass, wood, ceramics, or textile productions, to gastronomy, to fashion and design. All in all, there is an element that unites this multifaceted research object, understood in many different ways by different researchers, and this element has to do with the "craftsmanship" of doing, or rather the human component of know-how, of tacit knowledge handed down, of dexterity, of corporality which, on closer inspection, can be found from the production of glass in a furnace, to a whiskey distillery, to the manufacturing of a violin, to the composition of a dish by a chef.

Indeed, what is emerging is a view of crafts as an approach, rather than a profession, and a model for contemporary ways of organizing. This is part of what is being labelled as the 'neo-craft economy' (Gandini & Gerosa, 2023; Land et al., 2018), i.e. an economy (re)-centred on dedication, non-

separability of hand and head, with a focus on good work for its own sake, as opposed to the long dominating values of industrial productivity and profitability (Braverman, 1998; Sennett, 2008). Kroezen et al. (2021) have conceptualized five configurations of craft: the first two refer to the consolidated image of crafts, distinguishing between traditional crafts (pre-industrial forms of work organization, with a predominance of manual work - e.g. the medieval schools of arts and crafts) and industrial crafts (in which, due to the presence of plants, machines and automation the artisanal component progressively shifts from manual work to mental, concept and design work); three others reflect the more contemporary and emerging visions of what is meant by crafts, distinguishing between technical crafts (characterized by autonomous human manual work that uses machines as a tool for its creation), pure crafts (anti-industrial forms of the "handmade") and creative craftsmanship (characterized by the pursuit of creativity in making, in the name of freedom of individual expression). According to the authors, all these five configurations however embody, albeit in different ways and with different nuances, a "humanistic" approach to work (Kroezen et al., 2021).

By aligning ourselves with scholars who suggest that craft can serve as a valuable source of inspiration for contesting or complementing mainstream organizational principles (Kroezen et al., 2021), if not explicitly engaging in future-making (Bell et al., 2021), we argue that the direct engagement with materiality that comes with craft, as both object and mean of study, suggests an unspent potential in higher education (HE) learning.

3 Craft in Pedagogy

If the concept of craft pedagogy exists, as the galaxy of educational approaches integrating artifact design and making into hands-on, materially grounded learning processes, those are mainly found in formal schooling, and with intentions partly different from ours. Craft pedagogy is rooted in traditions such as Sloyd, that originally emphasized moral development and character-building through manual work (Olafsson & Thorsteinsson, 2014). Craft pedagogy has evolved into contemporary frameworks like Finland's holistic craft process, where students tackle multi-material design challenges to cultivate creativity, problem-solving abilities, and technological understanding (Pöllänen, 2020). Originally developed in Nordic countries in the 19th century, Sloyd was envisioned as a general education system using handicraft to foster intellectual, moral, and physical development through structured, purposeful making. Today, especially in Northern Europe, craft is viewed not merely as a cultural heritage preservation method but as an instrument supporting adolescents' development in increasingly complex societal contexts. For instance, Veeber et al. (2015) highlight how craft education enhances students' motor and cognitive skills, strengthens their sense of coherence, and fosters agency and sustainability through meaningful engagement with materials and processes. The few documented instances of craft pedagogy at the higher education level unsurprisingly occur within art and design schools. Mäkelä and Löytönen (2017) elaborate on how such experiences are rooted in studio-based traditions, emphasizing hands-on making as central to learning. They argue that these creative pedagogies encourage conventional approaches to reconsider materials not as passive tools but as active agents in the learning process—a notion intuitively valuable for art and design students. Nonetheless, without diminishing their value, these cases represent unsurprising inclusions within curricula inherently focused on art and making, highlighting a gap when it comes to management education.

The closest experiences to our proposal within management education – and still distant enough to individuate an absence – are arguably found in Art-Based Methods (ABMs), or those learning interventions that employ artistic media, creative processes, and engagement with artworks to enrich educational experiences. These methods are argued to be valuable for surfacing unconscious assumptions, accessing aesthetic and tacit knowledge, and addressing complex managerial problems that traditional pedagogies struggle to accommodate (Springborg, 2014). ABMs are stressed to be relevant for contexts that seek experiential and transformative learning, allowing learners to engage with ambiguity, emotional complexity, and embodied understanding. While executive education represents the primary target for ABMs interventions, students are also beneficiaries. For example, Peterson and Williams (2004) describe using dance to teach leadership to students, illustrating how artistic processes

foster personal insight and group dynamics in educational contexts. Nevertheless, examples from the management education literature involve mature learners, typically within executive or professional development programs, and focus predominantly on artistic rather than materially grounded forms of expression – approaches that remain largely absent from standard management curricula.

4 The Case for Matter in Management Learning

Today's business schools indeed ironically devote considerable rhetorical attention to sustainability and "grand challenges," while simultaneously neglecting material realities such as resource cycles, physical production, and embodied knowledge. The removal of courses like commodity science (merceologia) from management curricula in Italian universities, along with the marginalisation of hands-on engagement, signals a growing detachment between what managers are trained to manage and the material world in which management actually operates. Arguably the result of deindustrialization and the rise of the knowledge economy, that came with an unfulfilled promise of "things" losing relevance, material production and the embodied practices gradually disappeared in management curricula.

Yet the global economic fabric, in its sources, products and consequences, remains inevitably tied to matter. Materiality significantly shapes the development of manufacture – both through the iterative processes of product design and assembly, and through the specific materials used in production (Gibson, 2016). For instance, Gough (2003) notes that the labor process is deeply intertwined with the kinds of products it generates. Changes in product types – including their design, complexity, and construction techniques – can directly influence industrial organization, corporate strategy, and spatial arrangements (Molotch, 2004). Indeed, adjustments in design, materials, and techniques have often been employed as strategic tools to reshape the dynamics between capital and labor (Frances, 1993; Webber & Weller, 2001). More recently, scholars have paid closer attention to the idea that physical objects – ranging from bodies and commodities to technologies and buildings – are not merely pre-existing constraints or enablers of human action, but are themselves formed through symbolic and material practices (Cook et al., 2007). Research in material culture, commodity networks, and actor-network theory has deepened our understanding of products' materiality by examining the interplay between their physical properties, socioeconomic histories, and consumption practices (Cook, 2004; Ingold, 2010).

In an argument to reintroduce materiality as a legitimate category of study in management learning, the paper claims that materiality is not just a phenomenon critical to any business school curriculum, but one that cannot be fully understood without an embodied and matter-based approach. In other words, we believe that any attempt to tackle the gap of materiality in management learning needs to include an embodied approach to learning and a direct, hands-on interaction with matter itself.

Toraldo et al.'s (2018) notion of elusive knowledges proves here valuable: these are forms of knowing that escape literal representation and are instead rooted in embodied cognition – "bodily orientations, tools, artifacts, physical spaces, and interactional systems" (Ibid.: 442). These are yet hardly peripheral: organisational studies' material turn precisely stressed matter's centrality to organizational functioning, sensemaking, and leadership (Boxenbaum et al., 2018). Similarly, Bruner argues that theory is best learned through doing that is saturated with meaning. Such an approach may offer valuable directions for transforming business education in response to contemporary global challenges. The scholar argues that learning involves participation in the processes that generate knowledge, rather than passive absorption (1974). Discovery-oriented instruction allows learners to grasp the structure of a subject, thereby facilitating abstraction and transfer (Bruner, 1960). Far from opposing theory and practice, Bruner sees structured experience as a key pathway to conceptual understanding (Bruner, 1957). Rejecting the dichotomy that casts theoretical learning as abstract and practice as merely instrumental, Bruner advances a vision in which practice is a method for acquiring and deepening theoretical understanding. Learning is not the passive reception of information but the active construction of meaning through engagement with structured experiences. At the heart of Bruner's pedagogy lies the idea that knowing is doing with understanding. Discovery-based, the process through which learners

infer principles by exploring tasks, is not a marginal technique but a primary pathway to internalising conceptual structures. Theory, therefore, does not precede practice in a temporal or hierarchical sense; it emerges within practice, through cycles of interpretation, failure, correction, and reflection. Bruner emphasises that experience must be intellectually organised. He distances himself from romantic or spontaneous notions of "learning by doing," insisting that experiential learning must be deliberately designed to support abstraction, generalisation, and conceptual transfer. In this way, practice becomes not a placeholder for theory but its generator. The material context of an action serves as a cognitive field through which abstract relationships are grasped, making Bruner's framework particularly resonant in current debates about sustainability and planetary limits. In educational fields dominated by abstraction, simulation, and managerial performativity, reintroducing carefully structured material practice can reorient learners toward more responsible, situated, and relational modes of understanding.

5 Conclusions

Building on pedagogical proposals from Ronchi (2010), Sennett (2008), and Orr (1994), we may explore how educational environments such as fabrication labs, biomaterial studios, or repair-based modules might function as platforms for material engagement, where students confront not only concepts but also tools, waste, resistance, and transformation. These environments invite students to think through matter, to experience limits, and to develop a form of responsibility that is not abstract but tactile and situational. Bringing craft into the business school classroom would help make the elusive, embodied, and material dimensions of knowledge teachable – not through explanation alone, but through direct experience, situated practice, and interaction with tools and products, realising the hopes for a "turn to things" (Gieryn, 2002; Preda, 1999) right from university desks.

Rather than offering a fixed reform agenda, this paper aims to open space for reimagining management learning as materially embedded and ecologically responsive and for considering how the Anthropocene can be taken seriously – not as a crisis to be managed but as a condition for learning differently. Revisiting work as a category of educational thought may support the emergence of management pedagogies that cultivate situated judgment, craft knowledge, and ecological imagination.

6 Acknowledgements

The research leading to this paper has been made possible thanks to the support of the European Union through the HEPHAESTUS project (Project ID 101095123), funded under the Horizon Europe programme. Views and opinions expressed are, however, those of the author(s) only and do not necessarily reflect those of the European Union or the Agency. Neither the European Union nor the granting authority can be held responsible for them.

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PIVOTING UNCERTAINTY WITH AI: DECISION-MAKING AND KNOWLEDGE MANAGEMENT FOR START-UPS IN INNOVATION ECOSYSTEMS

Short Paper

Chiara Bellini, Roma Tre University, Rome, Italy, chiara.bellini@uniroma3.it
Lucia Marchegiani, Roma Tre University, Rome, Italy, lucia.marchegiani@uniroma3.it

Abstract

The integration of Artificial Intelligence (AI) into strategic decision-making processes is transforming the way organizations operate.

The paper explores how the startups of the the Rome Technopole innovative ecosystem integrate Artificial Intelligence into decision-making processes while upholding human-centric values and ethical standards.

This study aims to explore how the Knowledge Management (KM) framework can support strategic choices that derive from an effective and ethical integration of AI into decision-making processes, while ensuring the autonomy of decision-makers.

The methodology followed is qualitative-quantitative, based on the administration of semistructured interviews, the results of which are integrated with the analysis of the answers deriving from the sharing of an anonymous questionnaire.

Findings indicate that the adoption of AI guided by KM principles, combined with human skills, improves organizational adaptability, employee engagement, unlocks new growth opportunities, even under uncertainty and accelerates organizational learning cycles. The paper proposes a framework that balances AI and Human Intelligence.

Keywords: Artificial Intelligence, Knowledge Management, Strategic decision-making, Startup, Innovation Ecosystem

1 Introduction and research purpose

Integrating Artificial Intelligence (AI) into strategic decision-making processes is reshaping organizational operations, particularly within innovation ecosystems (Adner, 2017; Granstrand & Holgersson, 2020; Dedehayir et al. 2018), and in the era of Industry 5.0 (Carayannis et al., 2024), where agility and adaptability are essential.

Start-ups, often characterized by limited resources and high uncertainty, are increasingly experimenting with AI to gain competitive advantage and enhance knowledge-driven decisions. Start-ups active in innovation ecosystems can leverage AI to: i) analyze data sets and information, ii) identify market trends and iii) define competitive business strategies (Burström et al. 2021). AI support is strategic especially in the early years of startups, often characterized by uncertainty, resource constraints and high failure rates (Cantamessa et al., 2018); at the same time failures and constraints provide valuable learning experiences to access and/or develop new skills, abilities and outline innovative strategic orientations (Corvello et al., 2024). However, the integration of AI into decision-making and strategic processes

raises concerns about ethical compliance and the need to preserve the central role of human judgment in decision-making processes (Eapen et al., 2023).
Existing literature tends to focus either on large firms' AI strategies or on the technical aspects of AI adoption, with limited attention to how early-stage enterprises ethically and strategically incorporate AI into their decision-making processes within ecosystem-based environments. Moreover, while Knowledge Management (KM) frameworks have been explored in relation to organizational learning and digital tools (Edwards et al., 2003; Venkitachalam & Willmott, 2015), their intersection with AI adoption in start-up ecosystems remains underdeveloped, especially as to how KM supports decisions that respect ethical values (Vaccaro, 2022). To address this gap, this paper examines how startups within the the Rome Technopole (RT)—a newly emerging, publicly supported innovation ecosystem—deploy AI in ways that balance technological potential with humancentric values and ethical considerations. The startups of the RT innovative ecosystem serve as a paradigmatic example of how the collaboration between AI and human decision-making capabilities can positively influence their strategies and evolutionary paths. It is therefore considered necessary to explore how the KM framework can effectively integrate AI in an ethical way, while ensuring the autonomy of decision-makers. This approach contributes to organizational research on the co-evolution of digital innovation and responsible management practices in complex, collaborative environments.
To meet this aim, the paper is structured as follows: i) definition of the theoretical background deriving from the analysis of the main theoretical contributions about Knowledge Management, AI and ethical implications; ii) quali-quantitative analysis of the strategic behavior of RT startups through the administration of semistructured interviews and questionnaire; and finally, iii) comparison of the main findings, limitations and future research directions.

2 Theoretical background

AI is a key factor in creating competitive advantages and supporting digital transformation (Krakowski et al. 2023), enhancing value generation (Porter & Kramer, 2018) and activating virtuous cycles of co-creation (Leone et al. 2021). It can improve decision-making processes (decision support), interactions with customers and employees, automation and the development of new products and services (Borges et al. 2021). The adoption of AI must be integrated with a business strategy that aligns technical resources, organizational processes and human skills (Chari et al. 2025; Gamboa, 2024; De Bem Machado et al. 2022), as shown in figure 1.

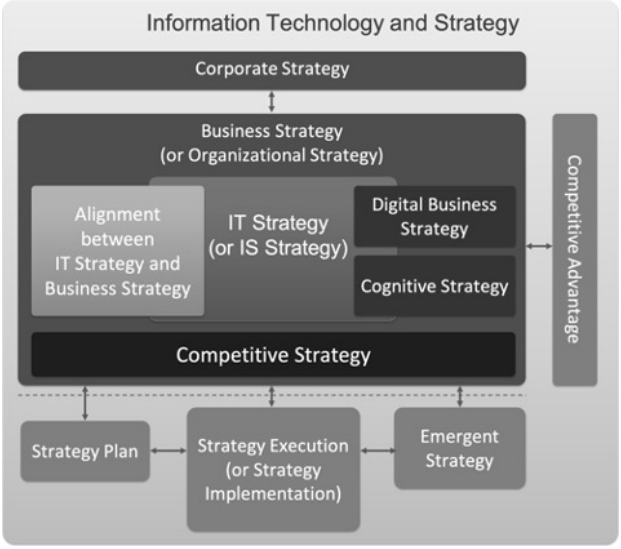


Figure 1. Integration between IT and strategy

Source: Borges et al. 2021

In Knowledge Management (KM) processes, AI accelerates the generation and dissemination of knowledge, especially thanks to generative AI (Oppioli et al., 2023), increasing decision-making accuracy (Nazeer et al., 2023). In addition, AI integrated into KM processes improves an organization's decision-making capabilities by making them more effective, accurate, and flexible (Duan et al., 2019; Metcalf et al., 2019). Leoni et al.'s (2024) framework shows how AI, KM and decision-making are interconnected: advanced tools automate and improve data analysis, supporting Human Intelligence (HI) without replacing it (Budhwar et al., 2022; Parasuraman et al., 2000).
The combination of AI and information-sharing systems drives sustainable performance improvements (Olan et al. 2022), including through knowledge warehouse architectures (Nemati et al. 2002) that capture and organize both explicit and tacit knowledge. Enabling factors include managerial commitment and agile organization, while cultural resistance, fears of replacing the human and low trust in automation hold back integration (Kar et al. 2021). Good human-AI interaction design supports managerial efficiency and responsibility (Shrestha et al. 2019), allowing for a productive "symbiosis" (Jarrahi et al., 2023). AI skills and HI collaboration increase dynamic capability (Chowdhury et al. 2022), offering competitive advantages and speed of response to changes. However, this requires in-depth ethical reflection (Rodgers et al. 2023), which puts the dignity of people at the center and favors fair and transparent processes (Varma et al. 2023). In summary, AI integrated synergistically with HI can support innovation, competitiveness and efficiency, as long as it is respectful of human and social values.

3 Methodology

The paper adopts a mixed-method approach combining qualitative and quantitative techniques. Primary data were collected through semistructured interviews with founders and decision-makers from seven startups operating within the RT ecosystem (Table 1).

Start-up	Sector	Core product or service
1	Health & Bio-pharma	Service for assessing the degree of reliability of research articles.
2	Digital transition	Digital platform for optimizing economic-financial reporting systems.
3	Energetic transition	Service for assessing the degree of sustainability (algorithm), including social and environmental, of tourism companies.
4	Digital transition	Management of coaching services, events, tournaments and E-sports team management.
5	Digital transition	Automation of collaborative projects.
6	Digital transition	Virtual assistance for tourism services.
7	Health & Bio-pharma	Research, development, marketing of phytoderivative products.

Table 1. Sample of interviewed startups

Source: own elaboration

The semistructured interview explored in depth the following thematic areas: human-centric and sustainable business models; support and collaboration within the RT; and AI-Based platform for the simulation of business models and possible future scenarios.

The qualitative study was also integrated with the evidence that emerged from the analysis of the responses to an anonymous questionnaire developed and promoted as part of the the Rome Technopole Observatory on AI project (he Rome Technopole, 2025). The questionnaire was distributed to participants and wider stakeholders involved in the RT. In this paper, exclusive reference is made to the sample of respondents (32) who fall within the target of innovative startups and SMEs. The questionnaire covered a wide range of topics related to AI, digital transformation, and organizational readiness. Evidence on ethical and KM aspects, on the other hand, was deduced from the observation of

the selected case studies. The triangulation of methods enriches our understanding of emerging patterns in AI-enabled decision-making and knowledge practices.

3.1 The Rome Technopole (RT) emergent Innovation Ecosystem

The RT project aims to create an innovation ecosystem (Adner, 2017) in Lazio, funded by the PNRR 2021-2027, which integrates research, technology transfer and education. A hub and spoke system (Dedehayir et al., 2018) connects Universities, Research Centers, Companies, Institutions and Associations and Start-ups (Freeman, 2023), forming a dynamic system of collaboration and competition (Bacon, Williams & Davies, 2020). The aim is to promote the creation of shared value (Porter & Kramer, 2018) and to promote advanced research on energy, digital, health and human-centred AI transition. Synergies between actors manifest themselves in strategic projects and activities (research, education, technology transfer and community involvement), supporting continuous innovation (Granstrand & Holgersson, 2020) and organisational learning (Valkokari et al., 2016). Competitive advantages come from economies of scale, reduced risk, fast market access and sustainable growth. RT intends to evolve over time by co-creating development opportunities and positioning itself as a national and European reference for innovation (Chandler, 2022), balancing the use of AI technologies with the needs of social responsibility.

4 Findings and discussion

Our findings reveal that startups are in the early stages of AI adoption, with heterogeneous infrastructures (cloud, hybrid, on-premise) and mostly partially structured decision-making procedures. Many are experimenting with AI integration, using machine learning platforms for future scenarios simulation, evaluating business models, monitoring cash flows and assigning sustainability scores (e.g., 0-100), and automating strategic and operational processes thanks to algorithms registered as intellectual property. This combined approach (AI and HI) is made possible by mentorship, periodic meetings and constant feedback. Despite limited internal capabilities, the use of frameworks like the SDGs and ESG standards reflects a strategic commitment to sustainability, though they require organizational investments to fully exploit the potential of AI.

In particular, 20 out of 32 startups do not yet have specialized teams, while only 8 already have one and 4 plan to create one. The number of projects carried out also appears limited (mainly between 1 and 5), showing significant growth margins. Most firms rely on external mentorship and collaboration rather than internal AI teams, highlighting a need for organizational development. Overall, although startups demonstrate a propensity for AI innovation, internal structure and skills remain to be strengthened to move from an experimental phase to full technological integration. The data suggest a transition phase where AI is valued but not yet structurally embedded. This calls for investments in skills, governance, and ethical AI practices.

5 Conclusion and future research directions

AI significantly enhances decision-making and knowledge management among startups in innovation ecosystems, optimizing IT investments and strategies. Acting as a strategic lever, AI supports the automation of processes and the extraction of new knowledge from big data, fostering a competitive advantage. Although the integration of AI in RT startups is still in its infancy and characterized by heterogeneity, it enhances the synergy between technology and human skills, through an ethical and sustainable lens that requires further investment and dedicated teams.

The proposed models provide a framework for integrating AI and knowledge management, strengthening decision-making and triggering a virtuous cycle of learning. Technological innovation should not be seen as an end in itself, but is intertwined with values of responsibility and sustainability, in which the human-centric approach and data protection support ethical and transparent choices. In this context, entrepreneurs and managers should invest in staff training and organizational interventions, so as to fully exploit the potential of responsible human-AI integration. However, ethical integration,

organizational investments, and human-centric frameworks are essential for sustainable value creation. The the Rome Technopole context shows promising synergies between AI and human judgment, though greater structural capacity is needed.
The findings emphasize the importance of aligning technological tools with values of responsibility, transparency, and learning to foster enduring innovation. This paper contributes to the understanding of digital transformation in start-up ecosystems by linking AI adoption to ethical knowledge management and decision-making processes. It highlights the strategic potential of human-AI collaboration and identifies barriers and enablers relevant to early-stage companies. The work bridges theoretical insights with practical implications for innovation governance under uncertainty.
The paper contributes in terms of the impact of digital transformation and AI on organizational change processes, highlighting how the combination of advanced technologies and human skills can generate adaptability, employee engagement and new growth opportunities even in conditions of uncertainty.
The study is limited by its sample size and the nascent stage of AI integration among the observed startups. As many applications remain experimental, restricting a full assessment of long-term impacts. Further research is needed to validate their benefits and study the interaction between AI and knowledge management. It would also be useful to extend the analysis to innovative SMEs and startups that are sustainable from an economic, social, environmental and ethical point of view, so as to overcome strategic, organisational, cultural and financial barriers in the digital transition. A comparative approach across regional ecosystems would offer insights into how different innovation contexts influence AI adoption trajectories and KM effectiveness.

6 Disclaimer

This research has been partially funded by the ecosystem project the Rome Technopole – CUP B83D21014170006.

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PHENOMENOLOGY OF TEAM TRUST BEHAVIOURS IN DIGITAL INNOVATION AND COMPANY CULTURE EVOLUTION

Short Paper

Stefano Luca Patania, Associazione Italiana Health Coaching, Rome, Italy, drembinghet@gmail.com

Abstract

The classic management models have been in crisis (Kellerman, 2012). In the transition towards innovative models, it emerged that the organizational trust role was a weak link historically present within companies (Laloux, 2015). The creation of advanced management models, taking in consideration collaborative capacity and emotional intelligence, enhanced an increasing attention of research on trust in organizations (Morieux & Tollman, 2017). This research placed emphasis on correlation with business success (Michalec, Hargitai & Bencsik, 2024), HR and organizational commitment (Rehda et al., 2022), quality of working relationships (Tichtich & Kahyat, 2024), loyalty and retention (Hua & Salleh, 2024), job satisfaction (Zanabazar, Lkhagvadorj & Sodov, 2024) and organizational health (Yari, Khadivi & Ayatollahzadeh, 2023). Social acceleration and increasingly complex scenarios are profoundly redefining the internal processes of organizations (Rosa, 2015). These dynamics put a strain on people's ability to expose themselves to the risks implicit in mutual and organizational trust.

Keywords: *Trust, Coaching, Values, Change, Management.*

1 Introduction

Using De Groot's cycle (Fig. 1) as investigation model (De Groot, Spiekerman, 2020), we wanted to dedicate a specific investigation on the role of trust within Innovation Coaching and Cultural Transformation experiences in different corporate realities in the period 2021-2024. This specific observation was conducted through professional values-validated models used for Humanistic Transformation in Executive & Health Coaching (Patania, 2024a). Thanks to these, it was possible to specifically intercept different behavioural models that were reactive or proactive to change, when specifically acting on the development of organizational trust. Noticing the following different resolution dynamics, we considered of practical interest to develop a dedicated specific observation, in order to be able to draw operational indications in managing critical phases of the development of organisational trust. We conducted as managers in the period 2016-2017 an inductive laboratory of collective creativity in 11 Teams (174 employees), which was recently the subject of a poster presented at the WOA (Patania, 2024b). In this context it was possible to appreciate how much the generation of a climate of psychological safety depended on the ability to create trust in participating and sharing Best Practices. From this preliminary observation on Teams, characterized by different leadership styles and different generational mix and professional experience, it was evident that the expression and evolution of trust were expressed differently. From 2018 until 2020, this team development went through NLP and Ontological-transformational Executive Coaching techniques (Echeverria, 2013). So it was possible to facilitate and observe the organizational trust phenomenon in a more technical way. As a final element, in November 2020 the achievement of the Coaching by Values Certification, with further specialization on Trust modeling, definitively completed the

theoretical background necessary to appropriately and validated investigate the dynamics of manifestation of interpersonal trust (Dolan, Mele & Valeri, 2020).

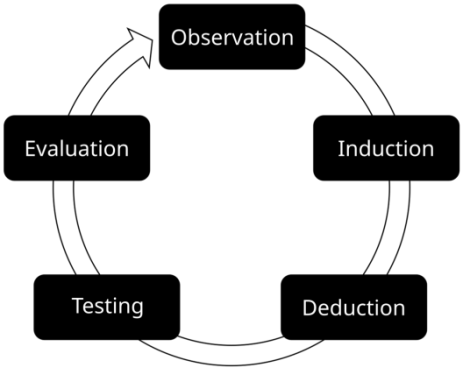


Fig. 1 – De Groot Cycle

Given the nature of innovation laboratories, based on inductive thinking and empirical observation, it was natural for us to observe different evolutionary methods in the improvement paths. Trust dynamics of a different expressive nature seemed to manifest themselves. Some seemed to be passive in nature, such as giving trust through one's attitude or expectation. Other forms seemed more active, such as performative declarations of trust in a project or towards a person. Other distinguished behavioural expressions concerned the object of trust, which could be more focused or systemic. These differences also strongly influenced the type of coaching intervention, the difficulties encountered in creating psychological safety and even the tools and the time needed to complete a path of empowerment and belonging. Thanks to the trust intervention model created by Simon Dolan (Garti & Dolan, 2021), the possibility has opened up of standardizing this kind of operation through a well-defined process, based on a triaxial system (Fig. 2), where trust is based on three main components and in the interweaving of which generates 3 categories of reactive phenomena (Fig. 3).

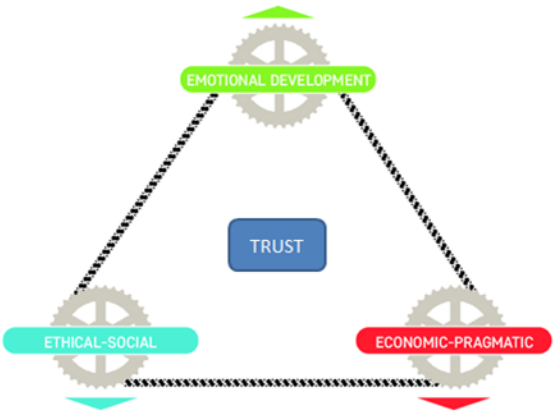


Fig. 2 – Triaxial Values Model

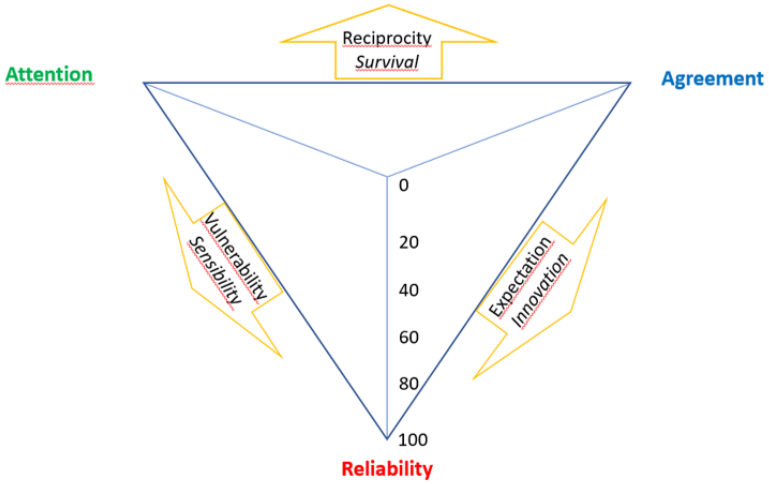


Fig. 3 - Triaxial Trust Model

The subsequent development of this model involves referring to the values of the various players and a value based action plan. This unlocks any impasse of interpersonal or group trust. Ultimately, on the basis of these available models and the observations carried out in the various teams, it seemed to be possible to consider a phenomenology model of the dynamics of organizational trust. In general, three main elements seemed to be: an attitude (active/passive), a mode of action and a nature of the value content. People behaviours seemed to be able to be defined by their different strategic choices regarding the approach (I act or I wait), the methods (interactions) and the ethical principles of the organizational system. On this basis we decided to observe this phenomenology of trust in some organizational teams subjected to an acceleration of cultural or digital change in the period 2021-2024, with the hypothesis of subsequently drawing a synthesis or a reference model which, added to the Coaching by Values model and the Values Barrett Centre, can specifically guide the humanistic transformation transitions that concern organizational trust.

2 Observation and deduction

In our observation in the teams involved in executive coaching in the chosen period, we wanted to apply two excellent transformational models as a reference: the Clutterbuck coaching approach (2020) and the Hawkins systemic model (2021). In line with Hawkins' ontological and holistic approach, Luhmann (2002), addressing the topic with his typical systemic approach, also considers two types of trust in the interpersonal evolutionary relationship: personal and systemic (Fig. 4).

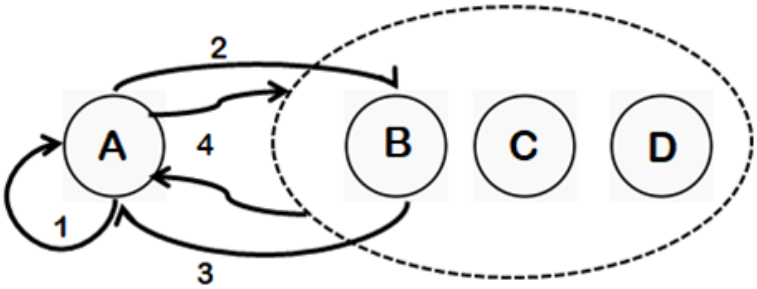


Fig. 4 – Individual and Systemic Trust

If, on the one hand, the first reconciles the transaction as conceived by Eric Berne (1995), in the second Luhmann highlights the importance of "consistency", as a coherent signal between the internal moral representation of the person, with his external observation, aimed at comparing, measuring, evaluate the stability of the social relationship. This is why the systems we observed are particularly suitable for evaluating the phenomenon: they involve the use of validated individual and team tools precisely to measure and consolidate this ethical and moral coherence of organizational expectations and responses. Although in our time the social pressure described by Erich Fromm (1947) has become almost prevalent as a systemic effect on the individual, some tools used are useful to protect self-reflection through the coaching dialogue. This will support the individual to balance again, through evidence of experience, both inner trust (see 1 - Fig. 4) and trust in the organizational system (see 4 - Fig. 4). By applying the observations carried out in the induction phase, a table of indicators was generated to compare some phenomenological aspects in order to identify their components (Fig. 5). The subjects observed in the period 2021 - 2024 are Teams engaged in a Humanistic Transformation path through the application of Team Coaching and individual Coaching. A sort of control group was also added, made up of individual managers who carried out an empowerment coaching process. In this table we wanted to indicate some hypothetical traits identified in the study inductive observation.

TRANSFORMATIONAL TEAM EXPERIENCE

TEAM	MODE	ATTITUDE	NATURE	TRUST ACTIONS	RULES	N.
DIGITAL AMBASSADORS 1- 2	ACTIVE	BELONGING – OPTIMIST EMOTIONAL DRIVE	IMPELLING CREATIVY AND INNOVATION	EXPLORING NEW MODALITIES IN THE SYSTEM	VALUES MANIFESTO	9 + 9
PERSONAL ASSISANTS	PASSIVE	BELONGING – PESSIMIST EMOTIONAL UNSTABILITY	DAILY RESILIENCE AND CONTRIBUTE	EXPLORING AND EVALUATING OTHERS BEHAVIOURS	BEHAVIOR MANIFESTO	15
LEADERSHIP TEAM “Wood”	ACTIVE	BELONGING – EMOTIONAL ISSUES OPTIMIST/PESSIMIST	BALANCE VISION ACCOUNTABILITY	EXPLORING AND EVALUATING OTHERS BEHAVIOURS	RULES MANIFESTO	14
LEADERSHIP TEAM ”Willow”	PASSIVE ACTIVE	BELONGING – PESSIMIST EMOTIONAL STASIS	LEADERSHIP STYLE VISION RULES	EXPLORING AND EVALUATING OTHERS BEHAVIOURS	PILLARS MANIFESTO	15
LEADERSHIP TEAM “Atlas”	ACTIVE	BELONGING – OPTIMIST EMOTIONAL DRIVE	ALLIANCE VISION EFFECTIVENES	EXPLORING NEW MODALITIES IN THE RELATIONSHIP	TRUST RULES	7
EXECUTIVE TEAM “Atlas”	PASSIVE ACTIVE	BELONGING – PESSIMIST EMOTIONAL STUCK	EMOTIONAL RESCUE VISION	EXPLORING AND EVALUATING SELF BEHAVIOURS	ONTOLOGIC MANDALA	14
INDIVIDUAL MANAGERS	PASSIVE ACTIVE	NOT BELONGING – PESSIMIST EMOTIONAL ISSUES	TIME EMOTION & RELATIONSHIP	EXPLORING AND EVALUATION SELF/OTHERS BEHAVIOURS	NO	44

Fig. 5 – Transformational Team Profiling

The first relevant dimension is the way in which the whole team seems to react. In general there is an active attitude, with a general proactive or reactive tension towards building trust, with a high internal energy of the group, and a passive and wait-and-see mode, which is based exclusively on waiting and expectation, with low internal energy. The second observation concerns the attitude towards the corporate environment, the world in general and the inner world. Within this series of observations regarding the behavioural dynamics related to trust, there are internal, relational and systemic components, as indicated above in Luhman's model. We are talking about the perception of systemic belonging to the company and attitude towards the internal and external world (arrows 1 and 4 of the model in Fig. 4). The individual relational interactions (arrows 2 and 3 of the model in Fig. 4) are traced as Trust Actions. The background of these actions generates the context around which they move, creating different storytelling and situations of business change and improvement: they constitute the nature of the contingent situation and the motivational energies that drive it. Every manager knows when rules are important both for the status quo and for the dynamics of change (Mattone, Vayda, 2016). A digital or cultural transformation operation must be able to structure, declare, share and celebrate the change in the rules of engagement of the team being transformed. Only in this way will it be possible on the one hand to regenerate trust according to new shared norms, and on the other to respond effectively to the required performance request. There are various ontologically performative ways to do this, as long as their nature of speech and vivid moral and normative action is preserved (Smith at al, 2023). For this reason we believed it was relevant to reserve a column for this aspect, considering that phenomenologically the creation of, for example, a

company manifesto is an important challenge for generating trust in a team. Therefore it must be taken into consideration, since it is a synthesis operation that summarizes all the previous columns. If all the problems of Mode, Attitude, Nature and Action are not resolved, the drafting of the Manifesto will be unsuccessful or empty and ineffective.

3 Evaluation

After having reported the respective filters in the hypothetical dimensions, qualitative observations were carried out with the aim of trying to recognize common patterns that could possibly be integrated into a phenomenological model. The first dimension relevant from this point of view for a Coach, a facilitator or a manager is the type of reaction that the target develops in a specific context of change (Pelham, 2016). From the observations carried out in the 6 teams involved in a cultural or technological evolutionary transition, there were essentially two methods: active or passive. This corresponds to the models that we find distributed in the Kubler-Ross curve (Fig. 6).

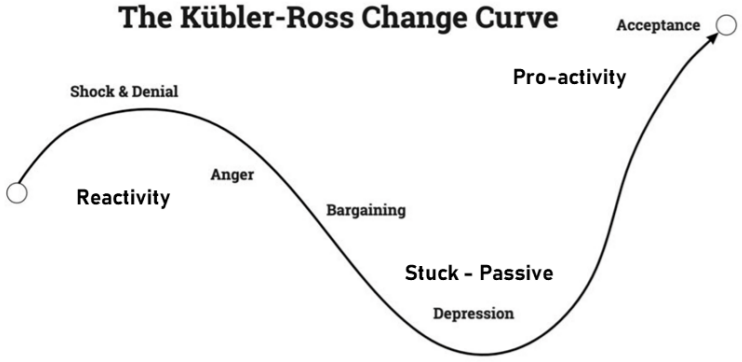


Fig. 6 – Change Curve Modalities

At the beginning of a change the subject is reactive, in the middle he freezes and is passive, in the final part he returns to being proactive. For the topic of organizational trust, the dynamics observed in this study were the same. The Personal Assistant Team remained in a passive and wait-and-see phase of processing the entire time, quite similar to the "Atlas" Executive, who only showed proactivity at the end of the path out of the crisis. The “Willow” Leadership Team maintained a position of passive resistance for a certain period, with expectations of trust projected outward, before elaborating and moving only at a later stage to proactively let trust flow. In the case of Digital Ambassadors and Leadership Team "Atlas" and "Wood", there was a potential positive energy within the team to be released, so trust was actively implemented, when the appropriate psychological safety space was opened for operate it. Since the model we applied is values-based, performative sentences with moral value have great importance in change management (Geldart, 2014). They pre-exist the path and must be identified as rules of engagement of the organizational world "as is", and must always be reformulated and updated in a declarative form at the end of the humanistic transformation carried out (Orem, Blinkert & Clancy, 2007). There is the declarative performative moment and there is the normative one. For example, it was found to be fundamental for managing trust to define the required standards and create shared benchmarks. For this reason, the moral phase of the team's norms and rules opens and closes the transformation experience supported by organizational trust. In our observation, the company or team culture has translated into Values and Trust Manifesto, Best Behaviors (Personal Assistant), or Shared Vision of the Future (Leadership Team “Willow” and Executive Team “Atlas”). The declarative, performative form seems to be a necessary and useful step

in the creation and regeneration of cycles of Trust (Heckscher & Adler, 2006). In team coaching, systemic relational energies are expressed thanks to their nature and related emotions. Particularly in the topic of Trust, both are relevant and decisive. In order to correlate people on the same level, they must move against the same background to create coherent connections. The dynamics of Digital Ambassadors, dealing with creativity and innovation, have dynamics of trust with different standards from those of contribution and resilience in the case of Personal Assistants. In the former we find a great propensity for risk (Pusca, 2023), a continuous projectivity and an ability to measure trust based on the addition of new ideas to previous ones and the ability to welcome and share them. In the second case, the risk propensity is much lower, with a conservative attitude, where solidarity and trust are measured based on the prerogative of preserving the status quo and welcoming the individual contribution to stability. Knowing the Nature of a Trust transaction allows you to apply differently appropriate support tools: supporting a Team to energize a shared Vision (Leadership Team "Wood", "Atlas" and "Willow" and Executive Team "Atlas") is different from sustaining trust in a Team dedicated to Innovation or Resilience (Digital Ambassadors and Personal Assistants). The emotional element must be framed both in its maturation (static, unstable, critical, driver). It is necessary to consider in this case, when talking about trust, which must be interpreted in its interpersonal declination, i.e. Empathy. What generates Trust is reciprocity and resonance (Rosa, 2019). Two people in a Team can also have a stable emotional state and drivers, and at the same time not feel empathy for each other. Therefore these emotional states relating to static, crisis or support must always be understood as empathic emotional states expressed by the team and within the team. Values Coaching works precisely on these dynamics, both according to Barrett (2016) and Dolan (2006), to lower the entropy of the system (Barrett, 2014), which is essentially a lack of Trust. A further general influence on the climate of trust transcends individuals and the team and relates to the outside world (Fromm, 1965). There are optimistic teams and pessimistic teams. This is more about worldview than transactions between people. Two pessimists may very well trust each other, just as two optimists may not. The attitude towards the universe is another component that has its weight in the transitive dynamics of trust, since it constitutes the fuel for the propensity to take risks and dare together with others (Barrett, 2012). The last dimension that appears relevant seems to be considering oneself or not considering oneself belonging to the team and the system. It is a relevant decision that establishes the boundary between trusting and not trusting. In this case there is no middle ground. It may happen that there are different levels of belonging and trust that intertwine with each other. This is what was observed in the Leadership Teams, where certain sub-Teams seemed more close-knit than the group considered as a whole. Just as the paradox (Briceno, 2023) was revealed in the Personal Assistant team, in which there was a very strong sense of belonging and trust in the company system, and very low trust in direct top management. Understanding these multiple dimensions of trust levels is important for governing change.

4 A phenomenological model of trust behaviours

Based on these observations, we tried to create a model that can represent 6 focal aspects of trust in the change transition (Fig. 7). The name "Pneuma" comes from Greek and means "vital and conscious breath" of every being. It seems appropriate for such an important role as that of Trust, which is essential in every relationship and organization (Lencioni, 2020):

- The Performative act is significant in every verbalization and declaration of intent, both at the beginning and at the end of a path of change
- The Narrative of the journey is an integral part of the experience and persistence of trust in a team, put to the test in various circumstances
- The Emotional/Empathic element energizes the relationships and trust dynamics of the Team.
- The Universal vision heavily influences the approach and trust in any form of change.
- Moral laws, understood as rules of the game, establish correct expectations and balance.
- Affiliation, understood as belonging, is the final dividing line in the boundary of trust.

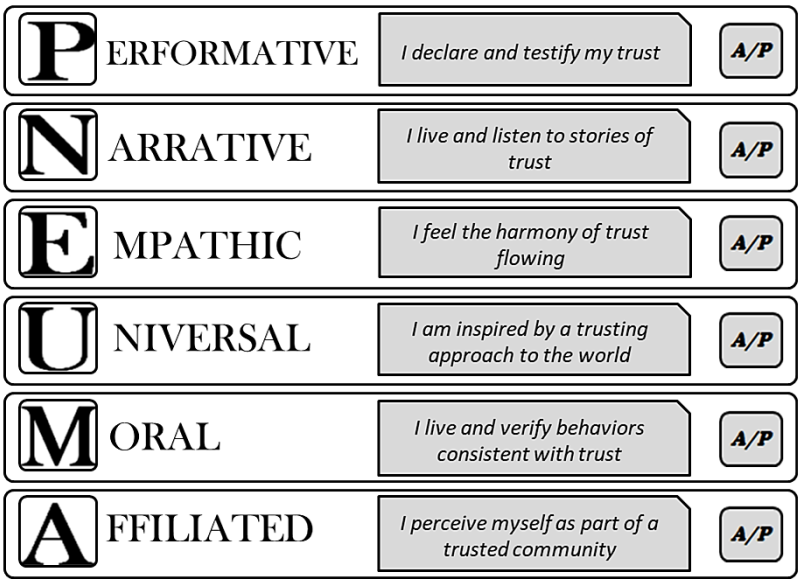


Fig. 7 – PNEUMA – An organisational Trust model

This phenomenological model proposes a way of viewing trust transactions in a more analytical way. It proposes useful distinctions for the manager or coach to be able to manage different aspects of organizational change. On this basis, greater insights and more in-depth studies on the different impacts of the different dimensions are certainly necessary. In this regard, it could be useful to use Dolan's triaxial model to create ratings and measure the effect of transformation actions (Garti & Dolan, 2019). We hope to have made an experiential contribution and are open to accepting criticism, given the exploratory nature of this empirical professional experience.

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EMANCIPATORY POWER IN ENTREPRENEURSHIP EDUCATION FOR MARGINALIZED GROUPS

Short Paper

Giulia Scanu, University of Cagliari, Cagliari, Italy, giulia.scanu2@unica.it
Matteo Opizzi, University of Cagliari, Cagliari, Italy, matteo.opizzi@unica.it
Michela Loi, University of Cagliari, Cagliari, Italy, michela.loi@unica.it

Abstract

This study examines the emancipatory power of Entrepreneurship Education/Training (EE/T) aimed at supporting disadvantaged and marginalised people through a Systematic Literature Review of 58 articles, conducted in adherence to the PRISMA guidelines. The analysis identifies two key gaps: the need for a deeper understanding of what emancipation entails in the context of EE/T and the lack of clear connections between EE/T programmes components and comprehensive emancipation outcomes. The results suggest the tendency of tailored EE/T programmes, integrating transdisciplinary content and addressing learners' unique needs to foster emancipation. This review highlights the necessity of designing context-sensitive EE/T programmes that incorporate diverse skills, including specific, technical, soft, entrepreneurial, and gender-specific topics, alongside economic support, to maximise impact. By addressing these gaps, EE/T programmes can more effectively promote opportunities, transform societal structures, and emancipate disadvantaged and marginalised groups, paving the way for resilient and inclusive communities.

Keywords: Entrepreneurship Education, Emancipation, Empowerment, Disadvantaged and Marginalised People

1 Introduction

This study aims to disentangle the emancipatory power of Entrepreneurship Education/Training (EE/T) focused on disadvantaged and marginalised groups. Emancipation is defined as a process of setting individuals free from the power and constraints imposed by others, including ideological, environmental, or cultural oppression (Rindova et al., 2009; Wainwright & Mũnoz, 2020). It occurs when people disrupt the status quo, change their social position and, sometimes, the social order itself (McMullen, Brownell & Adams, 2021; Rindova et al., 2009). Then, emancipation implies greater freedom and autonomy in expressing personal values (Rindova et al., 2009; Wainwright & Mũnoz, 2020). Drawing on the notion that entrepreneurship implies having a transformative capacity– conceptualised as the ability to influence events and shape outcomes by aligning circumstances and others with an individual's goal (McMullen et al., 2021) – that emancipates individuals (e.g. Calás et al., 2009; Dodd et al., 2022; Rindova et al., 2009; Byrne, Shantz & Bullough, 2023; Jennings, 2014; Jennings Mayo-Wilson et al., 2020), EE/T might serves as a tool to raise those who are systematically subjected to discrimination (e.g. Martin & Honig, 2020; Patzelt et al., 2014) by acquiring spendable skills and knowledge (e.g. Fayolle et al., 2006; Fayolle et al., 2019) to defy the status quo and achieve social benefits (McMullen et al., 2021; Rindova et al., 2009). Marginalised and disadvantaged groups represent all possible at-risk social groups who are susceptible to marginalisation from prevailing norms, values, and beliefs within the society they inhabit (Webb, Tihanyi, Ireland & Sirmon, 2009). These groups often face a complex combination of challenges, including limited access to resources, low

employment opportunities, and poor health, which make them particularly prone to social exclusion, discrimination, and both physical and psychological harm (Wainwright & Mũnoz, 2020). Being at-risk can result from various factors, such as personal limitations, disadvantaged social standing, weak interpersonal networks and support system, deteriorated neighbourhoods and environment, and the intricate interplay of these factors throughout an individual's life (Mechanic & Tanner, 2007). In managing EE/T programmes focused on disadvantaged and marginalised groups is crucial to employ empowerment as a tool to foster effective emancipation. Empowerment – in contrast with emancipation – is a process that enables individuals to gain power and control over their lives and decisions, enhancing their capacity to act effectively in economic, social, and political spheres (e.g. Bandura, 1977; Sánchez-Riofrío et al., 2024; UNHCR, 2001; Jabbar & Zaza, 2016). Empowerment is also often related to enhancing economic power and social and socio-economic issues. Although the emancipatory power of EE/T is well recognised (e.g., Byrne et al., 2023; Jennings, 2014; Jennings, Mayo-Wilson et al., 2020), there is still a lack of understanding about how this manifests itself. Understanding how EE/T can truly emancipate and be a transformative tool capable of challenging the status quo and raising people is still a debated topic that requires greater clarity (e.g. Dodd et al., 2022; Fayolle et al., 2016; Fayolle et al., 2019). Researchers still debate how to structure EE/T programmes, resulting in two literature gaps. Precisely, the components of the EE/T programmes lack a clear connection with the manifestation of EE/T emancipatory power and the desired educational outcomes in the target groups. Marginalised and disadvantaged groups live in specific sociocultural environments and face their own needs, barriers and challenges. Understanding, interpreting and meeting their needs constitutes a big endeavour for those who structure EE/T programmes. In addition, more agents, such as institutions, are interested in ways to support disadvantaged and marginalised groups, especially related to their social implications. Above all, the emancipatory power lacks a comprehensive perspective that allows it to be employed in truly emancipatory EE/T programmes. To address these gaps, the present paper is guided by two research questions: How does EE/T exploit the emancipatory power of entrepreneurship? How could this aim be achieved? A systematic literature review (SLR) is essential to fill the lack of a comprehensive perspective on emancipation and its application related to EE/T – characterised by multidisciplinary and in a complex context such as marginalised and disadvantaged groups – by developing a conceptual framework (Post, Sarala, Gatrell & Prescott, 2020; Trandfield, Denyer & Smart, 2003). Such a review allows for analysing and synthesising the existing research while identifying latent aspects still unexplored, offering theoretical contributions and providing clear guidelines (Cook, Mulrow & Haynes, 1997; Page et al., 2021; Post et al., 2020). Using a structured approach provides a rigorous and systematic framework to manage this intrinsic complexity, enabling the improvement of understanding how to effectively structure EE/T programmes for marginalised and disadvantaged groups, while also providing a deeper understanding of emancipation itself (Torraco, 2016). Therefore, assuming the emancipatory power of EE/T, the literature review enables us to reflect on how this assumption relates to the various theoretical perspectives, research approaches, and paradigms in the current literature (Post et al., 2020). Thus, the literature review allows us to reflect on the significance and consequences of this assumption for theorising and developing a more nuanced understanding of the body of literature to fill the literature gaps.

2 Methodology

We opted for a SLR because it offers a transparent, scientific process to minimise bias through exhaustive searches of published studies (Cook et al., 1997). This approach ensures a systematic audit trail of decisions, procedures, and conclusions (Cook et al., 1997; Trandfield et al., 2003). A SLR minimises bias by employing a comprehensive, replicable search strategy that includes published studies, ensuring a more balanced and inclusive understanding of the topic (Cook et al., 1997). This approach ensures a systematic audit trail of decisions, procedures, and conclusions (Cook et al., 1997; Trandfield et al., 2003). SLRs have become increasingly prevalent in areas like entrepreneurship and

entrepreneurship education (e.g. Champenois, Lefebvre & Ronteau, 2020; Stephan, 2017), especially in the last two decades (Thomassen et al., 2020). This structured approach provides a rigorous framework for understanding and effectively addressing the complexity of EE/T aimed at emancipating marginalised and disadvantaged groups. We selected Scopus® as a comprehensive and multidisciplinary dataset (e.g. Martín-Martín et al., 2021) widely used for SLRs in entrepreneurship due to its extensive coverage and reliability (e.g. Pratomo et al., 2024).

Moreover, we conducted this SLR in adherence to the PRISMA guidelines (Page et al., 2021) in December 2024. From our research string, we obtained 350 articles, including articles and reviews written in English, which contain any education or training – implicitly or explicitly related to EE/T – characterised by empowering or emancipating marginalised and disadvantaged people. The search query details are shown in Table 1.

Search Terms		**Explanation**
	("entrepreneur*")	Entrepreneurship and its other nuances
AND	("education" OR "training")	Any education/training that can be explicitly or implicitly attributed to Entrepreneurship
AND	("emancip*" OR "empower*)	Empowerment or emancipation, and their other nuances
AND	(("disadvantage*" OR "minorit*" OR "marginali*") OR ("gender*" OR "fem*" OR "wom*"))	Various denominations, and their other nuances, referred to marginalised and disadvantaged people, including women who are usually tacitly considered disadvantaged groups

Table 1. Search Terms.

We decided to use both empowerment and emancipation as keywords in the search query to address the frequent misunderstanding of their definitions in the literature. We did this to overcome the problem of overlapping definitions that often leads researchers to treat the two as synonyms. Particularly, empowerment is used in adopting the meaning of emancipation. We limited our selection, including research and review articles, to focus on rigorously peer-reviewed sources, ensuring the most up-to-date insights. We aimed to include the widest possible range of articles by considering the broadest period and avoiding distinctions based on specific academic fields or journals' rankings. This approach was chosen for two main reasons: the literature lacks guidelines to be rigorously applied, and setting strict criteria upfront might exclude many relevant studies that can help address the research questions; the interdisciplinary nature of the SLR makes it methodologically challenging to establish thresholds based on impact factors. Each article was evaluated according to specific eligibility criteria, which resulted in the identification of 58 articles capable of representing any education or training programme – using explicitly the words EE/T or implicitly (e.g. educational/training programmes which employ other words despite entrepreneurship, but linked clearly to it) – aimed to emancipate disadvantaged and marginalised groups. To obtain this result, the first author conducted an initial screening by reviewing titles and abstracts and identifying a preliminary set. This set was then collaboratively refined by the first and second authors, including relevant articles and excluding irrelevant ones. Finally, the third author, an expert in the field, evaluated the refined set to ensure a reliable sample of selected articles.

3 Main Findings

From the analysis of the 58 articles, the main contributions came from the Global South (86%), precisely, samples from Asia, Africa, Central Latin America, and a combination of Asian and African

contexts. The remaining studies were conducted in developed countries like North America and Europe. Additionally, the target group in the considered studies is predominantly represented by women, some of whom are also entrepreneurs, as well as various other marginalised or disadvantaged groups, such as low-income black/African American young men (Jennings, 2014) and farmers in disadvantaged areas (Benítez Fernández et al., 2023), and a very marginal number are students. We believe it is no coincidence that most of these studies come from the Global South. This reveals how certain marginalised and disadvantaged groups find themselves in their condition due to socio-cultural constraints specific to the context in which they live, setting them apart from similar groups in other parts of the world. In particular, this may be true for women who represent the most marginalised or disadvantaged group in the sample, often tacitly considered as such in certain contexts.

In addition, results show that EE/T is widely recognised as playing a crucial role in fostering empowerment, promoting independence, and creating opportunities for learners' personal and professional growth. Every article analysed emphasises the importance of empowerment for their selected sample as a means to achieve people's emancipation. In EE/T programmes aimed at promoting the emancipation of marginalised and disadvantaged groups, there is a tendency to adopt a transdisciplinary and tailored approach. For transdisciplinary, we refer to EE/T programmes that imply a mix of entrepreneurial skills and specific skills and knowledge, technical (e.g. digital skills, batik art or abilities related to culinary products) and soft skills, and gender-specific topics. Furthermore, using a transdisciplinary approach can be attributed to the strong connection of the identified EE/T components – specific skills and knowledge, technical and soft skills, gender-specific issues and entrepreneurial skills – with social and socio-economic empowerment. For a tailored approach, we include the idea of context-oriented EE/T programmes. The reason is linked to the particular problems experienced by marginalised and disadvantaged people that standard EE/T programmes underestimate. Therefore, those responsible for structuring EE/T programmes must be aware of these peculiarities, which do not become an obstacle to the effectiveness of the programmes and, consequently, an impediment to achieving emancipation.

Another key evidence is the extreme necessity for any economic support. Despite its well-recognised EE/T programme element, only a small portion of EE/T programmes provide different forms of economic support (e.g. grants, micro-finance), overlooking that this could be a serious disincentive to participating in an EE/T programme. Of course, it is crucial for the success of EE/T. Therefore, economic support is essential to give marginalised and disadvantaged people a chance to take their lives into their own hands, stimulating, e.g. personal autonomy and freeing them as much as possible from the constraints of power that oppress them. Thus, economic support, transdisciplinary – specific skills and knowledge, technical and soft skills, gender-specific topics, and entrepreneurship skills –, and context-related issues are vital in tailored EE/T programmes focused on emancipating marginalised and disadvantaged groups.

Finally, the required time for empowerment to create benefits is often not considered a peculiar element in literature for emancipating the marginalised and disadvantaged who participate in EE/T. Then, Huis and colleagues (2019) suggest adopting a long-term view when evaluating and monitoring the EE/T programme.

4 Discussion

This study aimed to disentangle the emancipatory power – the act of setting free from the power of another (Rindova et al., 2009) – of EE/T for disadvantaged and marginalised groups. We found that effective EE/T programmes integrate economic, social, and socio-economic empowerment in the EE/T components through a transdisciplinary approach – specific skills and knowledge, technical and soft skills, gender-specific issues and entrepreneurial skills. This represents a necessary condition for achieving emancipation for marginalised and disadvantaged individuals.

Additionally, it has emerged that despite many authors recognising the importance of tailored programmes for marginalised and disadvantaged groups, this remains a significant barrier in the

practical structuring of EE/T programmes aimed at emancipating these categories of people. For instance, cultural context can undermine the design of an effective EE/T programme. Cases such as the perpetuation of gender norms, the underestimation of specific needs and the environment in which marginalised and disadvantaged groups live represent this problem.

This study provides guidelines for researchers and practitioners on structuring effective EE/T programmes for emancipating marginalised and disadvantaged groups and offering a more complete perspective on EE/T emancipatory power. This SLR aimed to include the widest possible range of articles and had the benefit of extending the view to a pool of contributions from various academic fields increasingly interested in the topic. Indeed, emancipation through EE/T of marginalised and disadvantaged groups constitutes a particularly complex and multidisciplinary field. However, we see this complexity as an advantage, as it contributes to a more nuanced understanding of the context. This approach allows us to provide a conceptual framework that embraces current multidisciplinary literature while identifying latent aspects still unexplored within it, finding a common logical thread.

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FROM LOCAL TO GLOBAL: HOW DESIGN THINKING MINDSET AND ENTREPRENEURIAL PERSONALITY PROPEL STARTUPS' SUCCESS AND INTERNATIONALIZATION

Short Paper

Ludovica Leone, University of Modena and Reggio Emilia, Modena, Italy, ludovica.leone@unimore.it

Simona Leonelli, University of Modena and Reggio Emilia, Modena, Italy, simona.leonelli@unimore.it

Abstract

This paper examines the impact of entrepreneurial personality and design thinking mindset (DTM) on the success of Italian innovative startups and academic spin-offs (ASOs) in terms of growth and internationalization. Adopting a multi-level theoretical perspective, it combines Upper Echelon Theory with literature on the DTM, emphasizing empathy, creativity, and adaptability. The study, adopting a mixed-methods approach, integrates theories of entrepreneurial ecosystems and relational capital to assess how collaborative spaces and academia support startups through resources, networking, and mentorship. Preliminary findings indicate entrepreneurs with a particular personality trait (specifically, narcissism) and a developed DTM are better at leveraging international market opportunities. The paper also shows how collaborative spaces, especially those connected to universities, significantly facilitate startups' global expansion through tangible resources, legitimacy, and specialized knowledge. This paper provides critical insights for entrepreneurship education and policy design, emphasizing essential competencies and supportive environments to foster startup internationalization.

Keywords: Personality, Innovative Startups, Collaborative Spaces, Academic Spin-offs, Internationalization

1 Introduction

Startups are businesses in the early stages of their life cycle. Their expansion depends on the ideation of new technologies, products, and services that favour durable and sustainable development (Rosenbusch et al., 2011; Salamzadeh & Kawamorita Kesim, 2015). In Europe, the number of startups has increased significantly over the past four years, along with a 43% rise in employment (Seo & Lee, 2019). Furthermore, the trend continues to grow; in fact, the European Startups report predicts that 3.2 million people will be employed by high-tech startups by 2025, reflecting a 10% annual growth rate (Dealroom & Sifted, 2021). However, these firms must survive to realize these benefits (Eklund et al., 2020). Typically, startup survival rarely exceeds five years (Seo & Lee, 2019). This is usually due to a startup's inherent characteristics, such as limited financial resources, lack of experience among founding teams, and challenges in recruiting skilled employees (Del Sarto et al., 2021). In highly volatile and uncertain environments, internationalization can provide startups with alternative growth paths and reduce the risks of operating solely within domestic markets, thereby improving their chances of surviving during the early, most vulnerable stages of development (Sapienza et al., 2006; Knight & Cavusgil, 2004). In this context, the characteristics of startup founders, such as personality traits or cultural values, may

influence the venture's success and the decision to pursue an international path (Falik et al., 2016; Pigola et al., 2022). According to the Upper Echelon Theory (UET), the characteristics of individual entrepreneurs affect strategic decisions and firm performance (Hambrick & Mason, 1984). This is particularly true for startups where the entrepreneur is generally both the founder and the Chief Executive Officer (CEO) (Wasserman, 2008). However, although research suggested that entrepreneur's personality and behaviour might strongly affect the decision-making process, performance, and survival of the venture (Leonelli et al., 2022; Leonelli & Jalal, 2024), few studies focused on the importance of entrepreneurs' traits in startups internationalization strategy (Ciavarella et al., 2004; Wibisono & Weihua, 2021; Leonelli & Jalal, 2024).

Indeed, most studies have either examined established firms or treated entrepreneurial traits and internationalization as distinct phenomena. As a result, there is a limited understanding of how founders' attributes—such as personality, cultural values, and decision-making styles—shape the unique challenges and opportunities faced by startups in global markets (Costa et al., 2022; De Cock et al, 2021). Addressing this point is essential for developing a more nuanced and context-sensitive theory of entrepreneurial success, particularly as startups become increasingly central to economic growth and innovation in Europe and beyond.

In this regard, recent studies have also begun to highlight the relevance of a design thinking mindset (DTM) as a critical cognitive and behavioural orientation that supports entrepreneurs in navigating complexity and uncertainty (Brown, 2009; Liedtka, 2015). Characterised by human-centeredness, experimentation, abductive reasoning, and iterative problem-solving, the DTM complements traditional personality traits by fostering creativity, adaptability, and user-driven innovation—qualities especially relevant in international and volatile contexts where DTM can enable entrepreneurs to identify market needs better, adapt solutions rapidly, and innovate effectively (Vignoli et al., 2023). For startup founders, adopting a DTM can enhance opportunity recognition, improve the fit between product offerings and global user needs, and support agile decision-making in unfamiliar markets (Carlgren et al., 2016; Micheli et al., 2019). By embedding empathy, co-creation, and rapid prototyping into strategic processes, DTM provides a cognitive toolkit that is not only compatible with entrepreneurial traits but may also mediate the relationship between personality and international performance. Investigating this mindset thus provides critical insights into how startups overcome barriers to growth and internationalisation.

In this sense, the primary purpose of this paper is to explore in-depth how entrepreneurial narcissism (a stable and characteristic trait of individual personality) and DTM (which can be acquired and developed through experience) might offer an additional perspective on the success of innovative startups in terms of growth and internationalization. This complementarity enables the exploration of how inner traits interact with acquired mindsets, providing a richer understanding of entrepreneurial effectiveness and success across local market contexts and international arenas.

Additionally, the paper focuses on some contextual factors that can be critical to the development of startups. In particular, we look at the role of collaborative spaces (CSs)—such as incubators, accelerators, coworking spaces, fab-labs— and the role of academia, in supporting startups. CSs and academia, in fact, offer startups pivotal resources, including mentorship, networking opportunities, and shared resources essential for overcoming growth barriers and fostering international scalability (Breschi & Catalini, 2010; Clarysse et al., 2015). Moreover, CSs and academia can support startups by fostering the development of collaborative practices among individuals with diverse educational and professional backgrounds (Bouncken & Reuschl, 2018) and between startups and external actors operating in the same ecosystem (Scapolan et al., 2020; Caccamo & Beckman, 2021). Economic geography and organizational literature have also documented how the internal dynamics of CSs resemble the dynamics of knowledge creation and sharing that occur in industrial clusters, thereby impacting the positive effects of co-location and co-presence (Capdevila, 2019). CSs may thus contribute to the functioning of local ecosystems, also representing a midway point between users and the external actors of the broader local (entrepreneurial and innovation) ecosystem. Furthermore, academic institutions can uniquely contribute to startup growth, especially of academic spin-offs (ASOs) through dedicated academic-funded incubators and specialized programs.

Thus, this study aims to explore whether ASOs—or startups embedded in academic-based collaborative spaces—possess inherent competitive advantages due to their proximity to scientific knowledge, institutional credibility, and specialized human capital, which positively influence their pathways toward internationalization.

Ultimately, this study contributes to advancing entrepreneurial education and practice by highlighting how the integration of personality development and design thinking can strengthen training programmes. In doing so, it also emphasizes the enabling role of CSs and ASOs as key environments that foster entrepreneurial capabilities. By combining individual-level development with supportive ecosystems, the study provides a comprehensive perspective on how to equip entrepreneurs and teams to drive innovation, manage growth, and confidently tackle the challenges of internationalization.

2 Theoretical background

This research is grounded in a multi-level theoretical framework that integrates individual, team, and contextual perspectives to explain the growth and internationalization of innovative startups and academic spin-offs (ASOs).

In particular, at the individual level, the study draws on the Upper Echelon Theory (UET) (Hambrick & Mason, 1984), which posits that the characteristics of top executives partially predict organizational outcomes. Within entrepreneurial ventures, especially in their early stages, the role of the founder or founding team is magnified, as their traits, cognitive frames, and decision-making logics significantly shape the strategic direction of the venture (Leonelli, 2023; Pigola et al., 2022). In this regard, stable personality traits such as openness to experience, risk tolerance, resilience, and proactivity are hypothesized to influence the capacity to identify and exploit international market opportunities. In addition to personality, the study focuses on the Design Thinking Mindset (DTM) as a dynamic mindset that individuals can acquire and develop through experience, training, and reflection. As conceptualized by Schweitzer et al. (2016) and operationalized by Vignoli et al. (2023), DTM involves a human-centred, experimental, and collaborative approach to problem-solving. The DTM includes empathy, creativity, comfort with ambiguity, and critical questioning. While personality is generally seen as stable, the DTM is more malleable, making it a potential target for entrepreneurial education and policy interventions. The research hypothesizes that entrepreneurs with a strong DTM may be better equipped to iterate rapidly, adapt to changing international markets, and co-create value with diverse stakeholders.

At the team level, the composition of the entrepreneurial team is viewed as a critical determinant of startup success. Drawing on the team heterogeneity perspective, diversity in educational backgrounds, cognitive styles, and values may enhance collective creativity and strategic decision-making (Mathisen & Rasmussen, 2019). This diversity becomes particularly salient when navigating complex and uncertain environments, such as those involved in internationalization.

From a contextual perspective, the study incorporates entrepreneurial ecosystems and relational capital theories. Collaborative spaces (CSs)—including incubators, accelerators, fab-labs, and coworking hubs—are theorized as critical components of regional innovation systems (Montanari et al., 2020). These spaces offer access to tangible resources (e.g., equipment, funding opportunities) and intangible assets such as legitimacy, mentorship, networks, and knowledge spillovers (Fuzi, 2015; Teixeira & Coimbra, 2014). The relational embeddedness of entrepreneurs within such ecosystems can accelerate opportunity recognition and reduce the liabilities of newness and foreignness that startups typically face when entering international markets.

Furthermore, the role of academia is examined through the lens of academic entrepreneurship. Academic spin-offs (ASOs) may have privileged access to cutting-edge research, highly skilled human capital, and institutional legitimacy, constituting unique and inimitable resources (Civera et al., 2019). In this sense, the university becomes a platform not only for knowledge transfer but also for the incubation of global entrepreneurial initiatives.

By integrating these theoretical lenses, the study aims to offer a comprehensive perspective of how individual traits and mindsets, team-level dynamics, and contextual enablers interact to shape the pathways through which startups grow and internationalize.

3 Methodology

A mixed-methods design is employed. We used exploratory qualitative research techniques, including structured and semi-structured interviews, as well as direct observations. Two distinct interview protocols were developed: one for founders and CEOs of startups operating within collaborative spaces, and another for the managers of the collaborative space, aimed at understanding the support mechanisms they implement for startups. Interviewees were selected starting from CSs active in the Emilia-Romagna region, encompassing coworking spaces, incubators, and accelerators.

At this stage, we are collecting data and conducting preliminary analyses using interpretative methodologies (Gioia et al., 2013). The subsequent phase will involve quantitative analysis. We have developed a structured survey that will be distributed to a broader sample of entrepreneurs from innovative startups registered in the official Italian registry of innovative startups. The survey includes multiple constructs (e.g., narcissism, DTM, team diversity, perceived support from collaborative spaces, internationalization strategies). This final phase will enable us to identify causal relationships and generalizable patterns.

4 Expected findings

This study is expected to uncover how entrepreneurs' individual personality traits (i.e., narcissism), DTM, team composition, and contextual factors (i.e., the support from academia or from CSs) jointly enable startups growth and internationalization strategies. We anticipate that the support provided by CSs, such as access to networks, mentorship, and infrastructure, will be positively related to growth and international expansion. Entrepreneurs exhibiting a DTM are likely to be more adaptive and opportunity-oriented, thereby enhancing their firms' growth and readiness for international markets. While moderate levels of narcissism may encourage assertive leadership and bold strategic choices, excessive narcissism could hamper collaboration, particularly in team setting and over the long term. Moreover, we expect team diversity to foster broader strategic thinking and cross-border openness, particularly when combined with a supportive ecosystem or high levels of cognitive flexibility. Different type of CSs may also shape distinct pathways and intensities of internationalization. Finally, we expect to identify potential differences between ASOs and startups in their growth and internationalization trajectories. ASOs may benefit from unique competitive advantage linked to their university affiliations, such as access to research-bases knowledge, dynamic human capital, and established institutional networks that offer valuable resources and capabilities.

5 Discussion and conclusion

The research contributes to a more comprehensive understanding of the drivers of startup growth and internationalization, with a particular focus on both ASOs and non-academic startups. By integrating individual-level variables, such as personality and design thinking mindset, with team-level characteristics, including team composition, and contextual-level variables, like collaborative spaces and university affiliation, the study advances several theoretical domains.

From a theoretical standpoint, the study contributes to the Upper Echelons Theory (Hambrick & Mason, 1984) by moving beyond traditional demographic and psychological characteristics to include the DTM. This integration offers a more nuanced understanding of how stable personality traits interact with dynamic, learnable cognitive frameworks to shape entrepreneurial decision-making, innovation orientation, and internationalization.

Additionally, the research contributes to the entrepreneurial ecosystem theory by examining the role of CSs as ecosystem-level support structures. While existing literature has highlighted the importance of interdependencies among entrepreneurs, resource providers, institutions, and supportive infrastructure,

our findings will provide empirical evidence on how CSs contribute not only tangible resources, such as infrastructure and funding, but also intangible assets like mentorship, network access, and strategic guidance. These elements are essential for supporting startups' efforts to grow and internationalize amid uncertainty and complexity. This work also advances the literature on academic entrepreneurship by examining how ASOs differ from non-academic startups in their growth paths and international strategies. University-based startups can leverage unique advantages, such as access to research resources, highly skilled talent, and institutional networks, which enhance their ability to expand globally. In doing so, the study improves our understanding of technology transfer, university-industry collaboration, and the broader role of higher education institutions in fostering entrepreneurial ecosystems. Finally, this research links theoretical ideas with real-world entrepreneurial dynamics, offering relevant implications for entrepreneurial education, policy making, and ecosystem development. It promotes a more integrated approach that supports startups by considering the interactions between individual agency, team dynamics, and contextual infrastructure.

6 Acknowledgements

To be added before being published

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EXPLORING ENTREPRENEURIAL ORIENTATION, INTENTION AND COMPETENCIES IN THE ACADEMIC CONTEXT: A CROSS-CULTURAL COMPARISON BETWEEN ITALIAN AND AMERICAN UNIVERSITY STUDENTS

Short paper

Chiara Ronchetti, University of Insubria, Varese, Italy, chiara.ronchetti@uninsubria.it
Caterina Farao, University of Insubria, Varese, Italy, caterina.farao@uninsubria.it
Laura Riolli, California State University, Sacramento, U.S., riollil@csus.edu

Abstract

In today's complex and change-oriented scenario, individuals are continuously pushed to develop and deploy their resources. For university students, entrepreneurial competencies are considered extremely strategic both for academic and professional career. This research conducted a cross-cultural comparative analysis involving 159 Italian and 118 American university students, with the aim of assessing their level of entrepreneurship, intended as entrepreneurial orientation and intention, and self-perception of employability, trying to capture potential differences between the two realities. Data was collected through an online survey with 10 validated scales regarding Psychological Capital, Self-Compassion, Affectivity, Intolerance of Uncertainty, Perceived Employability, Need for Achievement, Creative Potential, Individual Entrepreneurial Orientation, Entrepreneurial Intention and entrepreneurial skills. Findings show that students from both samples demonstrate a good level of psychological traits related to entrepreneurship, as well as a solid level of entrepreneurial skills. While Hofstede's Survey did not reveal substantial cultural differences, correlations and regressions uncovered significant variations.

Keywords: entrepreneurial orientation, entrepreneurial intention, employability, entrepreneurial skills, university students.

1 Introduction

Recent years have been marked by numerous transformations, creating an increasingly fast-paced, complex, and innovation-driven landscape where individuals are required to continually develop and enhance their skills to navigate this complexity effectively (Steiner, 2013). Specifically, it emerges from the literature how entrepreneurial competencies can be extremely useful in dealing with challenges, manifesting an attitude of proactivity, innovativeness, and risk-taking that enables individuals to implement the reacting attitude required to face all sorts of obstacles and achieve goals (Lumpkin & Dess, 1996; Pérez-Luño et al., 2007; Shirokova et al., 2020). This has also been highlighted by the European Commission, which recognized entrepreneurial skills as key competencies for lifelong learning and developed a specific tool to assess and improve the level of individuals' entrepreneurial skills, known as EntreComp Framework (European Commission, 2016).
In this scenario, it is crucial for university students' growth to acquire new knowledge and cultivate skills that will equip them to navigate today's world. This suggests that fostering competencies, particularly those related to entrepreneurship as discussed in this study, can be strategically vital and should be

developed and implemented throughout the academic journey, which serves as a pivotal stage before entering the labor market (Clark, 1998).
Accordingly, the present research intends to focus on the following research questions: (i) what dimensions influence entrepreneurial orientation, entrepreneurial intention and self-perceived employability among university students? (ii) Are there cultural differences between Italy and U.S. that can influence entrepreneurship? (iii) To what extent do university students present developed entrepreneurial skills? For this reason, an online survey with 10 validated scales regarding some crucial dimensions related to entrepreneurship (i.e., Psychological Capital, Self-Compassion, Affectivity, Intolerance of Uncertainty, Perceived Employability, Need for Achievement, Creative Potential, Individual Entrepreneurial Orientation, Entrepreneurial Intention and entrepreneurial skills) was conducted. Since these psychological traits are strongly linked to individual and cultural characteristics, this research aims to explore the differences that may exist between Italian and American university students, in order to attain greater awareness on the topic and lead future developments about two countries that have different but deep-rooted business traditions. With regard to the cultural aspects, the Hofstede's Cultural Dimensions Survey was adopted.

2 Theoretical Framework

In order to face the continuous changes, innovation and complexity of the modern world, individuals should develop their knowledge and competencies (Steiner, 2013). Among these, a pivotal role is played by skills related to entrepreneurship (Brundin & Gustafsson, 2013).
Worth noticing is that, in the present study, the term entrepreneurship refers to a complex concept extending far beyond mere business ownership (Leutner et al., 2014), encompassing all behaviors capable of creating value by exploiting opportunities through proactivity and innovative ideas (Boyd & Vozikis, 1994). Specifically, the literature shows that those behaviors are influenced by some individual psychological traits (López-Núñez, 2022) such as Psychological Capital, Self-Compassion, Affectivity, Intolerance of Uncertainty, Perceived Employability, Need for Achievement, Creative Potential, Individual Entrepreneurial Orientation and Entrepreneurial Intention. The concept of Psychological Capital refers to a positive mental state characterized by hope, self-efficacy, optimism, and resilience (Luthans & Youssef, 2004). Self-Compassion, instead, leads individuals to treat themselves with kindness and sympathy (Petrocchi et al., 2014) and helps soften the impact of bad feelings emerging from difficulties (Ginting-Szczesny et al., 2023). Moreover, Affectivity concerns an individual's general tendency to experience emotions and moods, influencing perception, behavior and interactions with the environment (Watson et al., 1988). In addition, Intolerance of Uncertainty consider the predisposition to adopt negative behaviors in uncertain situations (Ladouceur et al., 2000). High levels of this construct are associated with the belief that uncertain future events are dangerous and alarming (Bottesi et al., 2019). Furthermore, Perceived Employability regards the self-perceived ability to obtain sustainable employment commensurate with the level of qualifications (Rothwell et al., 2008). Moreover, Need for Achievement is described as the desire to perform well and feel accomplished (Khan et al., 2015). Those who manifest a high need for achievement tend to solve problems independently, using creative solutions to achieve goals (Uysal et al., 2022). Instead, Creative Potential concerns the set of creative abilities that lead individuals to believe that they can produce new and useful ideas (DiLiello & Houghton, 2008; Laguía et al., 2019). Additionally, Individual Entrepreneurial Orientation represents the inclination to adopt innovative, risk-taking, and proactive behavior (Wang et al., 2021), while Entrepreneurial Intention represents the intention to start an entrepreneurial activity (Bird, 1988).

3 Methodology

The present research, conducted between November and December 2024, involved 159 Italian and 118 American university students belonging to different degree programs in different fields. A quantitative

research methodology is adopted, involving an online survey with 10 validated scales assessing Psychological Capital (Lorenz et al., 2016; Platania & Paolillo, 2022), Self-Compassion (Raes et al., 2011; Di Fabio, 2017), Affectivity (Watson et al., 1988; Terracciano et al., 2013), Intolerance of Uncertainty (Bottesi et al., 2019), Perceived Employability (Caricati et al., 2016; Petruzziello et al., 2023), Need for Achievement (Entrialgo et al., 2000; Francioni et al., 2015), Creative Potential (DiLiello & Houghton, 2008), Individual Entrepreneurial Orientation (Bolton & Lane, 2012), Entrepreneurial Intention (Linan & Chen, 2009; Muffatto et al., 2021) and entrepreneurial skills (Entrecomp Framework, European Commission, 2016), as shown in Table 1.
Additionally, Hofstede's Cultural Dimensions Survey was employed to analyze and compare the cultural dimension between the samples (Hofstede, 1984).

Constructs	Number of items	α Cronbach (ITA)	α Cronbach (US)
Psychological Capital	12	0.77	0.92
Self-Compassion	12	0.83	0.70
Affectivity	20	0.74	0.83
Intolerance of Uncertainty	12	0.86	0.85
Perceived Employability	8	0.86	0.78
Need for Achievement	5	0.53	0.73
Creative Potential	6	0.88	0.81
Individual Entrepreneurial Orientation	10	0.75	0.80
Entrepreneurial Intention	6	0.97	0.96
Entrecomp Framework	15	0.91	0.91

Table 1. Measures.

3.1 Sample description: Italy and United States

Detailed demographic and academic characteristics of the sample are provided in Table 2.

Sample (Italy)	**(N = 159)**		**Sample (USA)**	**(N = 118)**	
	N	%		N	%
Gender			**Gender**		
Female	95	59.75%	Female	53	44.92%
Male	62	38.99%	Male	62	52.54%
Prefer not say	2	1.26%	Prefer not say	3	2.54%
Age			**Age**		
Mean	23.91		Mean	22.18	
SD	6.41		SD	3.50	
Nationality			**Nationality**		
Italian	146	91.82%	American	54	45.76%
Other	13	8.18%	Other	47	39.83%
N/A	0	0%	N/A	17	14.41%
Lived Most			**Lived Most**		
Italy	154	96.86%	U.S.	110	93.22%

Other	5	3.14%	Other	8	6.78%
Study Area			**Study Area**		
Social Sciences	92	57.86%	Social Sciences	105	88.98%
Science and Tech.	9	5.66%	Science and Tech.	2	1.69%
Health Sciences	23	14.47%	Health Sciences	2	1.69%
Natural Sciences	26	16.35%	Natural Sciences	1	0.85%
N/A	9	5.66%	N/A	8	6.78%

Table 2. Sample description I.

Detailed background and professional characteristics of the samples are provided in Table 3.

Sample	**(Italy) (N = 159)**		**(US) (N = 118)**	
	N	%	N	%
Entrepreneur Parent				
Yes	41	25.79%	31	26.27%
No	118	74.21%	87	73.73%
Entrepreneur Relative				
Yes	73	45.91%	66	55.93%
No	86	54.09%	52	44.07%
Previous Employee Experience				
Yes	110	69.18%	106	89.83%
No	49	30.82%	12	10.17%
Previous Entrepreneurial Experience				
Yes	14	8.81%	21	17.80%
No	145	91.19%	97	82.20%
Currently Employed				
Yes	64	40.25%	80	67.80%
No	95	59.75%	38	32.20%
Aspiring Entrepreneur				
Yes	84	52.83%	62	52.54%
No	45	28.30%	33	27.97%
I don't know	30	18.87%	23	19.49%

Table 3. Sample description II.

4 Main Findings

In the present study, the results have been standardized on a 5-point scale to ensure comparability (Table 4).

		(Italy)		(US)	
Construct	**Scale Range**	**Mean**	**SD**	**Mean**	**SD**
Psychological Capital	1 to 7 (x_norm)	3.94	0.93	3.78	0.79
Self-Compassion	1 to 5	2.98	1.15	3.04	0.97
Affectivity	1 to 5	2.91	1.25	2.87	1.18
Intolerance of Uncertainty	1 to 5	2.77	1.34	3.18	0.99
Perceived Employability	1 to 5	3.52	1.12	3.25	1.00
Need for Achievement	1 to 5	4.07	0.92	3.73	0.93
Creative Potential	1 to 5	3.87	0.85	3.70	0.88
Individual Entrepreneurial Orientation	1 to 5	3.78	0.91	3.40	0.92
Entrepreneurial Intention	1 to 7 (x_norm)	3.13	1.29	3.19	1.27
Entrecomp Framework	1 to 4 (x_norm)	3.35	1.08	3.45	1.04

Table 4. Descriptive Statistics.

From this initial analysis, it appears that participants from both samples exhibit strong psychological traits, particularly in areas such as Psychological Capital, Perceived Employability, Need for Achievement, Creative Potential, Individual Entrepreneurial Orientation and entrepreneurial competencies (i.e., Entrecomp Framework).
Instead, in terms of cultural comparison, more details can be found in Table 5.

		(Italy)		(US)	
Dimensions	**Scale Range**	**Mean**	**SD**	**Mean**	**SD**
Power-Distance	1 to 5	1.92	0.98	2.22	1.00
Uncertainty Avoidance	1 to 5	4.03	0.79	3.84	0.85
Individualism-Collectivism	1 to 5	3.29	1.02	3.25	0.92
Long-Term Orientation	1 to 5	4.35	0.73	4.01	0.90
Masculinity-Femininity	1 to 5	2.05	1.14	2.34	1.14

Table 5. Hofstede Cultural Dimension Survey.

The results show responses that are not particularly significant or representative of cultural differences between Italy and U.S. Specifically, the mean level of Power-Distance is low for both samples, highlighting a preference for egalitarian relationships, fairness, equality and participative decision-making rather than hierarchical structures.
Moreover, the level of the Uncertainty Avoidance dimension is quite high, meaning that Italian and American university students are more likely to prefer structured and predictable environments and to avoid risks and changes.
Additionally, the level of the Individualism-Collectivism dimension is very similar in both samples, reflecting a slight shared inclination to prioritize personal goals, independence, and individual rights.
Furthermore, the level of the Long-Term Orientation dimension is the higher one for Italian and American university students, emphasizing a strong tendency to prioritize long-term goals, persistence, and planning for the future, focusing on being patient, taking gradual steps and giving value to perseverance and education over immediate gratification.

Lastly, the Masculinity-Femininity dimension level is quite low for both samples, reflecting an inclination to value relationships, care, quality of life and cooperation rather than ambition and competitiveness.
Given the similarity in Hofstede's cultural dimension scores between the two samples, it appears that in this comparison cultural factors may have a limited influence on behaviors or attitudes measured by the other validated scales.
Moreover, correlations between constructs and variables were analyzed to support further investigations. For the Italian sample, significant correlations emerge between almost all constructs analyzed, highlighting the importance of assessing these dimensions to fully understand the development and implementation of entrepreneurship behaviors in the Italian context.
Good correlations also emerge from the U.S. sample, which, however, shows less significance, especially regarding the correlation between Self-Compassion and the other constructs, Intolerance of Uncertainty and the other constructs.
These data pave the way for more in-depth research to investigate the relevance of these constructs in the American context, specifically of Intolerance of Uncertainty, which can be influenced by several aspects namely national culture, traditions, education and politics (Rippl, 2022; Barrios & Hochberg, 2021; Yates, 1992).
Additionally, a regression analysis has been conducted for both samples, considering as dependent variables Individual Entrepreneurial Orientation (IEO), Entrepreneurial Intention (EI) and Self-Perceived Employability (SPE).
Regarding IEO, it emerges from the comparison that Psychological Capital, Intolerance of Uncertainty and Creative Potential have a strong significant effect on IEO only in the Italian sample, while Affectivity and Need for Achievement only in the American one.
The analysis shows a shared significance effects of EI and entrepreneurial competencies on IEO.
With reference to EI, in the Italian sample Psychological Capital and IEO show a significant effect on the variable, while in the American sample the only significance effect regards IEO.
For this reason, EI will be further analyzed, going for aspects and dimensions, including cultural ones, that can better explain and clarify the complexity of this construct.
Regarding SPE, it emerges from the analysis that Psychological Capital have a significant effect on SPE only in the Italian sample, while Creativity only in the American one. The results show a shared significance effects of entrepreneurial competencies on SPE, higher in Italian university students. Results suggest further investigation into additional aspects that may predict SPE.

5 Discussion

The findings of this study indicate that students from both the Italian and American samples demonstrate a good level of psychological trait related to entrepreneurship, as well as a solid level of entrepreneurial skills. While Hofstede's Survey did not reveal substantial cultural differences between the two groups, further analyses, including correlations and regressions, uncovered significant differences that merit closer examination. These results show to what extent some dimensions influence Italian and American university students and suggest that other factors beyond cultural dimensions may play a pivotal role in defining entrepreneurial intention, entrepreneurial orientation and self-perceived employability. It is particularly important to investigate how contextual variables, such as socio-economic conditions, exposure to entrepreneurial practices and especially educational systems may shape these traits and competencies.
These preliminary findings will be further supported by additional analyses and considerations, particularly regarding the reciprocal influence of IEO and EI, among others, which will be presented in the full paper.

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HYBRID APPROACHES TO SYSTEMATIC LITERATURE REVIEWS ON GENERATIVE AI ETHICS: COMBINING HUMAN AND AI JUDGEMENT

Research idea

Marco Di Giovanni, University "G. d'Annunzio" of Chieti-Pescara, Pescara, Italy, marco.digiovanni004@phd.unich.it

Filomena Pagnozzi, University "G. d'Annunzio" of Chieti-Pescara, Pescara, Italy, filomena.pagnozzi@unich.it

Gilda Antonelli, University "G. d'Annunzio" of Chieti-Pescara, Pescara, Italy, gilda.antonelli@unich.it

Abstract

This research explores the feasibility and limitations of using generative artificial intelligence (AI) as a collaborator in systematic literature reviews. Focusing on ethics in AI startups as an illustrative domain, the study compares human and AI-assisted screening of academic publications to assess consistency, efficiency, and interpretive differences. The findings highlight that while AI tools can enhance transparency and reduce manual workload, they also tend to apply rigid criteria that may overlook contextual nuances captured by human evaluators. The research contributes to ongoing debates about the role of generative AI in academic knowledge production and underscores the need for protocols that combine machine precision with human judgment.

Keywords: Artificial Intelligence, Generative AI, Systematic Literature Review, AI-assisted screening, Ethics

1 Introduction

Artificial Intelligence (AI) has rapidly become a pervasive technological force, reshaping established paradigms across sectors such as transportation, healthcare, and education (Rahwan et al., 2019; Stone et al., 2016). In particular, generative AI enables the creation of authentic content and scalable processes, supporting innovation and efficiency in organisations, including startups (Dwivedi et al., 2023; Iansiti & Lakhani, 2020). However, these advances also introduce ethical challenges, such as issues of accountability and transparency in the use and adoption of AI.

Systematic literature reviews (SLRs) represent a cornerstone of evidence-based scholarship but remain time-consuming, labor-intensive, and potentially subject to human bias. The introduction of large language models offers the prospect of partially automating steps such as article screening and classification, raising important questions about consistency, reliability, and epistemic implications.

This research explores whether generative AI can be reliably used to support systematic literature reviews. As a domain of application, the study focuses on literature related to ethics in AI startups, allowing comparison between human and AI assessments within a rapidly evolving field. In doing so, the research aims to contribute to emerging debates on the role of AI as a collaborator in academic research processes.

2 Background

Startups adopting generative AI often operate with agility, limited resources, and immature governance structures, exposing them to challenges such as data privacy, fairness, accountability, and the impact of automation on work (Fleming et al., 2018; Jobin et al., 2019; Fjeld et al., 2020; Floridi & Cowls, 2022).

These concerns are compounded by the opacity of AI systems and the risk that algorithmic decisions reinforce existing inequalities (Sullivan & Wamba, 2022). Although these issues remain significant, an additional dimension has recently gained prominence with the increasing use of AI tools to support the production of scientific evidence.

Systematic literature reviews (SLR) are essential to synthesise knowledge in rapidly evolving fields like generative AI but are time-consuming and susceptible to subjective bias. Large language models have recently emerged as potential collaborators in these processes, offering opportunities to automate screening and classification tasks. However, their reliability and consistency compared to human judgement remain underexplored. This gap is particularly relevant given the increasing volume and complexity of publications that challenge conventional review practices.

Some scholars explicitly encourage the use of AI-based techniques to improve efficiency and transparency in literature reviews (Wagner et al., 2021), while others highlight the broader potential of generative AI to transform academic knowledge production (Storey et al., 2025). This research addresses these questions by testing AI-assisted screening in a systematic review on ethics in AI startups as application.

3 Research gap and question

Despite growing literature on AI ethics, little is known about how ethical considerations are articulated and managed within startups using generative AI. In addition, there is limited research on how AI tools can be employed as collaborators in the process of evidence synthesis. Thus, we ask: *What are the potentials and limitations of integrating human and AI judgment in conducting systematic literature reviews*? Further questions that are object of the review include: How are the ethical implications of generative AI adoption in startups represented in the literature? Which ethical tensions are most salient? Where do gaps exist between normative ideals and practical realities?

4 Methodology

Consistent with synthesis reviews that integrate fragmented evidence across domains (Krlev et al., 2025), this study combines systematic literature review (SLR) with methodological experimentation. The review followed PRISMA guidelines (Moher et al., 2009) to ensure transparency and replicability. Searches were performed in Web of Science and Scopus databases (Li & Bosma, 2024) using a combination of keywords related to generative AI, startups, and ethics.

The screening process was designed as a dual procedure. In the first phase, human evaluators independently assessed the relevance of titles and abstracts based on three dimensions: (1) explicit reference to generative AI, (2) discussion of ethical or societal issues, and (3) inclusion of startups or entrepreneurial contexts. Thus, each paper was assigned a relevance score ranging from 1 (high relevant) to 3 (not relevant). In parallel, the same dataset was processed by ChatGPT, the most LLM used, prompted to classify each record with the same three criteria. It was submitted only title and abstract of each record. After screening, the results from both procedures were systematically compared to identify agreements, weak discrepancies (e.g., one-level differences in relevance), and strong discrepancies (e.g., high relevance vs. exclusion). Additional qualitative analysis was performed to understand the reasons behind divergences, including differences in threshold application and interpretive logic.

5 Results

The comparative screening is reported in Table 1. The two approaches produced broadly similar aggregate results but revealed substantial differences in individual classifications. Out of 1,096 records, human and AI agreed their judgments (green cells in the table) on 828 cases (75.5%). In 250 instances (22.8%), there were weak discrepancies, involving a one-level difference in assigned relevance. Only 18 records (1.6%) showed strong discrepancies (orange cells), where a paper was rated highly relevant (score of 1) by humans but excluded by the AI (score of 3), or vice versa.

	AI: score 1	AI: score 2	AI: score 3
Human: score 1	28	44	12
Human: score 2	7	115	77
Human: score 3	6	122	685

Table 1. Comparative screening human-AI

6 Discussion

The results highlight both the potential and the limitations of integrating generative AI into systematic literature reviews. While the overall agreement between human and AI screening was relatively high, the detailed comparison revealed consistent patterns of divergence that have important methodological implications.

As shown in Table 2, we clustered discrepancies and we noted that the AI model applied a predominantly literal, keyword-based interpretation of relevance criteria. For instance, it required explicit mention of the term ethics rather than inferring ethical dimensions from contextual cues such as references to trust or fairness. Similarly, the AI frequently penalized articles that did not explicitly label the study context as startup, even when the innovation setting suggested clear relevance.

Human logic	**AI logic**
Infers ethics from context (e.g., trust)	Looks for the word “ethics” directly
Sees startup in innovation setting	Needs explicit “startup” keyword
Gives high relevance if AI & ethics are strong	Penalizes weak startup content
Holistic view, reads between lines	Literal, keyword-based interpretation

Table 2. Comparative screening human-AI

Notably, in several cases the AI’s conservative approach contributed to identifying papers that did not fully meet the inclusion criteria, particularly regarding the explicit mention of the startup context. While human evaluators occasionally assigned high relevance based on strong discussions of AI and ethics, the AI correctly downgraded these records because they lacked any reference to entrepreneurship or startup environments. This pattern suggests that AI-assisted screening can enhance consistency in applying pre-defined criteria, even if it may overlook more interpretive connections that humans consider relevant.

These differences illustrate how human evaluators adopt a more holistic, inferential approach, while the AI relies on surface-level text patterns. This divergence suggests that AI tools can introduce a systematic bias toward studies with explicit terminology, potentially excluding conceptually relevant contributions.

In addition to methodological considerations, this approach raises an important ethical issue: the necessity of sharing publication content with generative AI models hosted on external servers. Although in this study we only provided titles and abstracts to mitigate confidentiality risks, any broader use of AI-assisted screening implies potential exposure of copyrighted or sensitive material, which requires careful evaluation of data protection and intellectual property implications.

7 Conclusion and future direction

This research tested the feasibility of using generative AI as a collaborator in systematic literature reviews, comparing its performance with human screening in a fast-evolving field. The findings suggest that AI-assisted approaches can improve consistency and efficiency but also introduce limitations related to interpretive nuance and potential data confidentiality risks.

Future studies could further explore prompt design strategies, assess the reproducibility of AI-supported reviews across domains, and develop clear protocols for integrating human and machine judgments. As generative AI becomes more widely adopted in academic workflows, continued evaluation will be essential to balance efficiency gains with transparency, reliability, and ethical safeguards.

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CONTEXTUALISING TALENT MANAGEMENT: A MULTI-CASE STUDY OF SMES IN NORTHERN ITALY'S INSTITUTIONAL ECOSYSTEM

Short Paper

Caterina Muzzi, University of Brescia, Brescia, Italy, caterina.muzzi@unibs.it
Franca Cantoni, Università Cattolica del Sacro Cuore, Piacenza, Italy, franca.cantoni@unicatt.it
Maddalena Sorrentino, University of Milan, Milan, Italy, maddalena.sorrentino@unimi.it

Abstract

This study examines how small and medium-sized enterprises (SMEs) develop Talent Management (TM) practices by navigating normative, mimetic and coercive institutional pressures within a geographically bounded industrial cluster. Drawing on institutional theory and the concept of embedded agency, it investigates the interplay between local trade associations, educational institutions and SMEs in co-evolving context-sensitive TM strategies. The analysis is based on a multiple case study of 23 Italian SMEs, revealing that these organisations act not only as recipients of external pressures but also as active contributors to their institutional ecosystems. In doing so, they transform constraints into innovation opportunities and foster collaborative relationships that address broader socio-economic objectives. The findings highlight the critical role of relational networks in shaping adaptive TM solutions, while underscoring the capacity of SMEs to hybridise institutional logics and sustain contextually grounded approaches to talent development..

Keywords: Talent Management, Institutional Logics, Small and Medium-Sized Enterprises (SMEs), Embedded Agency, Local Networks

1 Introduction

Human Resource Management (HRM) practices in small and medium-sized enterprises (SMEs) are widely acknowledged as underdeveloped and inconsistently applied, especially in smaller firms that face unique challenges often referred to as the "liability of smallness" (Cardon & Stevens, 2004). Compared to larger organisations, SMEs possess distinct characteristics—such as constrained financial resources, greater organisational flexibility and reliance on reactive and informal management practices—that shape their HRM approaches (Harney & Dundon, 2006).

Despite the growing importance of TM across diverse organisational settings, scholarly attention to TM in SMEs remains scarce and fragmented (Gallardo-Gallardo et al., 2020). There is, however, a consensus that TM practices in SMEs are strongly context-dependent (Cantoni et al., 2025; Krishnan & Scullion, 2017; Pocztowski & Pauli, 2022). Yet, while research on contextualised TM is evolving, "there has been disappointing progress in capturing contextual issues in empirical TM research" (Gallardo-Gallardo et al., 2020, p. 458). As Thunnissen and Gallardo-Gallardo (2017) observe, prior empirical work often relegates such contextual elements to secondary considerations. Even if TM scholars agree that TM is not a universal management system, rather it is highly contextual and dependent upon a combination of historical, cultural and institutional factors (Park, 2023; Outila et al., 2019), these latter have been poorly investigated. However, institutional dynamics are addressed in the literature about HRM to investigate actors' responses to institutional contradictions (e.g. Hashemi et al., 2024; Alvehus, 2018) and to analyse differences in HR and TM practices adoption in MNCs among the HQ and the subsidiaries (Tyskbo,

2021). To our knowledge, there is no scientific research addressing the impact of institutional pressures and logics on TM practices of SMEs interacting in a local geographical context. Bridging these gaps is critical for strengthening SMEs' competitiveness, informing more nuanced HR policies and ensuring sustainable "talent pipelines" within local ecosystems. Furthermore, prior research has largely treated SMEs as passive recipients. This study shifts the perspective by exploring how SMEs actively co-evolve TM practices alongside institutional logics, showing a dynamic interplay rather than a one-directional influence. Building upon the foundational work of Greenwood et al. (2002), Greenwood et al. (2011), Thornton & Ocasio (2008) and Thunnissen and Buttiens (2017), this study underscores that institutional pressures and logics exert differential impacts across organisations within the same inter-organisational field.

Drawing upon the extant literature on the significance of institutional embeddedness for SMEs (Zhu et al., 2006), this paper makes a threefold contribution. First, it elucidates how SMEs navigate the complexities of multiple institutional logics and underscores the co-evolution of these logics with TM practices. In doing so, it unpacks the strategies SMEs employ to address coercive, mimetic, and normative pressures. Second, the paper highlights the pivotal role of agency in fostering networks with local trade associations, schools, and universities. Third, the paper delineates the emergence of flexible and bespoke TM strategies, shaped by internal SME characteristics, market conditions, and institutional imperatives. Such strategies reflect how SMEs continually adapt to multifaceted and evolving pressures. A qualitative, multiple-case study methodology was adopted to investigate 23 Italian SMEs located in Northern Italy. Theoretical sampling guided the selection of cases, prioritizing companies that demonstrated strategic foresight by expanding their workforce and sustaining organizational growth, even amidst challenging economic or environmental conditions.

2 Literature Review

Academic interest in TM has traditionally emphasised internal organisational practices, often assuming a normative or best practice approach. However, in the case of SMEs, TM cannot be regarded as an autonomous or exclusively internal phenomenon. Instead, it emerges from a dynamic process shaped by the interaction between firms and their institutional environments. This perspective is rooted in the concept of institutional logics, understood as sets of shared values, rules and norms that influence organisational decisions and define what is considered appropriate (Thornton & Ocasio, 2008). Within this context, SMEs operate amidst multiple institutional logics that represent systems of meaning and rules guiding organisational behaviour. Normative logic emerges from legislative and regulatory pressures, such as labour laws and enterprise support policies, shaping firms' responses to compliance and accountability requirements. Market logic, emphasising competitiveness and organisational efficiency, prompts SMEs to implement performance-oriented practices as they strive to meet economic goals. According to Currie and Spyridonidis (2016), these logics do not operate in isolation but often overlap, generating tensions that SMEs must navigate to balance institutional expectations with operational needs. In the SME context, TM is neither neutral nor universal, but rather socially constructed through interaction with the local institutional environment (Lengnick-Hall et al., 2011). The way talent is managed depends on prevailing normative, cultural, and relational pressures. A distinctive element of SMEs is their capacity to balance resources drawn from different logics, a process described as hybridisation (Besharov & Smith, 2014). SMEs integrate market-based resources, redistribution (e.g., public funding), and reciprocity (e.g., volunteering or informal contributions) to develop their TM practices, maintaining resilience in complex economic environments. Hybridisation extends beyond economic resources to include institutional logics. Thornton and Ocasio (2008) underscore that organisations must often navigate potentially conflicting logics, such as those oriented towards profit maximisation and those favouring social impact. Institutional isomorphism theory (DiMaggio & Powell, 1983) further illustrates how organisations tend to conform to dominant practices within a given organisational field, responding to normative, mimetic, or coercive pressures. In SMEs, these pressures may manifest as the adoption of standardised TM practices, promoted by trade associations or enforced through sector-specific regulations. Yet the literature also suggests that

isomorphism can spur innovation when SMEs creatively reinterpret institutional pressures (Thornton et al., 2012).

A key concept emerging from this literature is that of embedded agency (Thornton & Ocasio, 2008), where organisational actors negotiate between institutional pressures and internal priorities. Educational initiatives contribute to the training of managers and entrepreneurs, integrating normative and cultural logics and stimulating TM innovation. The co-production of TM practices through these actors reinforces the local identity of SMEs, yet also poses challenges. Balancing global standards with local adaptation exemplifies the complexities of managing TM in diverse institutional settings.

The literature identifies several further complexities, including regulatory rigidity, unequal access to resources and tensions among multiple logics (Pache & Santos, 2013; Wu et al., 2023). Regulatory rigidity emerges when SMEs encounter bureaucratic complexities and constraints related to public tenders, potentially limiting their flexibility. Unequal access to resources affects smaller firms or those lacking strong local ties, leaving them at a disadvantage compared to better-connected counterparts. Tensions among logics can trigger internal conflicts but may also foster social and organisational innovation. Notably, Thornton et al. (2012) observe that an SME's ability to navigate these complexities hinges on its capacity to reinterpret institutional pressures as opportunities rather than constraints. In essence, TM in SMEs is best understood as a dynamic and context-dependent phenomenon, shaped by institutional logics, actor interactions, and the capacity to leverage constraints as catalysts for innovation (Ratinho & Bruneel, 2024). Given the coexistence of multiple institutional logics, organizational actors exercise agency in selecting which logics to prioritize and in interpreting these logics for social and strategic interactions (Currie & Spyridonidis, 2016). However, Thornton and Ocasio (2008) introduce the concept of embedded agency, which highlights the extent to which actors' interests, beliefs, and values are deeply ingrained within the institutional logics of their environment. Moreover, higher-status actors—those with well-defined identities and considerable sources of power—play a pivotal role in shaping how institutional logics are interpreted and mobilized toward organizational objectives (Currie & Spyridonidis, 2016; Greenwood et al., 2011; Reay & Hinings, 2009).

In light of these contributions, three key knowledge gaps emerge:

- The notion of co-evolution and the recognition of multiple institutional logics suggest that SMEs do not passively adopt TM practices, but actively shape them through ongoing interactions with their environment (Paauwe & Boselie, 2005). Norms, professional standards, and locally prevalent experiences create a framework within which firms can negotiate, adapt, and innovate. Hence the first question (RQ1): Through which social interaction processes do SMEs and local institutional actors co-evolve TM practices, transforming normative, mimetic and coercive pressures into actions?
- Research on the plurality of logics (Currie & Spyridonidis, 2016; Greenwood et al., 2011) shows that organisations must constantly balance legitimacy, compliance, and innovation. SMEs embedded in dense local networks must coordinate multiple perspectives—market, normative, and cultural logics—to maintain flexibility while meeting institutional expectations. The second question (RQ2) thus arises: How do SMEs mediate among multiple institutional logics to develop flexible TM practices that simultaneously satisfy external legitimacy needs, strategic adaptation and organisational innovation?
- Literature on embeddedness (Granovetter, 1985; Dicken & Malmberg, 2001) and local networks indicates that SMEs benefit from non-commercial, but social and educational relationships to define and implement TM strategies suited to their specific context. These networks facilitate knowledge circulation, resource access, understanding of local values, and the creation of a common language. The third question (RQ3) then follows: How do local networks and non-commercial interactions between SMEs, educational institutions, and territorial actors foster the definition, adaptation and enhancement of TM strategies?

The above research questions translate the main insights derived from the relevant literature into an empirical research path aimed at better understanding how the institutional, relational, and contextual dimensions of TM in SMEs can be more comprehensively grasped.

3 Research setting and method

To address our research questions, we employed a qualitative research methodology, specifically utilising a multiple-case study approach (Grodal et al., 2021). In order to identify suitable companies for the study, we partnered with Confindustria—Italy's leading trade association—and drew on its extensive network to ensure access to relevant and representative organisations.

Our study focused on 23 SMEs located in the province of Piacenza, spanning a wide range of industries including manufacturing, logistics, ICT, food production, marketing, and business consulting. Company size varies from 9 to 250 employees. Company selection was guided by a theoretical sampling strategy (Eisenhardt & Graebner, 2007), We identified suitable SMEs through the AIDA database, focusing on Piacenza in northern Italy—a region known for its dense industrial clusters, where businesses often affiliate with local Confindustria (the General Confederation of Italian Industry) chapters. To enrich the diversity and representativeness of our sample, we considered additional criteria such as industry sector, company size, establishment age, managerial maturity, and ownership structure. Interviewees were either owners/entrepreneurs or HR professionals (HR directors, managers or specialists) within the selected companies. In addition to these SME representatives, the sample included key actors from the local University (Head of Internships and Placement) and Confindustria (Education Manager) to directly get perspectives on how regional institutions collaborate with SMEs to align workforce development with industrial needs. Data were collected through in-depth, semi-structured interviews, the content of which was outlined in advance of the meetings held in May–June 2023. Before each interview, participants received a detailed presentation of the company. The interviews, which lasted an average of 1.5 hours, ranged from 1 hour and 10 minutes to 2 hours and 45 minutes. They were conducted both in person and online by one of the authors. Rigorous protocols were employed to systematically organise and analyse the data, in line with established methodologies (Alsaawi, 2014). The interviews were recorded with participant consent, then transcribed and subjected to thematic analysis (Braun & Clarke, 2006).

4 Results

For SMEs, the strategic decision to pursue growth through the recruitment and development of new employees constitutes a proportionally substantial investment. Such decisions are critical to ensuring that the anticipated benefits align with the enterprise's growth objectives and operational constraints.

> *"Sometimes growth is constrained by the rigidity of labor market regulations: for us, hiring represents a significant investment, with minimal room for error. We must excel in the selection process and quickly assess whether new hires possess not only the necessary competencies but also the right values to integrate and thrive within our organization." (Company # 3)*

Furthermore, SMEs recognize that their ability to compete in increasingly dynamic markets depends not only on financial prudence but also on fostering a workplace culture that attracts and retains high-caliber talent.

> *"Success hinges on our ability to evolve in attracting and retaining talent. The most advanced companies, both locally and within our sector, are invariably the most successful, securing the largest funding opportunities and driving a virtuous cycle of growth and innovation." (Company # 13)*

Furthermore, both HR managers and SME owners acknowledge that younger generations exhibit evolving expectations regarding their professional trajectories, emphasizing the importance of clearly defined career paths and structured training programs. However, the implementation of such initiatives is often constrained by the inherent challenges associated with the liability of smallness.

> *"Working in a small business is very different from being in a large corporation. Here, the limited resources and the focus on short-term objectives can really restrict what we can do as HR managers. I have to admit, there are moments when it's frustrating because you feel constrained in your ability to implement long-term strategies. But at the same*

> *time, the challenges make the work incredibly rewarding, and the personal satisfaction from seeing the direct impact of your efforts is unmatched." (Company # 10)*

When it comes to the definition and implementation of TM practices, two key actors in the institutional context of SMEs have emerged: Confindustria and Higher Education Institutions/Universities.

Confindustria, in particular, plays a pivotal role by providing SMEs with a diverse range of activities strategically designed to strengthen ties among local businesses. Confindustria provides several services, including but not limited to the promotion of innovation, consultancy, advocacy, networking, legal support, and the provision of informational resources. Those activities disseminates in companies TM best practices and organizational solutions developed by best performing companies.

> *"We nourish a constant and ongoing exchange facilitated by our active participation in various initiatives promoted by our association (Confindustria). This engagement represents a rich forum for dialogue, giving rise to opportunities for mutual contamination".(Company # 19)*

As the second relevant actor is concerned, SME's entrepreneurs and managers engage in collaborative endeavors with local educational institutions, specifically in promoting internships and placement initiatives.

> *"As educators and researchers, our role is to equip SMEs with cutting-edge knowledge and innovative management practices that they may not have the resources to develop internally. It's a two-way street—we learn about their real-world challenges, and they gain access to the latest academic insights and tools to stay competitive."*

Educational institutions, such as schools and universities, facilitate the transfer of knowledge and expertise to the local community, acting as cultural and intellectual hubs. They actively contribute to the community through the provision of community services and, more broadly, by enriching the cultural fabric of the territory. In return, the territory reciprocates by providing financial resources and essential infrastructure, which play an instrumental role in supporting their educational mission.

> *"Schools and universities are the heartbeat of our community, pumping knowledge, ideas, and culture into the local fabric. In turn, the community gives back by funding their mission and building the infrastructure they need to thrive. It's a win-win: they shape minds, and we shape the environment that makes it all possible." (Company # 18)*

5 Discussion

This study highlights the intricate interplay between institutional, relational, and contextual dimensions of TM in SMEs, offering insights into how these organisations navigate their unique challenges. Drawing on the theoretical framework of institutional logics and leveraging the results from the qualitative analysis, our findings provide a nuanced understanding of the actors and dynamics shaping TM practices in SMEs.

To address our first research question, which examines the co-evolution of TM practices and institutional logics, our data confirm that the analysed firms navigate multiple institutional logics (Currie & Spyridonidis, 2016) that often push organisational change in conflicting directions. Respondents report experiencing coercive institutional pressures primarily through labour market legislation, which in Italy tends to be rigid and governed by stringent collective agreements and union relations. These factors result in significant exit barriers. Moreover, in specific sectors such as the food industry, health and safety regulations further compel firms to adopt strict practices, including mandatory technical training and the need for highly specialised in-house competences. For SMEs, deciding to grow by hiring and training new employees thus represents a proportionally major investment that must be carefully evaluated. Mimetic pressures also play a significant role for the interviewed firms. Operating within a geographically constrained area leads companies—even in different sectors—to observe closely the most successful organisations, their structures and the TM policies they adopt, thereby feeling pressured to emulate them. Additionally, the rise of digitalisation and the availability of public funding to support its implementation have increased demand for digital skills and project management capabilities.

However, SMEs often struggle to access these competencies, creating a substantial skills gap. Our data also reveal pressures stemming from normative dynamics. All interviewed HR managers belong to prominent professional associations (e.g., AIDP), where they interact with counterparts at national and, occasionally, international levels. Such exchanges provide opportunities to share best practices and stay informed about developments in HRM, driving innovation in TM. However, this drive often collides with financial and cultural constraints faced by SMEs. Owners we interviewed seek territorial reputation and legitimacy, recognising that a positive working environment attracts talent, yet they face tension between limited resources and the imperative to improve TM strategies. Both HR managers and owners acknowledge that younger generations expect clearer career plans and structured training, but implementing such policies is hindered by the liability of smallness.

Addressing our second research question, which investigates how SMEs mediate multiple institutional logics to enable strategic adaptation, we found the role of agency to be predominant. Agency emerges in decisions about which institutional logic to follow in order to maintain strategic effectiveness and foster innovation. Within TM policies, decision-makers jointly analyse each company's internal characteristics, market demands (commercial, innovation, and labour market perspectives), and the pressures arising from the institutional logics previously identified. This process generates highly unique TM strategies within SMEs. In practice, SMEs often adopt locally disseminated best practices from industry associations and training institutions, adapting them to their own resources and strategic objectives. This approach shows a strong awareness that even SMEs must engage in TM to gain local legitimacy and reputation, while recognising that a standardised, "one-size-fits-all" approach is inappropriate. Retaining trained employees becomes crucial given the significant investments involved. Consequently, SMEs personalise welfare packages and tailor work schedules as far as possible to meet employees' needs, provided these align with job requirements. From a relational standpoint, agency also surfaces in SMEs' requests to local institutions and the education system for support. Rather than relying on traditional standardised training courses, SMEs seek exchange-based facilitation, customised guidance, and incremental support services. This approach must start with a careful assessment of the specific organisational context to ensure relevance and effectiveness.

Turning to our third research question, which focuses on the impact of local networks on the development of TM practices, we find that SMEs, institutions and educational organisations operate in a dense web of relationships encompassing multiple forms of social and professional ties. In Piacenza, personal relationships often begin in childhood or adolescence, and stakeholders frequently collaborate with the same institutional actors, training institutions and events, further strengthening ties among entrepreneurs and workers. Over time, this setting cultivates a shared set of values and language rooted in mutual trust. Consequently, TM policies transcend mere organisational strategies and become a way of giving back to the community that contributes to the company's growth. Entrepreneurs and HR managers regularly meet, informally engage with institutional representatives and seek advice, thus enriching the relational fabric rooted in the local territory and encouraging the development of a local set of TM best practices. Following Thornton and Ocasio (2008), this exemplifies embedded agency, where the interests, beliefs, and values of individuals and organisations are interwoven in local institutional logics.

6 Conclusion and practical implications

Building upon the preceding analysis, we distil the complex interdependencies shaping TM practices within SMEs into a cohesive framework where the local community is a key point of reference for entrepreneurs, HR managers, and employees that remain socially and economically embedded in a specific context. This geographical and socio-economic embeddedness reinforces the co-evolution of TM practices, as local actors reciprocally influence organisational strategies, resource availability, and cultural norms**.** Importantly, these actors are connected through "*multiplex*" relationships—overlapping social, professional, and institutional ties—that enhance trust and knowledge exchange across domains.

Institutional actors, including Confindustria and higher education institutions, emerge as pivotal nodes in configuring TM practices, serving as resource intermediaries that disseminate best practices, enhance

SME legitimacy and foster alignment with institutional frameworks. Confindustria, through events, policy forums, and collaborative platforms, boosts SME capacity to adapt to normative, mimetic and coercive pressures. Meanwhile, educational institutions provide cutting-edge managerial tools and facilitate joint innovation in TM. SMEs' capacity to mediate multiple institutional logics—normative (compliance-oriented), market (efficiency-driven), and cultural (community-focused) —allow for the reinterpretation of external constraints as opportunities for innovation, such as implementing digital tools to comply with regulatory mandates while enhancing strategic objectives in talent acquisition or retention.

The findings underscore the strategic relevance of fostering structured collaboration between SMEs, trade associations, and educational institutions to promote the development of context-sensitive TM practices. By capitalizing on established institutional and relational networks, SMEs can incrementally address TM challenges without incurring excessive structural or financial burdens. A promising approach involves the co-development of practitioner-oriented guides by trade associations, offering empirically grounded and regularly updated TM strategies aligned with evolving sectoral trends. Complementing this, targeted training initiatives for SME leaders—delivered in either online or face-to-face formats—can address critical dimensions of TM, including onboarding processes, career pathway development, and workforce diversity management. Furthermore, the establishment of a centralized internship and placement platform, jointly coordinated by trade associations and educational institutions, may contribute to streamlining recruitment procedures while simultaneously reinforcing the alignment between academic curricula and industry needs. Finally, the facilitation of peer-learning networks by trade associations can provide SME managers with structured opportunities to share experiences, confront common challenges, and disseminate best practices. Taken together, these coordinated efforts represent a viable pathway for enhancing TM capacity within SMEs through collaborative, scalable, and evidence-informed mechanisms. Such initiatives build on existing frameworks, enhancing SMEs' ability to navigate talent-related challenges while meeting socio-economic objectives locally.

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THE ENTREPRENEURIAL DOCTORAL STUDENT: HUMAN CAPITAL, MOTIVATION, AND THE CONDITIONAL NECESSITY OF UNIVERSITY SUPPORT

Short paper

Matteo Opizzi, University of Cagliari, Cagliari, Italy, matteo.opizzi@unica.it
Giammarco Marras, University of Cagliari, Cagliari, Italy, giammarco.marras@unica.it
Michela Loi, University of Cagliari, Cagliari, Italy, michela.loi@unica.it

Abstract

This study investigates the entrepreneurial potential of doctoral students within the framework of the Entrepreneurial University, focusing on the conditional necessity of university support. By integrating theories of entrepreneurial alertness, human capital, and pro-social motivation, it examines whether institutional support is essential for developing entrepreneurial intentions. Utilizing survey data from 240 Italian doctoral students and applying Necessary Condition Analysis (NCA), the findings reveal that university support is not universally necessary but becomes critical under specific conditions. Specifically, support is essential for students with weak entrepreneurship-oriented human capital or low pro-social motivation. Conversely, students with strong intrinsic drivers or prior experience can form entrepreneurial intentions independently. The study challenges the assumption of support's universal necessity and contributes to a nuanced understanding of how individual and institutional factors interact in shaping academic entrepreneurship among doctoral students.

Keywords: doctoral students; entrepreneurial university; necessary condition

1 Introduction

In recent decades, universities have evolved from knowledge hubs to engines of socio-economic development (Audretsch, 2014). Central to this shift is the Entrepreneurial University model, which promotes commercialization, knowledge transfer, and societal engagement (Guerrero et al., 2014). While much of the literature focuses on faculty entrepreneurship, doctoral students are increasingly acknowledged as vital contributors (Bienkowska et al., 2016). Nonetheless, evidence on the effectiveness of university support remains mixed. Some studies highlight its importance (e.g., Muscio & Ramaciotti, 2019), while others suggest limited impact (e.g., Feola et al., 2019). This raises questions about the assumed universal benefits of such support. We propose a shift from focusing on sufficiency to examining necessity (Dul, 2016), asking whether support is always essential or only under specific conditions.

2 Literature review

Universities are now recognized as actors of economic and social progress (Klofsten et al., 2019). Doctoral students have a key in this redefined landscape, since they are seen not only as future academics but also as contributors to innovation and entrepreneurship (Bienkowska et al., 2016; Mars & Moravec, 2022).

Several factors make doctoral students well-suited for academic entrepreneurship. Compared to more senior academics, they tend to be younger, more open to risk, and more flexible in terms of career choices (Lean, 2012; Pretorius & Macaulay, 2021). They also exhibit a deep scientific knowledge on the topics they work on, which can be channeled into the creation of science-based innovations (Klofsten et al., 2021). Recognizing this potential, many universities are now offering tailored entrepreneurship programs and support structures designed specifically for this group (Rippa et al., 2022). Yet, this

growing institutional emphasis on doctoral entrepreneurship raises new questions: Do all doctoral students benefit from support? Or do specific conditions determine its effectiveness?

This paper studies the cognitive transition from being entrepreneurially alert to develop an entrepreneurial intention (Arentz et al., 2013; Thompson, 2009). The concept of entrepreneurial alertness is defined as the cognitive ability to recognize opportunities (Kirzner, 1973; Shane & Venkataraman, 2000) It is considered a critical starting point in the entrepreneurial journey, but it is not sufficient on its own to generate entrepreneurial action (Baron & Ensley, 2006); the transition from recognizing an opportunity to intending to act upon it involves deliberate decision-making and motivation (Martin & Wilson, 2015; Thompson, 2009).

This cognitive transition is shaped not only by internal capabilities but also by the external environment. Organizational behavior literature has long emphasized the importance of the interplay between individual traits and contextual factors in shaping behavior (Kristof-Brown et al., 2005; Salancik & Pfeffer, 1978). In academic entrepreneurship, this interplay is particularly salient: factors such as institutional support structures from universities and academic culture have been all proven to influence whether academic actors choose to pursue entrepreneurial paths (Bercovitz & Feldman, 2008; Opizzi et al., 2024).

Taken together, these insights suggest that a complete understanding of entrepreneurship by doctoral students requires accounting for both the individual-level factors, such as human capital and intrinsic motivation, and the institutional conditions that facilitate or hinder entrepreneurial engagement.

3 Hypotheses development

Academic entrepreneurship research increasingly focuses on how university support influences entrepreneurial processes, and it is particularly true for the target of doctoral students (Bienkowska et al., 2016; Muscio & Ramaciotti, 2019). While support mechanisms such as entrepreneurship education and institutional infrastructure are often seen as facilitators, findings are mixed regarding their actual impact on the cognitive transition at the base of entrepreneurial decision. Consequently, we formulate our first hypothesis:

H1: University support is critical for doctoral students' entrepreneurial transition from alertness to entrepreneurial intentions

Prior experience is crucial in forming entrepreneurial intentions (Marvel et al., 2016), because it enables individuals to recognize opportunities based on past experiences (Lindh & Thorgren, 2016), making prior knowledge a key antecedent of entrepreneurial alertness (Ucbasaran et al., 2008). Thus, we argue that doctoral students with limited exposure to entrepreneurship may lack this cognitive foundation, making university support essential for stimulating entrepreneurial intentions. In contrast, students with strong human capital benefit from support in a complementary way, as it enhances existing capacities rather than compensating for gaps (Toole et al., 2010).

Thus, our second hypotheses are formulated:

H2a: University support is critical for doctoral students' entrepreneurial intentions when their entrepreneurship-oriented human capital is weak

H2b: University support is critical for doctoral students' entrepreneurial intentions when their academic entrepreneurship-oriented human capital is weak

Bush's vision of science as a tool for societal advancement redefined scientists as agents of change, a principle now embedded in universities' third mission: applying academic knowledge to address societal challenges (Fini et al., 2018). Participation in academic entrepreneurship, however, depends not just on institutional resources but also on individual motivation (Lam, 2011). Motivations are varied, spanning intrinsic drivers like personal fulfillment, societal impact, and curiosity, and extrinsic ones such as career advancement and recognition (Balven et al., 2018). For doctoral students in particular, motivation often aligns with aspirations beyond academia (Rizzo, 2015). In this context, pro-social motivation, intended as the drive to benefit society (Satar & Natasha, 2019), emerges as a key, yet underexplored, factor. Many early-career researchers are inspired by the desire to leverage their research for generate societal

impact (Mars & Moravec, 2022). This motivation can independently fuel entrepreneurship, especially when research commercialization is viewed as a pathway to impact (Iorio et al., 2017). However, when such motivation is weak or unclear, university support becomes crucial in facilitating entrepreneurial engagement.

Building on these reflections, we propose the third research hypothesis:

H3a: University support is critical for doctoral students' entrepreneurial intentions when their pro-social motivation is strong

H3b: University support is critical for doctoral students' entrepreneurial intentions when their pro-social motivation is weak

4 Methodology

We surveyed 240 doctoral students from Italian universities, a fitting context due to its broad availability of entrepreneurship-related services and alignment with European innovation goals (Fini et al., 2020; Netval, 2021). The online survey followed pilot testing (Forza, 2002).

Necessary Condition Analysis (NCA) was applied to identify whether certain variables must be present for entrepreneurial intention, even if not sufficient (Dul, 2016, 2024). Unlike regressions, NCA identifies boundary conditions—when the absence of a factor prevents an outcome.

University support was measured in three dimensions: business development, concept development, and educational support (Kraaijenbrik & Bos, 2010). Entrepreneurial alertness and intention followed validated scales (Kuckertz et al., 2017; Liñán & Chen, 2009). Human capital was assessed via prior entrepreneurial activity, work experience, and family background (Ucbasaran et al., 2008). Pro-social motivation was measured using the scale from Satar and Natasha (2019), adapted for academia.

5 Results

As shown in Table 1, our NCA results indicate that, for the sample as a whole, university support is not a necessary condition for the formation of entrepreneurial intentions. In contrast, entrepreneurial alertness alone emerged as a consistently necessary factor.

	Effect size (d)	**95.0%**	**P- value**
Business development support	.018	.047	.312
Business development support x entrepreneurial alertness	.006	.119	.954
Concept development support	.032	.068	.249
Concept development support x entrepreneurial alertness	.021	.146	.924
Educational support	.057	.107	.255
Educational support x entrepreneurial alertness	.023	.255	.940
Entrepreneurial alertness	.256	.013	.000

Table 1. NCA permutation for the full sample

However, when analyzing subgroups, important patterns emerged. For students with low entrepreneurship-oriented human capital, university support—particularly educational and concept development support—was found to be necessary. Similarly, among those with low pro-social motivation, concept development support emerged as a critical condition. Table 2 and Table 3 present the results of NCA.

	Effect size (d)	95.0%	P-value
Business development support	.232	.259	.086
Business development support x entrepreneurial alertness	.263	.144	.004
Concept development support	.315	.285	.021
Concept development support x entrepreneurial alertness	.360	.212	.001
Educational support	.430	.345	.004
Educational support x entrepreneurial alertness	.290	.195	.007
Entrepreneurial alertness	.257	.071	.000

Table 2. NCA permutation for doctoral students with weak entrepreneurship-oriented human capital

	Effect size (d)	95.0%	P-value
Business development support	.025	.182	.913
Business development support x entrepreneurial alertness	.011	.178	.960
Concept development support	.033	.086	.355
Concept development support x entrepreneurial alertness	.012	.159	.894
Educational support	.046	.147	.734
Educational support x entrepreneurial alertness	.048	.364	.908
Entrepreneurial alertness	.214	.029	.000

Table 3. NCA permutation for doctoral students with strong entrepreneurship-oriented human capital

Conversely, students with strong entrepreneurial experience or high pro-social motivation were able to form entrepreneurial intentions without relying heavily on university resources (see Table 4 and Table 5).

	Effect size (d)	95.0%	P-value
Business development support	.062	.229	.731
Business development support x entrepreneurial alertness	.000	.316	.000
Concept development support	.315	.283	.014
Concept development support x entrepreneurial alertness	.145	.091	.019
Educational support	.033	.283	.915
Educational support x entrepreneurial alertness	.000	.521	.000
Entrepreneurial alertness	.385	.095	.000

Table 4. NCA permutation for doctoral students with low pro-social motivation

	Effect size (d)	95.0%	P-value
Business development support	.030	.068	.310
Business development support x entrepreneurial alertness	.006	.135	.960
Concept development support	.040	.087	.309
Concept development support x entrepreneurial alertness	.052	.187	.767

Educational support	.107	.164	.182
Educational support x entrepreneurial alertness	.016	.306	.967
Entrepreneurial alertness	.235	.028	.000

Table 5. NCA permutation for doctoral students with high pro-social motivation

6 Implications

Our findings reject the notion that university support is universally necessary. Instead, it becomes critical under specific personal conditions. This challenges the symmetry assumption in entrepreneurship literature (Dul, 2016), which implies that the absence of a helpful factor inevitably constrains outcomes. We emphasize doctoral students' distinct position in academia (Muscio & Kitagawa, 2024; Opizzi et al., 2024), where entrepreneurship emerges from a nuanced interplay of individual traits and institutional environments. Integrating pro-social motivation into a necessity logic also extends behavioral theorization. While motivation has long been acknowledged as a driver (Iorio et al., 2017; Lam, 2011), we demonstrate that its presence (or lack thereof) reshapes the relevance of institutional support, advancing a more dynamic understanding of entrepreneurial intention formation.

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FROM LIVED EXPERIENCE TO CO-CONSTRUCTION: A PRAGMATIST EXPLORATION OF RELATIONAL QUALITY IN ENTREPRENEURIAL COACHING

Research Idea

Giammarco Marras, University of Cagliari, Italy, giammarco.marras@unica.it

Michela Loi, University of Cagliari, Italy, michela.loi@unica.it

Abstract

This study explores the relational dynamics underpinning entrepreneurial coaching, focusing on the pragmatic factors that foster or hinder high-quality relationships between coaches and entrepreneurs. Drawing on interviews with professional coaches and start-up founders, we adopt a qualitative approach informed by Philosophical Pragmatism to reconstruct lived coaching experiences within incubators, accelerators, and entrepreneurship education programs. Findings reveal that relational quality is shaped by distinct and coexisting logics: coaches emphasize professional competence and communicative clarity, while entrepreneurs value authenticity, informality, and trust. Misalignments between support organizations and entrepreneurs' expectations often act as relational barriers. By proposing a revised view of the Working Alliance, which integrates both "hard" (professional) and "soft" (behavioral) components, this study contributes to the entrepreneurial coaching literature and offers practical insights for improving support practices and coach selection criteria within entrepreneurial ecosystems.

Keywords: entrepreneurial coaching, pragmatism, coaching relationship, coaching effectiveness

1. Introduction

Coaching is increasingly recognized as a valuable support tool in entrepreneurial settings, helping founders develop reflective capacity, strategic clarity, and psychological resilience (Audet & Couteret, 2012; Kotte et al., 2021). Especially in early-stage ventures and crisis contexts, it can enhance competencies such as self-efficacy, self-confidence, and self-regulation (Haneberg & Aaboen, 2022; Nair & Blomquist, 2021; Saadaoui & Affess, 2015). Despite growing interest, research on entrepreneurial coaching remains limited and fragmented (Diller et al., 2022), often adopting a positivist lens focused on outcome-based correlations (e.g., Azizi et al., 2023; Grover & Furnham, 2016). This has overlooked the dynamic and co-constructed nature of coaching relationships. Given their importance for coaching success across domains (Bozer & Jones, 2018; Abid et al., 2020; Dobrea & Maiorescu, 2015; Kotte et al., 2021), a deeper understanding is needed. This study addresses that gap by exploring how coaches and entrepreneurs build relational quality within support programs, drawing on Philosophical Pragmatism (Bachkirova & Borrington, 2019) to reconstruct their lived experiences and relational dynamics.

2. Literature Review

Coaching is widely recognized as a transformative support process that develops knowledge, skills, and attitudes to enhance personal and professional performance (International Coaching Federation). In entrepreneurship, coaching supports founders through challenging phases such as early start-up stages (Audet & Couteret, 2012) and business crises (Schermuly et al., 2021), helping them build competencies

for autonomous goal achievement (Kotte et al., 2021). Literature has mainly focused on coaching effectiveness, emphasizing the quality of the coaching relationship as critical (e.g., Bozer & Jones, 2018; Jones et al., 2016). The working alliance model frames this relationship through shared goals, collaborative tasks, and emotional bonds (Baron & Morin, 2009; Diller et al., 2022). This relationship-centered approach enhances skill transfer and entrepreneurial outcomes (Bergman & McMullen, 2021; Sonesh et al., 2015; Azizi et al., 2023). However, the nuanced, dynamic interactions within coaching remain underexplored, limiting insights for designing tailored interventions that reflect entrepreneurs' evolving needs (Bergman & McMullen, 2021).

3. Method

To achieve this study's objective, we adopted a qualitative design based on semi-structured interviews. Data were collected from two groups: 30 professional coaches working systematically with entrepreneurial clients, and 11 start-up entrepreneurs who experienced coaching within incubators, accelerators, or entrepreneurship education programs. This dual perspective offers a comprehensive understanding of the coaching relationship. Coaches were selected through online searches (e.g., websites, LinkedIn) and had to hold formal coaching qualifications such as ICF certification or relevant degrees. Snowball sampling expanded the sample. Entrepreneurs were recruited via certified incubators listed by the Italian Ministry of Business and Made in Italy, with snowball sampling used to reach additional participants. A clear definition of coaching was provided to ensure consistency. This qualitative approach enabled an in-depth exploration of the lived experiences of both groups, often overlooked in deductive research (Neergaard & Ulhøi, 2007). Interviews were transcribed and analyzed using Qualitative Content Analysis (Schreier, 2012), guided by Philosophical Pragmatism to theorize relational dynamics from participants' experiential accounts (Bachkirova & Borrington, 2019). Using abductive reasoning (Jaakkola, 2020), we identified shared patterns, contrasts, and tensions in the coaching relationship.

4. Results

From professional coaches' perspective, the quality of the coaching relationship depends on their ability to clearly communicate coaching's core values, tools, and principles. Before setting specific goals, coaches must manage expectations by explaining what coaching is—and what it isn't. This early clarification, rooted in formal training and the coaching mindset, helps create a supportive environment where entrepreneurs engage cognitively and emotionally in their development. Coaches assess relational quality mainly through professional attributes like credentials, communication skills, and psychological safety, which establish credibility and structure. Entrepreneurs, however, prioritize behavioral and interpersonal qualities such as authenticity, honesty, informality, and practicality. Informality is seen as openness and trust, fostering emotional availability and a partnership dynamic. Barriers to high-quality relationships include unclear definitions of coaching, vague goal-setting, and institutional program constraints that limit flexibility. These misalignments can weaken engagement and reduce coaching effectiveness.

5. Implications

The findings of this study offer original contributions by drawing from a detailed analysis of the lived experiences of both coaches and entrepreneurs, interpreted through the lens of Philosophical Pragmatism (Bachkirova & Borrington, 2019). This perspective anchors the analysis in participants' situated reconstructions of reality, allowing us to access the internal dynamics of entrepreneurial coaching relationships. In doing so, the study enriches existing literature by identifying the elements that concretely constitute relational quality—moving beyond abstract models to examine what actually unfolds in practice during the coaching interaction. A first key contribution lies in showing that, although the quality of the coaching relationship is widely recognized as crucial, its meaning and evaluation differ significantly depending on the perspective adopted. Coaches emphasize competence-based

dimensions—such as formal training, adherence to professional standards, and the ability to convey coaching principles—as fundamental to creating the cognitive and emotional engagement necessary for an effective process. This professional orientation reflects a mindset shaped by education and practice, and it plays a foundational role in constructing a supportive and structured relationship. Conversely, start-up entrepreneurs prioritize behavioral dynamics in their assessment of relational quality. Traits such as authenticity, honesty, accessibility, and above all, *informality*, emerge as central. Informality is not perceived as a lack of rigor but as a marker of trust, flexibility, and emotional proximity. These attributes foster openness and meaningful connection, suggesting that entrepreneurs value a coaching relationship that feels personalized and human, rather than overly procedural. This divergence points to a potential expansion of the current framework of the Working Alliance (Diller et al., 2022). In particular, our findings suggest the need to further elaborate the *bond* dimension of the alliance to account for informal, trust-based, and spontaneous relational dynamics that are especially relevant in entrepreneurial contexts. A second important contribution concerns the identification of barriers that hinder the development of a high-quality coaching relationship. In contrast to much of the existing literature—which has primarily focused on coaching success factors (e.g., Bozer & Jones, 2018)—our study also highlights conditions that limit relational effectiveness. These include a lack of clarity around the meaning and scope of coaching, the setting of generic goals, and—more systemically—the organizational misalignment between support programs and the concrete needs of entrepreneurs. Echoing Carter et al. (2014), we point to how such barriers can constrain the development of trust and engagement. However, our analysis goes further by identifying shortcomings in the institutional design of entrepreneurial support: specifically, a widespread failure to cultivate a coaching culture and to support entrepreneurs in recognizing the potential value of coaching. In light of these findings, we propose a revised conceptualization of the Working Alliance in entrepreneurial coaching—one that integrates a dual structure: a *hard* dimension centered on professional and methodological competence, and a *soft* dimension reflecting the relational qualities most appreciated by entrepreneurs. Practically, these insights can help support organizations improve the effectiveness of coaching interventions by better aligning them with entrepreneurs' expectations, refining coach selection criteria, and fostering a deeper shared understanding of what coaching entails. By bridging the dual perspectives of coaches and entrepreneurs (Cox et al., 2023), this study advances the literature on entrepreneurial coaching. While previous work has often examined these perspectives separately, we demonstrate that distinct sources of relational quality coexist, and that acknowledging this duality is essential to designing more responsive and impactful coaching practices.

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UNPACKING THE TRANSFORMATIVE POWER OF ENTREPRENEURSHIP: EVIDENCE FROM A SYSTEMATIC LITERATURE REVIEW

Research Idea

Place the author information for the final version here using style "Author" as illustrated below (and delete this text before resubmission):

Matteo Opizzi, University of Cagliari, Cagliari, Italy, matteo.opizzi@unica.it

Michela Loi, University of Cagliari, Cagliari, Italy, michela.loi@unica.it

Olivier Toutain, Burgundy School of Business, Dijon, France, olivier.toutain@bsb-education.com

Alessia Pinna, Independent Researcher, Cagliari, Italy, alessia_pinna@outlook.it

Abstract

This study explores the transformative power of entrepreneurship through a systematic literature review (SLR) grounded in the PRISMA protocol and informed by management research methodologies. While entrepreneurship is increasingly recognized for its emancipatory potential, conceptual ambiguity remains regarding what "transformation" entails and for whom. By reviewing literature across disciplines, this work aims to clarify and categorize existing conceptualizations of the transformative power of entrepreneurship. The review process, currently underway, began with 6,254 records from Web of Science®, with inclusion/exclusion criteria being iteratively refined to ensure rigor. The expected contribution is a conceptual framework that identifies key dimensions of transformation in entrepreneurial contexts and highlights unanswered questions. This interdisciplinary review is the first of its kind to systematically map how transformation is theorized in entrepreneurship studies, providing a foundation for future empirical research and practical insights.

Keywords: entrepreneurship; transformative power; systematic literature review

1 Introduction

Entrepreneurship has long been heralded as a catalyst for economic development and job creation (Audretsch & Belitski, 2021; Mueller, 2007). However, in recent years, academic discourse has increasingly turned toward its wider societal impact (Bacq et al., 2022). This emerging perspective positions entrepreneurship not only as an economic activity but also as a potentially transformative force, capable of reshaping individual trajectories, challenging institutional norms, and contributing to systemic change (Jennings et al., 2016; McMullen et al., 2020; Rindova et al., 2009). Despite these broader conceptual developments, research in the field often remains siloed, with limited integration of perspectives from diverse disciplines (Ireland & Webb, 2007). This disciplinary insularity may impede theoretical advancement and limit the broader applicability of findings, as it fosters isolated echo chambers that lack meaningful cross-disciplinary exchange.

Addressing this gap, the present review explores the nature and scope of the transformative power of entrepreneurship. Specifically, it asks: What defines the transformative power of entrepreneurship? Who are the primary beneficiaries and targets of this transformation? Through what mechanisms is this transformation realized? By adopting an interdisciplinary lens, this review aims to reconcile disparate strands of scholarship and lay the groundwork for a cohesive theoretical framework that can inform future empirical research.

2 Rationale for this literature review

Although research on the transformative power of entrepreneurship has expanded, there remains little agreement on its precise conceptual boundaries, that is, what fundamentally defines entrepreneurship as transformative. Scholars have approached this notion from varied angles, with some focusing on individual-level changes (e.g., Al-Dajani & Marlow, 2013; Karlsson, 2024), and others exploring its capacity to alter broader societal structures and institutional arrangements (e.g., McMullen et al., 2020). For instance, entrepreneurship has been framed as a vehicle for emancipation, emphasizing personal agency and resistance to systemic constraints (Rindova et al., 2009), including gendered experiences among marginalized groups (e.g., Jennings et al., 2016). In contrast, other perspectives (e.g., Bailey & Lumpkin, 2023; McMullen et al., 2020) highlight the promising potential of entrepreneurship to instigate institutional transformation within specific communities or organizational contexts, shaped by local dynamics and embedded practices.

Yet, across this growing body of work, definitions of transformative power often remain implicit or are articulated in inconsistent ways, in part due to the interdisciplinary nature of the literature and the variety of theoretical and methodological lenses employed. Research situated outside traditional domains like entrepreneurship, management, or organization studies is frequently sidelined, hampering the integration of knowledge. This fragmentation contributes to conceptual ambiguity and limits the generalizability of findings. As interdisciplinary inquiry deepens, so does the demand for a coherent theoretical framework that can bridge these divides and illuminate the multi-level processes and impacts that characterize entrepreneurship as a phenomenon (Carlile & Carlile, 2004; Ireland & Webb, 2007) (Carlile, 2004; Ireland & Webb, 2007).

3 Methodology

This study undertakes a systematic literature review (SLR), following the PRISMA guidelines as recommended by Moher et al. (2015), complemented by methodological recommendations from (Tranfield et al., 2003), which are particularly suited to literature reviews within management and organizational research. SLRs are especially valuable tools for clarifying and integrating fragmented (and contradictory) scholarly landscapes, such as those found in entrepreneurship research (e.g., Champenois et al., 2020; Radu-Lebèvre et al., 2021). Given the conceptual and disciplinary dispersion surrounding the notion of the transformative power of entrepreneurship, a focused synthesis of this nature is both timely and necessary.

The initial database search returned 6.254 records. These will first undergo a preliminary screening to remove irrelevant entries, followed by a more detailed review against predefined inclusion and exclusion criteria. Drawing on Torraco's (2016) bidimensional model, which examines how core concepts are defined, applied, and measured across studies, this review seeks to map areas of scholarly agreement as well as conceptual divergence. The resulting synthesis will provide a foundation for advancing both empirical research and theoretical development on the transformational capacities of entrepreneurship.

4 Preliminary findings

Preliminary findings indicate that the transformative power of entrepreneurship is enacted across both individual and community levels. Individually, entrepreneurship drives identity development, empowerment, and skill-building, especially in marginalized contexts (e.g., Byrne et al., 2023). At the community level, entrepreneurship facilitates collective organization, supports alternative local

economies, and enables institutional change through cooperative structures and scaffolding mechanisms (e.g., Aversa et al., 2022).

Additionally, early evidence underscores the conceptual overlap between transformative entrepreneurship, social entrepreneurship, and entrepreneurship education. Social enterprises have emerged as key vehicles for systemic change, addressing persistent inequalities in rural–urban transitions (Seelos et al., 2011), often supported by blended financial models. Meanwhile, entrepreneurship education not only imparts skills but also cultivates transformative aspirations, contributing to both personal development and broader community impact (e.g., Klapper & Fayolle, 2023).

5 Implications

This study contributes to entrepreneurship research by offering an interdisciplinary exploration of how the transformative power of entrepreneurship is enacted at both individual and community levels, highlighting that transformative entrepreneurship cannot be fully understood within narrow disciplinary boundaries. Our findings emphasize that transformation through entrepreneurship is multi-dimensional: it requires recognizing these intertwined processes expands the scope of entrepreneurship research beyond economic performance to include social and institutional impact, responding to calls for more inclusive and systemic theorizing.

Practically, the present work has implications for educators, policymakers, and practitioners seeking to harness entrepreneurship as a tool for societal change. For educators, integrating transformative competencies into entrepreneurship curricula can help cultivate more empowered and socially aware entrepreneurs. For policymakers, designing support mechanisms that enhance not only venture creation but also collective capacities for resilience and innovation is critical. For practitioners and social entrepreneurs, understanding the multi-level nature of transformation can better inform scaling strategies that combine individual empowerment with systemic impact.

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THE ISOMORPHIC CLOCK: PHYSICAL AND COGNITIVE DIMENSIONS IN THE TIMING OF SMES' INITIAL PUBLIC OFFERINGS

Short Paper

Martina Gaia Faletti, Università Cattolica del Sacro Cuore, Milan, Italy, martinagaia.faletti@unicatt.it
Chiara Frigerio, Università Cattolica del Sacro Cuore, Milan, Italy, chiara.frigerio@unicatt.it
Federico Rajola, Università Cattolica del Sacro Cuore, Milan, Italy, federico.rajola@unicatt.it

Abstract

The analysis of factors influencing Initial Public Offerings (IPO) timing represents an area of intersection intertwining organizational theory and finance literature. The present study examines the time-related dynamics characterizing the listing decisions of Small and Medium Enterprises (SMEs), focusing on dimensions of proximity as potential determinants of the time elapsed between the IPO decision of different companies. We employed a dyadic approach with data gathered from the "Analisi Informatizzata delle Aziende Italiane" (AIDA) database and Borsa Italiana documents. Results show that physical proximity acts as a driver, reducing the timing differences between IPO decisions, and same-sector affiliation bridges physical distance barriers, whilst retaining a negative standalone effect. These findings contribute to the understanding of isomorphic pressures in shaping firms' behavior, introducing or disrupting conformity.

Keywords: Organization theory, Isomorphism, SMEs, IPO, Proximity.

1 Introduction

In the academic literature, stock market listing events are portrayed to be influenced by both exogenous and endogenous firm factors. Exogenous factors comprise macroeconomic elements such as market cycles and the "*windows of opportunity*" phenomena (Ibbotson & Jaffe, 1975; Ritter, 1984); endogenous firm characteristics include the firm's ownership and governance structure, financial traits, and strategic features.

While research focuses primarily on financial outcomes and drivers for IPO underwriting, the role of different proximity dimensions in influencing the time-relatedness of the patterns of public offerings remains relatively unexplored, especially in organizational literature and in the SME context. Therefore, the present study aims to shed light on the unexplored drivers of strategic coordination in IPO decisions, responding to the theoretical gap in understanding how proximity dimensions influence the time-related patterns of isomorphic behavior in SMEs, particularly given the increasing interest from authorities in capital market development in bank-centric economies, where institutional and social mechanisms may exert a greater influence on firm demeanors.

We adopt a dyadic approach methodology (Mascia *et al*., 2018) to analyze how physical distance and sectoral similarity between pairs of companies may determine the time-related differences between their respective listings.

Our results indicate that physical and regional proximity effects are significative but behave in an opposite way; while geographic distance increases IPO timing differences, same-industry firms tend to space their IPOs further apart Belonging to the same industry acts as a moderating force, offsetting the

effects of physical proximity: firms might choose to delay the IPO in order to avoid competition or pursue a differentiation strategy,

2 Theoretical Background

From an exogenous perspective, IPOs have long been observed to be subjected to cyclicity (Ritter, J. R., 1984): the strategic timing of the phenomenon is a systemic feature of the IPO markets, characterized by periods of high activity and strong performance ("*hot markets*") followed by periods of relative quiet ("*cold markets*"). Traditionally, the hypothesis of a "*window of opportunity*" suggests that companies show an interest in timing their IPOs to take advantage of favorable market conditions to raise capital, being that investor sentiment is strong (Ibbotson & Jaffe, 1975). The decision to remain private or open up to the market represents a strategic choice based on endogenous factors as well. Particularly, smaller firms approach IPO timing and market conditions with distinct patterns: they seem to be particularly dependent on IPOs to obtain capital to fund continued growth, and tend to rely more heavily on the behavior of other "*good*" firms which have chosen to go public as an indicator of good timing, making them sensitive to peer firm activity compared to larger firms (Brau & Fawcett, 2006).

Research on organizational decision-making processes has evolved from traditional financial perspectives toward more complex sociological explanations emphasizing institutional forces and social dynamics. While financial scholars have analyzed IPO timing primarily through market conditions and firm-specific attributes, organizational theorists have increasingly focused on other mechanisms driving strategic decisions. The change encompasses the display of peer effects among closely related firms (Aghamolla & Thakor, 2022; Capaldo & Petruzzelli, 2014) and represents a departure from traditional frameworks emphasizing industry-wide or market-wide sentiment as the primary drivers of strategic development. A particularly influential framework for understanding these mechanisms is institutional isomorphism, which explains how organizations within a field tend to adopt similar structures and practices through the three key mechanisms (DiMaggio & Powell, 1993): mimetic isomorphism, coercive isomorphism, and normative isomorphism.

Isomorphic behavior can enhance organizational legitimacy, providing strategic benefits beyond pure economic efficiency; firms that conform to institutionalized practices gain greater access to resources (Deephouse, 1996). The diffusion of organizational practices follows patterns shaped by isomorphic pressures, spreading through populations of organizations in ways reflecting both rational behavior and social influence (Strang & Soule, 1998). Proximity, both physical and cognitive, operates as a critical accelerator of the diffusion process, determining how likely some organizations are to influence other's strategic decisions. The understanding of organizational imitation has been further refined through the identification of three distinct modalities: frequency-based (copying prevalent practices), trait-based (copying practices of organizations with specific features), and outcome-based (copying practices that appear to yield successful outcomes), each of which may operate (Haunschild & Miner, 1997).

2.1 Dimensions of Proximity

Drawing from the body of literature dedicated to the study of organizational behavior, proximity dimensions have been studied in a perspective concerning the innovation among networks, identifying five distinct typologies that influence inter-organizational relationships: geographical, cognitive, organizational, social, and institutional proximity (Boschma, 2005). While each dimension operates through different mechanisms, they collectively shape how organizations interact and impact each other's behavior. Organizational learning depends on the role of proximity operating through routines and legitimacy, more than intention or consequentiality (Nelson & Winter 1982), falling into a purposeful adaptive behavior, where firms imitate other successful ones whilst looking for success. History dependency and the interpretation of the past (Lindblom, 1959) are incremental adaptations in response to past outcomes, transforming into inferences and routines to successfully guide behavior. Changes result from experience inside a community of learning organizations, depending on interpretations of history and target outcomes. The process of constructing this memory stems from a process called *diffusion*; conceptualized differently across different literature domains. In epidemiology,

diffusion can be defined as broadcasting to a population, which may be represented by the rules promulgated by governmental agencies and unions. The diffusion by contact may involve routines learned by contact among organizations, and business visits represent one of these examples (Piva *et al*., 2018).

In its physical dimension, proximity influences organizational learning through different mechanisms. From the perspective of information networks and knowledge spillovers, physical distance hinders formal and informal information exchange between organizations (Jaffe *et al*., 1993). Proximity enables knowledge transfer, as some types of knowledge are territorially bounded and difficult to transfer across distances. Inside a local business community, natural networks are created where information flows easily through direct interaction, shared resources, and common social spaces, which make knowledge spillovers important for strategic decisions requiring understanding of processes and outcomes. Temporal differences in adoption decisions can be further explained through the lens of institutional pressures that vary depending on regional contexts and governance structures. Previous research on healthcare innovation suggests that while theoretical predictions emphasize the importance of spatial proximity, empirical findings reveal more complex patterns where professional networks may override spatial considerations (Mascia *et al.,* 2018).

Physical distance likely influences the timing difference in organizational listing decisions, facilitating institutional conformity; DiMaggio & Powell's (1983) three mechanisms of isomorphism: coercive, mimetic, and normative, suggest different ways that locational closeness can accelerate market entry timing. First, territorial proximity strengthens mimetic isomorphism by offering organizations more immediate and comprehensive information about peer listings. The capacity to witness and comprehend the implementation of strategies by neighboring firms reduces the uncertainty, speeding up the decision process.

Very close physical proximity should compress temporal separation through intensified institutional pressures and embedded network relationships. However, these effects may weaken or even reverse at extreme levels of spatial closeness if organizations become excessively homogeneous and lack the diverse connections necessary for exposure to novel practices.

Considering the implications of the literature discussed above, the following hypothesis can be elaborated:

H1*: Higher physical proximity between two organizations reduces the timing difference in their market entrance events.*

Cognitive similarity between organizations increases the predictability of practice adoption patterns, with cognitively proximate organizations exhibiting more consistent and rapid imitative behaviors than those in different cognitive domains. Cognitive proximity modulates isomorphic tendencies, creating adoption patterns that reflect both legitimacy-seeking and technical efficiency considerations (Kraatz & Zajac, 1996).

Proximity is multidimensional: its cognitive counterpart, cognitive proximity, is defined as the potential similarities in the perception, interpretation, and evaluation of knowledge of actors, implying that actors sharing the same knowledge base are better able to learn from each other (Boschma, 2005; Nooteboom *et al*., 2007). The cognitive dimension can operate independently of geographic constraints, creating industry-specific isomorphic patterns that transcend regional boundaries (Marquis & Glynn, 2007). A key theoretical insight emerges from what scholars have termed the "proximity paradox" (Broekel & Boschma, 2012): while some degree of proximity is necessary for effective knowledge transfer and learning, excessive proximity, particularly in the cognitive dimension, can impede innovation adoption and knowledge creation, leading to the Goldilocks Principle (Fitjar et al., 2016).

The mechanisms of knowledge transfer between organizations can influence the timing difference in diffusion; however, organizations must possess sufficient absorptive capacity, which is directly related to their cognitive proximity with the innovation source. Organizations with aligned cognitive frameworks can recognize more quickly the value of new practices and understand how to implement them effectively, thereby reducing the time-related dimension for market entrance, based on previous knowledge (Cohen & Levinthal, 1990; Zahra and George, 2002). Physical proximity serves as a catalyst

for knowledge spillovers by enabling frequent interaction and social embedding (Roche *et al*., 2022). However, the value of physical proximity in reducing the diffusion process is not uniform but rather moderated by the degree of cognitive proximity between organizations. When organizations share high cognitive proximity, the importance of physical proximity diminishes. The previous relationship is particularly evident in technology-intensive sectors, where shared technical knowledge can overcome physical distance barriers (Davis & Greve, 1997). While organizations with high cognitive proximity can effectively transfer knowledge regardless of location, physical proximity becomes increasingly important for knowledge transfer between organizations with greater cognitive distance. This complementarity helps explain why some organizations can promptly adopt innovations from distant peers while others require close physical proximity to facilitate effective knowledge transfer.

The theoretical framework suggests that temporal intervals are fundamentally determined by the dynamic interaction between different dimensions of closeness. The influence of physical distance varies based on knowledge similarity between organizations, with territorial proximity being most valuable in compressing timing differences when knowledge similarity is moderate.

Considering the implications of the literature discussed above, the following hypotheses can be formulated:

H2a*: The effect of physical proximity on the timing difference between market entrance events is moderated by cognitive proximity, such that the relationship between physical proximity and timing difference is weaker when cognitive proximity is high.*

H2b*: Organizations pertaining to the same sector and market exhibit reduced timing differences in their capital market debuts, reflecting market-specific isomorphic pressures that accelerate strategic timing.*

While organizational theory has extensively examined isomorphic tendencies in various contexts, a significant theoretical void exists in understanding how proximity dimensions influence the temporal patterns of isomorphic behavior in market listing decisions. Current frameworks primarily address whether firms exhibit mimetic behavior in listing decisions but lack a comprehensive examination of how territorial closeness and cognitive proximity modulate the temporal dynamics of institutional isomorphism (DiMaggio & Powell, 1983; Kraatz & Zajac, 1996). Considering how different forms of proximity can interact, the creation of complementary and/or substitute effects in timing still represents a relevant gap to be covered. The mechanisms through which proximity dimensions influence the pace of isomorphic adoption in public markets remain underexplored despite established connections between geographic proximity and institutional pressure transmission (Marquis & Glynn, 2007; Piva et al., 2018). Proximity could affect all three isomorphic mechanisms simultaneously, creating multifaceted interaction effects that current organizational frameworks do not fully capture (Haunschild & Miner, 1997).

The research framework (See Figure 1) depicts the relationships between the dependent and independent variables taken into consideration.

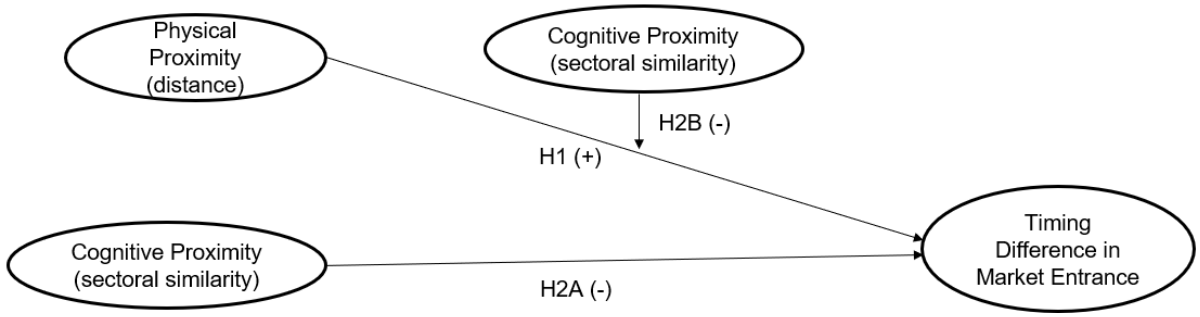


Figure 1. Research model.

3 Methodology

3.1 Setting

The Italian market landscape, characterized by the presence of regional industrial districts, provides a robust setting for examining IPO decisions and studying how proximity shapes organizational learning and isomorphic behavior. IPO activity has declined in the last years in Italy: the limited market participation underlines a underlines deeper cultural and organizational characteristics of Italian SMEs, embedded in a bank-centric model.

3.2 Data and Variables

The current study assesses a sample of Italian SMEs conducting IPOs on the EXM, EGM, formerly AIM/AIMMA markets, from January 2015 to December 2024. Data integrates information from Borsa Italiana's official database and corporate data from AIDA. Following established methodologies in network studies, a dyadic analytical approach was adopted where the unit of analysis is a pair of firms (dyad), generating $N*(N-1)/2$ possible pairs, in a context of market adoption (Boschma & Frenken, 2010; Marsden & Campbell, 2012; Garcia-Pont & Nohria, 2002; Gang Peng *et al.,* 2014). From the initial sample of 233 valid companies, the pairs were constructed considering firms going public within a two-year temporal window, generating 12,609 pairs. Pair-level filtering then removed 2,991 pairs (23.7%) lacking complete data, resulting in a final analytical sample of 9,618 companies.

The dependent variable was operationalized as the timing difference between IPO events, measured as the absolute time-related distance in days between the listing dates of two companies in each dyad: $T = |IPODatei - IPODatej|$, where $IPODatei$ and $-IPODatej$ represent the respective listing dates, taking inspiration from the methodology of Mascia *et al.* (2018).

Physical proximity was measured through complementary indicators: physical distance (linear distance in kilometers between companies' registered offices, calculated using the Haversine formula to account for Earth's curvature) (von Graevenitz *et al*., 2021), and regional co-location (binary variable indicating whether companies are located in the same administrative region). Cognitive proximity was captured through sectoral similarity (Garcia et al., 2018) (binary variable indicating whether companies operate in the same sector based on the first two digits of ATECO codes).

The model employed an OLS regression model to examine the patterns of time separation, controlling for multiple dimensions of organizational and contextual factors. Size effects were captured through a binary similarity measure (50% revenue ratio similarity), temporal controls included a COVID-period dummy (2020-2022) to account for pandemic-era market disruptions. The interaction term between physical distance and sectoral similarity was included to test the moderating effect of cognitive proximity on territorial proximity's influence (from Model 3 onward).

4 Results

The study revealed mixed results: the dynamics resulting from the effects of isomorphic pressures on adoption timing are complex and interdependent (See Table 1: regression results Model 4). The Physical Proximity variable (distance) showed a statistically significant but modest positive effect, supporting H1: each additional kilometer of separation added approximately 0.03 days to the timing differences between IPOs. However, the cumulative effect was more evident for firms located further apart (e.g., Milan-Naples ~770km), experiencing timing differences of approximately 23 additional days.

H2a was not supported by the findings: contrary to more simplistic imitation theories, firms pertaining to the same sector showed longer time-related differences in their IPO decisions (+16.8 days), reinforcing evidence for strategic differentiation, where similar companies space market entries to avoid direct competition.

Institutional embeddedness, operating through regional networks, promoted synchronized strategic decision-making, reflected in the Same-region variable with shorter timing differences (-12 days).

Different types of proximity work through compensatory mechanisms: the interaction term between geographic and cognitive proximity appeared negative and significant, suggesting that the role of cognitive proximity is to mitigate the coordination challenges posed by physical distance. Even in the absence of spatial closeness, firms can retain the capacity of strategic alignment when they share similar industry-specific knowledge bases. The result, therefore, supports H2b and implies distinct strategic timing considerations: among geographically proximate firms, those operating in different sectors tend to cluster their IPOs, whereas same-sector firms exhibit greater temporal spacing, possibly to avoid direct comparison or competitive signaling. When geographic distance increases, alignment in IPO timing is stronger among firms within the same sector than among those operating in different sectors. This crossover effect emerges at approximately 221 kilometers, marking a threshold at which the relative influence of cognitive and geographic proximity shifts.

The findings suggest that when one form of proximity is lacking, another can play a compensating role: proximity in one dimension (cognitive or market alignment) can overcome distance in another dimension (physical separation), creating alternative avenues for knowledge transfer and strategic influence (Capaldo & Petruzzelli, 2014; Roche et al., 2022).

To confirm the model's reliability, robustness checks including Variance Inflation Factor (VIF) analysis, Ridge/LASSO regression, and White's heteroskedasticity tests were employed (See Figure 2: Correlation Matrix). The COVID-19 period showed modest timing compression effects (+2.3 days), while size similarity demonstrated minimal impact (+1.5 days). Regional proximity emerged as the strongest institutional factor, confirming that territorial embeddedness creates powerful coordination mechanisms that operate independently of sectoral or size-based similarities.

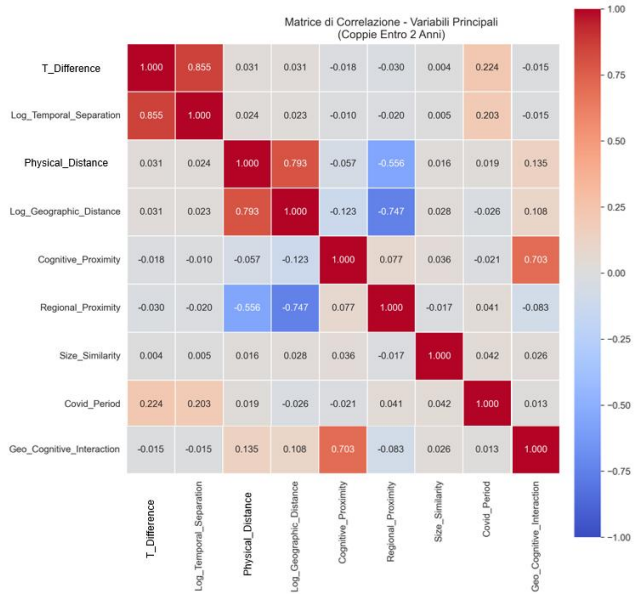


Figure 2. Correlation Matrix.

Variable	coef	std err	t	P>|t|	[0.025	0.975]
const	73,268	3,84	19,08	0	65,741	80,795
Geographic_Distance	0,0283	0,007	3,787	0	0,014	0,043
Cognitive_Proximity	16,7604	8,483	1,976	0,048	0,132	33,389
Regional_Proximity	-11,9647	3,901	-3,067	0,002	-19,612	-4,318
Geo_Cognitive_Interaction	-0,0759	0,026	-2,906	0,004	-0,127	-0,025
Size_Similarity	1,4729	3,126	0,471	0,638	-4,654	7,6

Covid_Period	2,3008	2,872	0,801	0,423	-3,328	7,93

Table 1. Regression Results (Model 4).

5 Conclusion and Further Developments

While this analysis demonstrates correlations between physical and cognitive proximity and IPO timing, causal interpretations require further study. A directionally oriented dyadic approach, designating firms as "leaders" and "followers," would help to better distinguish leadership effects from imitation (Shi, 2023).

The tension between clustering and spacing of IPOs highlights competing imitation and differentiation mechanisms worthy of investigation. In this instance, research should also examine regional ecosystem effects. This is because institutional structures within industrial districts create knowledge networks influencing strategic timing beyond geographical distance. Additionally, future research studying how proximity effects evolve across different macroeconomic periods through longitudinal approaches would enhance understanding of these dynamics.

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EMPOWERING USERS IN THE AGE OF GENAI: THE ROLE OF EXPLAINABILITY IN AI DECISION SELF-EFFICACY

Short Paper

Marco Smacchia, University of Chieti-Pescara, Pescara, Italy, marco.smacchia@unich.it

Abstract

This study examines the role of explainability in shaping user interactions with Generative AI systems. Drawing on prior frameworks, the research investigates how causability influences explainability and how explainability affects user perceptions of transparency, fairness, and accountability. It is further explored how these perceptions shape trust, engagement, and, ultimately, AI decision self-efficacy. Additionally, it analyses how AI literacy moderates the relationship between user perceptions and trust. Employing a quantitative research design with PLS-SEM analysis, data will be collected from professionals who use GenAI tools. By extending existing research on Explainable AI to the emerging field of Generative AI, this study contributes to understanding how system features and individual differences influence psychological outcomes in human-AI interaction. The findings will offer insights for designing more transparent AI systems and developing interventions to enhance users' confidence in making AI-supported decisions.

Keywords: PLS-SEM, Explainable AI (XAI), Artificial Intelligence, Generative AI, AI fairness

1 Introduction

Over the past decade, our daily lives have become increasingly intertwined with automated systems. Chatbots, virtual assistants, predictive analytics and computer vision are examples of the profound advancement driven by Artificial Intelligence (AI), which has reshaped the way we interact with technology (Haenlein & Kaplan, 2019). AI's growing influence is visible across all levels of society. Researchers, industry professionals, policymakers, and the public are increasingly engaging with AI as this technology could be implemented in diverse sectors. This technological hype has been particularly pronounced with the advent of Generative AI (GenAI), tools capable of producing text, images, and synthetic video content. Tools such as ChatGPT, which attracted millions of users shortly after launch, have shown AI ability to handle a broad spectrum of tasks with surprising fluency and accuracy (Banh & Strobel, 2023; Qin et al., 2023).

Despite the variety of ways AI can be defined, a widely recognised and comprehensive interpretation comes from Haenlein and Kaplan (2019), who describe AI as "a system's ability to interpret external data correctly, to learn from such data, and to use those learnings to achieve specific goals and tasks through flexible adaptation" This definition emphasises not only the learning ability of AI but also its adaptability, a feature that has been vastly enhanced by recent advances in data accessibility, processing power, and machine learning techniques. Moreover, the exponential increase of data, combined with significant improvements in computational capabilities, has further expanded the scope of AI technologies. Today, AI systems are deployed across every sector, addressing complex problems and executing a wide range of tasks (Collins et al., 2021; Shobana & Kumar, 2015; Tsai et al., 2015).

Considered one of the core technologies of digital transformation (Xu et al., 2018), AI is now embedded within numerous organizational processes across companies and governments, affecting both decision-making and automation capabilities across diverse functional areas (D'Cruz et al., 2022). Considering the relevance and influence of AI technology, growing attention is being directed toward the ethical

integrity of its outputs, particularly with regard to the avoidance of discriminatory practices and unfair biases (Hunkenschroer & Luetge, 2022; Mehrabi et al., 2021). Despite its potential to solve complex problems, AI, when inadequately designed, developed or deployed, can inadvertently reinforce structural inequalities, undermine fundamental rights, and create social and economic disparities (Hoffmann, 2019). In some instances, it not only reproduces existing forms of discrimination but introduces novel forms of injustice that were previously absent. In addition, the widespread adoption of AI by both public and private institutions amplifies the breadth of ethical risks as algorithmic decisions increasingly influence more people. These aspects raise pressing concerns regarding fairness, transparency, and accountability in automated systems (Zuiderwijk et al., 2021).

These risks are further increased in so-called "black box" systems, particularly those powered by deep-learning algorithms, including recent GenAI models such as Claude, ChatGPT, or Gemini. These solutions are often characterised by a high degree of computational opacity, making it difficult to understand how specific outputs or decisions are generated (Barredo Arrieta et al., 2020; Preece et al., 2018). This lack of explainability can undermine users' ability to evaluate the reliability, fairness, and appropriateness of the system's responses. As a result, it may significantly influence how individuals engage with, trust, and ultimately rely on these AI systems in decision-making contexts (Barredo Arrieta et al., 2020; Zhu et al., 2018). This aspect is especially relevant since user interaction with AI is shaped not only by the presence of explanations but also by how users interpret and understand them. As Shin (2021) argues, the interplay between explainability and causability plays a dual role in shaping trust and fostering acceptance. Explainability enables transparency, accountability, and fairness, while causability provides a conceptual basis that allows users to assess the relevance and credibility of AI decisions. Despite growing interest, research on how Explainable AI (XAI) impacts users is still in an evolving stage. There is a need to deepen the understanding of how different dimensions of explainability shape users' relationships with AI, particularly in contexts where such decisions affect human lives (Barredo Arrieta et al., 2020). Moreover, there is also the need to explore the role of explainability in the context of emerging AI technologies, such as generative and deep learning-based systems, where opacity and complexity present new challenges for user trust and comprehension (Shin, 2021).

Starting from these assumptions, this paper aims to explore how causability, explainability, and users' perceptions of transparency, fairness, and accountability influence trust, user engagement, and, ultimately, AI decision self-efficacy in GenAI interactions. Furthermore, the study examines the role of AI literacy in shaping user perceptions of algorithmic systems (Leichtmann et al., 2023). More specifically, the objective of the study is to answer the following research questions:

RQ1: How does explainability influence user perceptions and trust in Generative AI systems, and how do these perceptions shape engagement and AI decision self-efficacy?

RQ2: How does AI literacy influence the way users interact with and respond to explainable Generative AI systems?

This study advances the current discussion on XAI, by adapting the model proposed by Shin (2021) to the GenAI context and exploring the relationship between technical system features (explainability), individual differences (AI literacy), user perceptions, and behavioural outcomes (trust, engagement, and self-efficacy).

2 Literature review

This paragraph outlines the relationships among the constructs presented in the model (Figure 1), building upon the conceptual framework originally proposed by Shin (2019).

Causability and Explainability (H1). Causability is a concept that denotes the extent to which a human can understand and make use of an AI system's explanations (Shin, 2021). Explainability refers to the extent to which an AI system can provide clear and understandable explanations about how it arrived at a specific outcome (Dignum, 2023; Preece et al., 2018; Zhu et al., 2018). Both concepts are strictly related. Explainability is a property of the AI system, whereas causability is an aspect of the human-AI interaction. Designing AI systems to support user sense-making (high causability) will enhance the

perceived explainability of the AI. Shin (2021) provides empirical support for this relationship, conceptualizing causability as an antecedent of explainability and finding that causability.

H1: Causability positively influences the explainability of AI systems.

Explainability and user perceptions (H2 – H4). Literature in responsible AI demonstrated that making AI decisions explainable has a positive effect on users' perceptions of the system's transparency, fairness, and accountability. These elements are relevant for user trust and acceptance of algorithmic systems (Schoeffer et al., 2022; Shin, 2021; Shin & Park, 2019). Transparency refers to openness and visibility into how decisions are made, fairness to the absence of discriminatory results in AI outcomes, and accountability implies that the actions of the system can be attributed and audited (Shin & Park, 2019). When an AI provides clear explanations for its outputs, users are more likely to feel informed about why a decision was made and to judge the process as procedurally fair and responsible (Shin, 2021). Indeed, empirical studies have found that providing more explanation or information about an AI decision process positively affects these perceptions. For example, Schoeffer et al. (2022) showed in an automated decision-making context that increasing the amount of explanation significantly improved participants' perceived "informational fairness," which in turn enhanced perceived trustworthiness. Shin's (2021) research, in particular, suggests that explainable AI systems improve fairness, transparency and accountability to otherwise opaque algorithms.

H2: Explainability positively influences perceived transparency of AI systems.

H3: Explainability positively influences perceived fairness of AI systems.

H4: Explainability positively influences perceived accountability of AI systems.

Perceived Transparency, Fairness, Accountability, and User Trust and Engagement (H5–H7). If users believe an AI system is fair in its outcomes, transparent in process, and accountable for its actions, they are more likely to trust the system (Shin, 2021; Shin & Park, 2019). High trust, in turn, encourages greater engagement. Users are more willing to rely on, use, and interact with the AI. Shin and Park (2019) found evidence supporting this assumption: in their study of algorithmic services, users' perceptions of fairness, accountability, and transparency had a positive influence on user trust, which then influenced their use and adoption of the services. Moreover, in an organisational setting, an AI system that is considered fair and transparent is less likely to encounter user resistance. Users will be more inclined to integrate it into their workflows (Ehsan et al., 2021).

H5: Perceived transparency positively influences trust in AI systems.

H6: Perceived fairness positively influences trust in AI systems.

H7: Perceived accountability positively influences trust in AI systems.

User Engagement and AI Decision Self-Efficacy (H8 – H10). The model reports that through increased engagement and trust, users will gain higher AI decision self-efficacy. Self-efficacy refers to the confidence individuals have in their capacity to successfully manage and respond to challenges by drawing on their own abilities and competencies (Bandura, 1977). As users engage more with an AI system in a trusting manner, they gain experience in interpreting its outputs and integrating them into their decisions. Over time, these successful interactions serve as mastery experiences, enhancing users' confidence in their ability to work with AI (Chen et al., 2025). For instance, a user who frequently utilises an explainable AI tool to assist with decisions and recognises that they can understand and effectively apply the AI's explanations will feel more confident in making AI-supported decisions in the future. Moreover, trusting the AI allows the user to learn from it and be more confident about their decisions rather than remain sceptical or disengaged (Shahzad et al., 2025). In the context of organisational AI, studies have noted that trust in an AI advisor can improve users' willingness to rely on it, which, over time, can increase their sense of competence in that domain (Li et al., 2024).

H8: Trust positively influences user engagement with AI systems.

H9: User engagement positively influences AI decision Self-Efficacy.

H10: Trust positively influences AI decision Self-Efficacy.

AI literacy role (H11 – H13). The final set of hypotheses addresses AI literacy, which refers to the user's knowledge and understanding of AI systems and how it influences the relationship between perceptions of the AI system and trust. From a cognitive perspective, an AI-literate user understands how AI systems operate, enabling them to more readily interpret the system's outputs and recognise signs of bias or opacity. This may lead to a greater comprehension of transparency and fairness features, resulting in higher perceived transparency, fairness, and accountability. A recent study exploring explanation effects discovered that participants with higher self-assessed AI literacy perceived an automated decision system as significantly fairer and more trustworthy, given the same explanations, when compared to less literate participants (Schoeffer et al., 2022). According to Schoeffer et al. (2022), individuals' AI literacy positively influenced their perceived informational fairness regarding an AI-driven decision, indicating that knowledgeable users believed the AI provided adequate information and thus assessed it as fairer. Likewise, Mayer et al. (1995) suggest that knowledge plays a significant role in enhancing trust, as reduced uncertainty makes trustworthiness easier to evaluate. An AI-literate user may have a better understanding of the AI processes involved in delivering a specific outcome, leading them to perceive the system as more transparent, fair, and accountable. Empirical evidence indicates that users with greater AI knowledge or training tend to report higher trust in and satisfaction with AI systems across various domains (Huang & Ball, 2024).

H11: AI literacy positively moderates the relationship between perceived transparency and trust in AI.

H12: AI literacy positively moderates the relationship between perceived fairness and trust in AI.

H13: AI literacy positively moderates the relationship between perceived accountability and trust in AI.

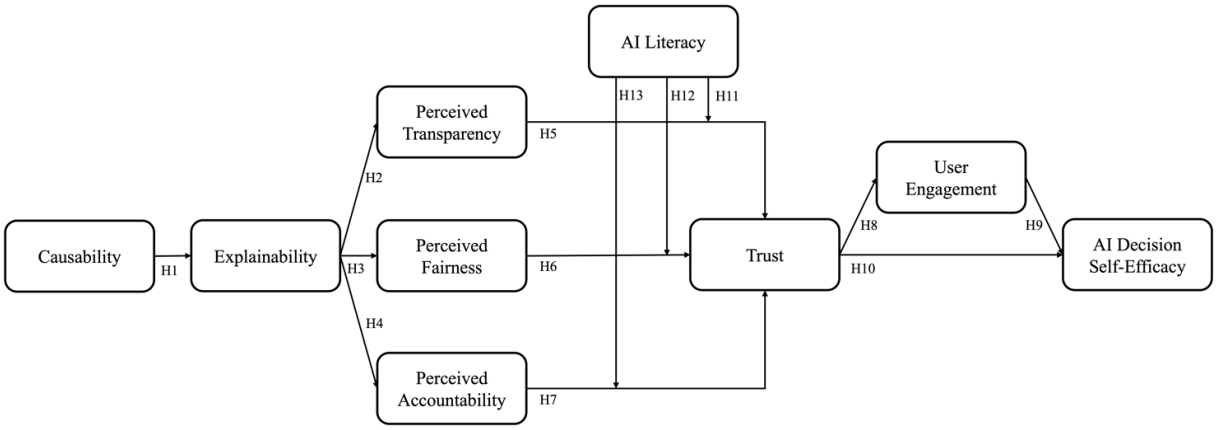


Figure 1. The Influence of AI Explainability on Users' AI Self-Efficacy

3 Methodology

This study adopts a quantitative, cross-sectional research design to empirically examine the relationships between explainability and causability, user perceptions (perceived transparency, fairness, accountability), and psychological outcomes (trust, user engagement, and AI self-efficacy). The conceptual framework is tested using Partial Least Squares Structural Equation Modeling (PLS-SEM), which is employed in this study given its suitability for theory-driven, prediction-oriented research involving complex structural models with multiple constructs and paths. It is particularly appropriate when the aim is to explore theoretical extensions, as in this study, which integrates established constructs (e.g., explainability, trust) with less commonly used ones, such as AI self-efficacy. The approach is also suitable when dealing with relatively small to medium sample sizes and non-normal data distributions (Hair et al., 2019).

Data will be gathered through an online survey aimed at professionals with experience using GenAI tools. A non-probabilistic purposive sampling method will be employed to ensure that respondents actively utilise GenAI technologies. The survey will be shared via academic mailing lists, professional networks, and social media platforms.

All constructs will be measured using multi-item Likert-type scales adapted from prior validated studies. The item from Shin (2021), will be used to measure the first part of the model concerning H1 to H7. User engagement will be measured using an adapted version of the scale developed by O'Brien et al. (2018). AI decision self-efficacy and AI literacy will be assessed using scales adapted from Wang & Chuang, (2024) and Lee & Park (2024), respectively, with the latter specifically designed to capture user competencies in interacting with Generative AI tools.

4 Expected results and contribution of the research

This study is motivated by the growing need to understand how users interact with increasingly complex artificial intelligence systems, particularly in the context of GenAI (Shin, 2021). While XAI has been widely studied in recent years, much of this research has focused on traditional algorithmic decision-making systems. In contrast, GenAI models such as ChatGPT or Claude present new challenges in terms of opacity, user interpretation, and responsible integration. As these tools become more embedded in professional and personal decision-making processes, it becomes relevant to explore how users perceive and engage with them and how these interactions influence aspects such as engagement and self-efficacy.

As the study is in its early stage of development, the primary aim is to test the proposed theoretical model using PLS-SEM. The expected results include positive associations between explainability and the main perception constructs, which in turn are expected to enhance trust and engagement, ultimately contributing to increased AI self-efficacy. AI literacy is also anticipated to play a significant role in shaping these perceptions.

The study could contribute to the literature by extending XAI research to the domain of GenAI, incorporating self-efficacy as a novel outcome, and offering practical insights into how system design and user education can jointly enhance meaningful and responsible human-AI interaction. Moreover, the study could offer guidance for managers and policymakers by emphasising the role of AI literacy in shaping confident, informed, and ethical use of generative technologies.

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BEYOND INDIVIDUAL COMPETENCES TOWARDS COLLECTIVE INTELLIGENCE: A SYSTEMATIC LITERATURE REVIEW

Research Idea

Ilenia Bua, University of LIUC – Carlo Cattaneo, Castellanza, Italy, ibua@liuc.it
Eliana Minelli, University of LIUC – Carlo Cattaneo, Castellanza, Italy, eminelli@liuc.it
Andrea Pontiggia, University of Ca' Foscari, Venice, Italy, andrea.pontiggia@unive.it

Abstract

A new research stream on Collective Intelligence (CI), defined as a "group's general ability to perform consistently well across a wide variety of tasks" began in 2010. Subsequent empirical research presents a mixed picture and the term has been entrusted with many synonyms. Overall, CI appears to be a phenomenon that is inherently complex and difficult to define. While the term is widely used across various disciplines, ranging from organizational studies to artificial intelligence, there remain a lack of consensus on its precise definition. The aim of this article is to clarify the concept of the CI and offering a new definition that highlights all the components of the CI through a systematic literature review (SLR). From SLR of 400 papers concerning the objectives of the study, the key areas of focus, theoretical models, and research gaps are identified. Future research avenues are suggested.

Keywords: Collective Intelligence, Organizational Learning, Teamwork, Learning Process, Systematic Literature Review.

1 Introduction

As organizations grow more complex, we often wonder: what kinds of intelligence enable them - intentional systems of people and resources - to achieve their goals, and how do these intelligences operate? An organization can be seen as a collective of individuals pursuing a shared purpose. While individual intelligence is essential for purposeful action, it is worth asking whether the sum of individual intelligences alone guarantees effective organizational performance. It may be necessary - but not sufficient. The literature has addressed the concept of organizational intelligence, understood as an organization's ability to generate knowledge and use it strategically to adapt to its environment (Halal, 1997). However, today, boundaries have become limitations rather than protection. In the current phase of global hypercompetition - marked by the integration of digital technologies into products and services - competitive advantage is increasingly built by shaping the digital environment through value co-creation within a network of interconnected firms (Kock & Windsperger, 2017). Even the definition of social intelligence (Thorndike, 1920) presents a partial view of the intelligence organizations develop to fulfill their goals, as it focuses only on human relationships. This raises doubts about whether individual intelligence is the only form that matters. These models of intelligence do not adequately address the growing environmental complexity in which organizations operate, nor do they tackle the challenges of human-machine interaction - especially in a competitive context where innovation, in all its forms, results from co-creation within a network of organizations characterized by their available resources.

In this scenario, Collective Intelligence (CI) gains importance due to its ability to transcend rigid boundaries and open up to relationships mediated by digital technologies.
A digital platform-based business model is a clear example of how CI is captured and nurtured to produce a multiplicative effect on participants' innovation capabilities. This is achieved through platform design rules and standards that have evolved over time to support the expansion of the platform's core functionalities (Tiwana, 2014).
In a de-structured and loosely bounded environment like that of a digital platform, a multitude of individuals - who may not know each other - are called to collaborate. In such contexts, the concept of CI becomes especially relevant. It plays a central role when, in the absence of a formal organizational structure, it becomes necessary to connect people with diverse skills and attributes in order to pursue a shared objective.
A review of the literature has helped refine the definition of CI and highlight a level often overlooked in organizational research: the inter-group level. CI involves not only internal (intra-group) dynamics but also interactions between groups (inter-group), which has significant operational implications for assessing the quality of inter-group collaboration.
Our study explores the concept of CI through a systematic literature review. First, we aim to clarify its conceptual boundaries by identifying the core components that enable it to function. Second, the study provides a basis for operationalizing the concept, in order to strengthen organizations' ability to navigate the complexity of the competitive environment. Finally, the study contributes to the ongoing debate on the various levels and types of intelligence by proposing an operational definition of CI.

2 Theoretical Background

The popularity of the CI research area has increased significantly, especially considering the digitalization of production processes and more recently the advent of Artificial Intelligence (Berditchevskaia et al., 2022). The term CI was introduced by Charles Spearman in 1904 starting from general intelligence and taken up by Woolley et al. (2010), that have transposed it from an individual dimension to a group dimension. Since this period, the various applications of CI have expanded across a broad range of research fields, including sociology, psychology, biology, management, economics, and computer science, among others (Malone & Bernstein, 2015). Woolley et al. (2010) definitively take up the concept of CI by investigating no longer a purely individual dimension but a group dimension. This last step is fundamental in the definition of this construct because previously CI was seen as a combination of different individual intelligences that together led to CI, but the focus always remained on the individual. Subsequently, Woolley et al. (2010) move from this more individual assumption to study CI in its entirety, at the group level, bringing the individual dimension to a secondary level.
A first relevant point is the persistent lack of clarity about the meaning of CI. Intelligence itself remains vaguely defined, though most literature agrees it represents a general cognitive ability involving information processing and environmental adaptation (Schlinger, 2003). Our investigation aims to provide a relevant contribution to the literature on CI. First, we aim to clarify the boundary of CI, which means we will define the components that activate CI. In addition, our work provides new theoretical insights, meaning that we are introducing fresh perspectives or ideas that can deepen the understanding of CI. Thus, we propose a potential refinement of the CI definition. This means that we might suggest an updated definition of CI based on our findings. Therefore, our concept of CI is that of a dynamic process that implies the ability of individuals to adapt suitably and flexibly to a variety of routines, successfully overcoming the challenges that arise from the context. Indeed, always based on our definition CI is not merely additive but multiplicative of the individual capabilities. The interaction between individuals within a group can lead to synergistic effects, where the combined abilities result in outcomes that would not be possible if the individuals worked independently. Additionally, the group must be capable of integrating and utilizing these differences productively. Thus, because of the multiplicative effect raised by CI, the group should be able to leverage the individual differences and manage differing opinions and possible conflicts.

3 Methodology

A Systematic Literature Review (SLR) is chosen because, compared to a narrative literature review, this methodology represents a more impartial, transparent, and reliable process for planning, conducting, and reporting a literature review (Tranfield et al., 2003). The primary intention of this paper is to analyse the state of the art regarding the topics of CI. Guided by the research question: "How can we define Collective Intelligence in Organizational studies?", this analysis aims to explore the scope and depth of the academic discourse on these topics. The researchers explored the Web of Science database alongside Google Scholar using the search keywords shown in Figure 1.

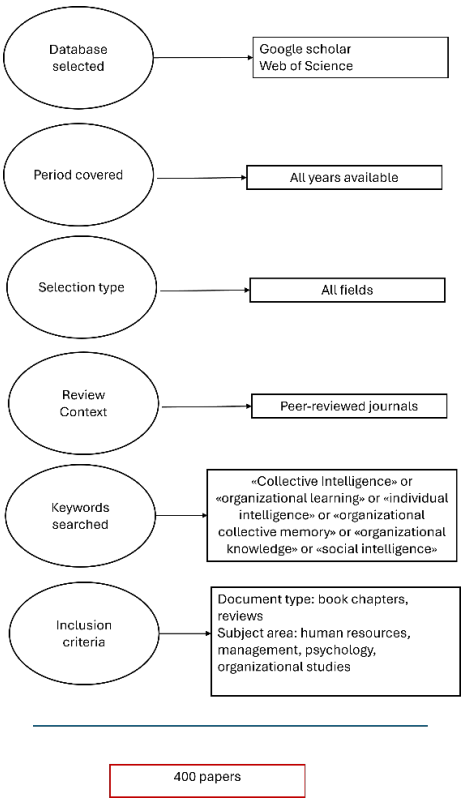


Figure 1. Sample extraction procedure.

4 Findings

It is possible to state that CI has been analysed under three main strands.

The first is the psychological and sociological one, starting from the studies of Glynn (1996) who sees organizational intelligence (a construct, in those years, studied as a synonym of CI) functioning in an identical way to individual intelligence. There are then some developments with Shankar & Tewari (2021) who compare CI to collective emotional intelligence, paying attention not to the process of collecting and using information to achieve a goal but to the emotions that are triggered in the interaction between people. A second trend that sees the development of CI is that of computer science. Szuba (2001) and then Bonabeau (2009) were the first to explore the term in this context, fundamentally defining decision-making as a process that can be broken down into two tasks: generating potential solutions and evaluating them. Each of these tasks can be negatively affected by various human biases. A prime example of the power of numbers is the development of open-source software.

The third and final strand is the organizational one and it is the strand that also sees the most overlap between CI and other constructs such as knowledge management (Boder, 1996) and organizational learning/intelligence (term also taken from psychology). In this stream of research, authors such as Riedl & Woolley deserve a special focus (Riedl et al., 2021; Woolley et al., 2023). Woolley et al. (2023) first of all no longer looks only at individual intelligence but at group intelligence, precisely collective. In fact, they defined CI as "the team's ability to work together across a wide range of tasks and can vary significantly between teams". To focus even more on the team aspects, they examine how team structure leads to different behavioural manifestations of collective attention as evidenced in team speaking patterns. In summary, we decided to formulate our own definition of CI, since all the previous definitions do not take into account the recent developments in the field, nor do they reflect the changes in social, technological, and cultural dynamics that have influenced its practical application. Therefore, CI can be defined as: an ability that manifests when individuals are able to learn and/or adapt routines and implies overcoming their individual limits through collaboration and the support of the various skills and knowledge within the group. So, CI is a multiplicative process, not simply an additive one.

5 Discussion

This study stresses the need to better understand the components of CI, recently recognized as a distinct group trait reflecting the ability to perform complex tasks. CI shows that collaboration enables teams to solve problems more effectively than individuals, provided that conditions such as openness and psychological safety are ensured (Edmondson, 2019). Defining CI requires clarifying what *collective* and *intelligence* mean. Collectives differ from groups by their complexity and decentralized interaction. CI begins with individual abilities and unfolds through collaboration, where shared learning amplifies potential and leads to outcomes beyond individual capacities. As a multiplicative process, CI emerges through collective results rather than isolated moments, introducing uncertainty that leaders must learn to manage.

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MANAGING ARTIFICIAL INTELLIGENCE AND TECHNOSTRESS IN SEARCH OF GOOD ORGANISATIONS

Short Paper

Raffaele Silvestre, University of Naples Parthenope, Napoli, Italy, raffaele.stilvestre@collaboratore.uniparthenipe.it

Mauro Romanelli, University of Naples Parthenope, Napoli, Italy, mauro.romanelli@uniparthenope.it

Maria Ferrara, University of Naples Parthenope, Napoli, Italy, maria.ferrara@uniparthenope.it

Abstract

This study aims to model the relationships between independent variables AI- implementation, techno-eustress, techno-distress and organisational support and the impact on dependent variable productivity to understand if an organisation that has, or not has, implemented AI-technologies, are more or less near the ideal organisational typology and to design the possible path to maximize AI-implementation, techno-eustress and organisational support and to minimize techno-distress impacting positively on productivity. The methodology refers to the Typology Analysis which may allow us to define a Typology Model with theoretical organisational typologies on the basis of the cases described and identified in the contributions emerging from the literature. The result is a four-dimensional-typology model that allows us to identify sixteen different organisational typologies.

Keywords: Artificial Intelligence, Technostress, Productivity, Typology Analysis.

1 Introduction

The use of Artificial Intelligence (AI) technologies is increasing worldwide. Lee *et al.* (2023) state that organisations are increasingly adopting, implementing and using the AI-technologies in carrying out their activities. According to IEEE guide (2017) AI refers to "the combination of cognitive automation, machine learning, reasoning, hypothesis generation and analysis, natural language processing, and intentional algorithm mutation producing insights and analytics at or above human capability" (p.12). Recently, there are several studies on AI. Hashem *et al.* (2024) focused on potential burnout that may arise for teachers due to a progressive and incremental use of Artificial Intelligence technologies in education in the United Arab Emirates, in search of possible solutions to address and solve this problem.

The use of AI-technologies may exert influence on the technostress within organisations. Tarafdar *et al.* (2007) have stated that technostress is activated when an individual, in an organisational context, encounters difficulties in following and dealing with the continuous changes that occur in information and communication technologies, in acquiring increasingly new physical, social and cognitive requirements necessary for their use. Technostress is "the stress caused by the use of IS in the work-place" (Tarafdar *et al*., 2024, p. 51). Furthermore, techno-eustress explains how "individuals appraise IS as challenging or thrilling, and experience consequent "good" stress which motivates them to engage in coping behaviours that lead to positive outcomes" (Tarafdar *et al.*, 2019 p.13), while techno-distress explains "the processes by which individuals appraise IS as a threat, experience consequent "bad" stress, and are faced largely with detrimental outcomes" (p.13).

Since techno-distress and techno-eustress can derive from the use of technologies with repercussions also on productivity, job satisfaction, health and well-being of workers and managers (Tarafdar *et al.*, 2014; Tarafdar *et al.*, 2007; Tarafdar *et al.*, 2019), the use of AI-technologies may produce both techno-distress causing job dissatisfaction, low productivity and malaise, and techno-eustress with regards to promoting more productivity, job satisfaction and well-being. In this sense, Verma *et al.* (2024) have analyzed the stress induced by the principles of responsible artificial intelligence by focusing on the negative and positive consequences of technostress with regards to psychological impact, and to workers' performance and well-being.

Few studies still model the relationships between AI-implementation, techno-distress, techno-eustress and organisational support and their impact on productivity of workers and managers. Understanding how organisations are able to support and design policies that contribute to maximising techno-eustress and minimise techno-distress, by improving productivity and implementing AI within work processes helps lead to identifying several organisational typologies. Therefore, after the analysis of the papers collected, we developed and described a typology model capable of explaining the possible relationships between AI-implementation, techno-distress, techno-eustress, organisational support and productivity capable to identify different theoretical organisational typologies on the basis of these dimensions and their combinations. The organisational support refers to the way by which the organisation materially, immaterially and emotionally supports their workers and managers in achieving their objectives, by promoting their well-being, job satisfaction and productivity with regards to Eisenberger *et al.* (1986) who have defined, specifically, the perceived organisational support, and to Statt (2004) who defined the productivity as "The rate of output of a worker or a machine" (p. 121). AI implementation and use may influence the stress related to use of technology. Therefore, we tried to answer the following research questions: what are the relationships between AI-technologies, technostress and organisational support and their impact on productivity in business context? What are the emerging organisational typologies, and the ideal one that maximizes productivity, considering as independent variables AI-implementation, techno-distress, techno-eustress and organisational support and as dependent variable productivity?

2 Theoretical background

In the literature on the relationships between AI, techno-distress, techno-eustress and organisational support in business, medical-healthcare, consumer and educational-training sectors there are some contributions that offer interesting insights. Verma *et al.* (2024), and Alkhayyal and Bayaba (2024) refer to the use and functions of Artificial Intelligence, Virtual and Augmented Reality and Metaverse in organisational, working and professional contexts, with possible consideration of the risks associated such as technostress. Lv, Li andWang (2025) refer to AI and Avatar, Virtual and Augmented Reality and Metaverse in consumer context with consideration of technostress and possible use of the hybrid SEM-ANN approach. Doost and Zhang (2024), James, Umoren, Ekong, Inyang and Aloysius (2024) refer to AI in order to study and manage technostress and emotions. Issa, Jaber and Lakkis (2024), and Grüning, Wolf and Trenz (2024) refer to AI, Virtual and Augmented Reality and Metaverse in medical-healthcare context with consideration of AI-responsibility signals and the related disadvantages such as technostress. Pagán-Garbin *et al.* (2024) and Khan *et al.* (2024) refer to AI, Virtual and Augmented Reality, Metaverse and Technostress in the educational-training context with possible consideration of the impact on productivity and performance, with possible use of machine learning algorithms. Zhang, Slade and Pantano (2024) refer to the use of robots, chatbots and Vrchat and possible technostress and Robostress. Daneshfar *et al.* (2023) refer to work from home, technostress, techno-stressors, computational metaphor and computer criticism, Artificial Intelligence, other new technologies and the potential impact in terms of productivity, self-efficiency and/or continuance intention.

Verma *et al.* (2024) have described the potential impact of work exhaustion on employee performance and well-being due to difficulties, concerns and uncertainties related to AI excessive use. Cram *et al.* (2022) have analyzed the way by which the two forms of algorithmic control with reference to drivers

of Uber, gatekeeping algorithmic control and guiding algorithmic control, which correspond to the challenge techno-stressors and the threat techno-stressors, defined how, at an organisational and managerial support level, "by enhancing challenge techno-stressors and minimizing threat techno-stressors, gig economy organisations can contribute to the cultivation of a more committed workforce" (p. 446). The aim of this study is to develop a model that helps us to identify several potential organisational typologies that can arise from a combination of the values of AI-implementation, techno-distress, techno-eustress and organisational support as independent variables, even if technostress in turn depends on AI-implementation as well as on other technologies, and the productivity as dependent variable.

3 Methodology

We developed a model capable of describing, summarizing and explaining the possible configurations that an organisation could assume in business sector considering, as independent variables, AI-implementation, techno-eustress, techno-distress and organisational support and, as dependent variable, productivity to understand the ideal typology that can allow to maximize it. Using the Typology Analysis and, considering the works of Doty and Glick (1994) and Valbuena *et al.* (2008), the papers on the topic in business sector were analyzed. The independent and the dependent variables were identified and described. Regularities in the relationships between them were identified. After, we developed the typology model identifying different theoretical organisational typologies in which the dependent variable assumes a certain value, but only the ideal one realizes its maximization. The research methodology relies on identifying different variables, making a distinction between independent and dependent variables, and identifying the relationships between dependent and independent variables in order to develop a typology model in relation to the productivity as dependent variable, and to identify the ideal organisational typology able to maximize productivity, eustress and high AI-implementation.

4 Results

The variables emerged most frequently in the literature, in an organisation that operates in business sector and that implemented, or intends to implement, AI-technologies, are: AI-implementation, techno-eustress, techno-distress and organisational support as independent variables and productivity as dependent variable, to be maximize, among which it was possible to detect regularities also in the relationships. We considered, as maximization of a variable, the achievement of the maximum possible value that the variable, in the conditions and on the basis of the independent variables, can reach and it isn't possible to go further without modifying the structural conditions. Therefore, once this maximum level is reached, a further maximization could result either in an invariability or even in a reduction of the dependent variable under the same structural conditions, according also to Varian (2002) with reference to the concept of decreasing marginal productivity.

Based on these premises, and indicating with β and $1/\beta$ how much a variable varies as a function of others, the first relationship identified is between AI-implementation and technostress. Technostress depends positively from AI-implementation with new technologies that influence the techno-stressors (Techno-overload, Techno-invasion, Techno-complexity, Techno-insecurity and Techno-uncertainty) causing techno-distress when individuals perceive AI as a threat, and/or techno-eustress when they perceive AI as a challenge, as also theorized by Tarafdar *et al.* (2019) with reference to technologies in general. In turn, technostress influence AI-implementation because techno-distress could favour a negative perception of AI, while techno-eustress could favour a positive perception of AI.

The second relationship is between AI-implementation and organisational support with the latter that influences, positively, AI-implementation to facilitate the achievement of the goals just as AI-implementation influences, positively, organisational support stimulating the need to optimize, through greater support, the management of these technologies, as emerged in Fu (2022).

The third relationship is between organisational support, techno-distress and techno-eustress during the use of AI. It is positive between organisational support and techno-eustress and negative between organisational support and techno-distress, as emerged in Cram *et al.* (2022).

The fourth relationship is between productivity and AI-implementation. Productivity depends positively from AI-implementation because, as innovative technologies, they will favour productivity stimulating curiosity and creativity. Furthermore, high productivity, linked to AI, will encourage further AI-implementation increasing again productivity (Kumar *et al.*, 2023; Choudrie *et al.*, 2023).

With reference to the relationship between productivity and technostress, it is different according to the sign of technostress: negative between techno-distress and productivity with the first that would demotivate and discourage the actors with negative repercussions on the second; positive between techno-eustress and productivity with the first that, creating a challenge and motivation, would incentivize the actors with positive effects on productivity (Tarafdar *et al.*, 2007). It would be possible, also, to deduce an impact of productivity on technostress because more productive actors could optimize the impact of technostressors maximizing techno-eustress and minimizing techno-distress, and viceversa.

Finally, considering the relationship between productivity and organisational support, emerged how a support, to optimize AI and technostress, impacts positively on productivity, as emerged in Cram *et al.* (2022). While, greater productivity is encouraging greater investments in actions leading to further increase in productivity.

Starting from these relationships, and considering the maximization of productivity, we identified, in our model, as dependent variable the productivity and, as independent variables, AI-implementation, techno-eustress, techno-distress and organisational support.

Furthermore, we deduced that productivity depends positively from AI-implementation, techno-eustress and organisational support, and depends negatively from techno-distress.

The multiple regression formula identified is:

- Productivity= $\varepsilon + \beta_1$AI-implementation + (β_2Techno-eustress - β_3Techno-distress) + β_4Organizational support + $\mathcal{E}$
  where β indicates how much the dependent variable varies as a function of independent variables and the formula of maximization of productivity is:
  max Productivity= ε + [max (β_1AI-implementation) + max (β_2Techno-eustress) – min (β_3Techno-distress) + max (β_4Organizational support) + $\mathcal{E}$

Considering this formula and these relationships, we can define the following hypothesis:

H1: If the organisation is willing to maximize productivity, it must maximize AI-implementation, techno-eustress and organisational support and minimize techno-distress.

At this point, we implemented a typology model that is able to define the different organisational typologies from the intersection between theoretical high and low values that independent and dependent variables can assume in a four-dimensional-space.

5 Discussion

In this Typology Model, there are sixteen organisational typologies that could emerge.

Zen Garden: low AI-implementation, low techno-distress, low techno-eustress and low organisational support. Recalling the formula described above for productivity, its level is acceptable in a calm situation without the positive charge of AI-technologies, techno-eustress and organisational support and without the negative effects of techno-distress.

Euphoric Mansion: low AI-implementation, low techno-distress, high techno-eustress and low organisational support provide medium-low productivity.

Orchard Garden: low AI-implementation, low techno-distress, low techno-eustress and high organisational support provide low productivity.

Euphoric Mansion Carousel: low AI-implementation, low techno-distress, high techno-eustress and high organisational support provide medium productivity.

Haunted Mansion: low AI-implementation, high techno-distress, low techno-eustress and low organisational support provide low productivity.

Haunted Euphoric Mansion Carousel: low AI-implementation, high techno-distress, high techno-eustress and high organisational support provide medium productivity.

Haunted Mansion Carousel: low AI-implementation, high techno-distress, low techno-eustress and high organisational support provide low productivity.

Haunted Euphoric Mansion: low AI-implementation, high techno-distress, high techno-eustress and low organisational support provide low productivity.

Cybernetic Jungle: high AI-implementation, high techno-distress, low techno-eustress and low organisational support provide low productivity.

Cybernetic Carousel: high AI-implementation, high techno-distress, low techno-eustress and high organisational support provide medium-low productivity.

Cybernetic Jungle: high AI-implementation, high techno-distress, high techno-eustress and low organisational support provide medium productivity.

Cybernetic Carousel: with high AI-implementation, high techno-distress, high techno-eustress and high organisational support provide high productivity.

Automatic Home: high AI-implementation, low techno-distress, low techno-eustress and low organisational support provide medium-low productivity.

Cybernetic Carousel: high AI-implementation, low techno-distress, low techno-eustress and high organisational support provide medium-high productivity.

Cybernetic Jungle: high AI-implementation, low techno-distress, high techno-eustress and low organisational support provide high productivity.

Futuristic Oasis: high AI-implementation, low techno-distress, high techno-eustress and high organisational support is the ideal organisational typology where productivity reaches optimal levels.

6 Conclusions

There are theoretical and practical implications. The typologies help understand that organisations are transitioning from traditional work places to AI-driven and human-machine-led working spaces, identifying several ways in managing the complex relationships between AI-implementation, techno-stress and productivity. Managers could interpret and use the model to understand how the organisation is proceeding and where the organisation is going by introducing and implementing AI-technologies in work processes, by assessing the degree of techno-stress with regards to benefits for employees and productivity. The typologies provide a means that helps management to assess the degree of organisational maturity and awareness in embracing and integrating AI-technologies within work processes and spaces in order to design work organisation in order achieve benefits for employees and organisational performance, so understanding which initiatives and actions have to be realized to achieve the ideal typology of *Futuristic Oasis* able to maximize productivity, investing in organisational arrangements such as a department able to promote the AI-implementation and in charge of managing all questions, problems and doubts emerging from human work and intelligence, and AI, and supporting education and training that enable the employees to handle AI-technologies, identifying incentives that stimulate the employees to deal with AI challenges. With regards to limitations, the AI topic is in continuous evolution, so the contribution will

require to be constantly updated. Furthermore, this study is considering only some variables and contexts. Scholars can conduct research and field investigations to modify or expand the model, and then to use the model to interpret the data gathered by questionnaires and interview, and considering cultural differences. Only some variables and factors have been considered to simplify the reality. Further research perspectives will refer to empirical studies in order to investigate the role of personality traits, personal factors, cultural context and organisational culture with regards to employees working and dealing with AI.

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RECONCEPTUALIZING GENAI ADOPTION IN HIGHER EDUCATION: A MULTIDIMENSIONAL FRAMEWORK

Short Paper

Marwa Chaieb, University of Sousse, Sousse, Tunisia, chaiebmr@gmail.com
Roberta Cuel, University of Trento, Trento, Italy, roberta.cuel@unitn.it
Rym Bouzaabia, University of Sousse, Sousse, Tunisia, rymb060@gmail.com

Abstract

Generative Artificial Intelligence (GenAI) is rapidly transforming higher education, yet its adoption by educators varies. Unlike prior studies focused on students, this research explores how educators integrate GenAI into their work, using job design as a lens. Grounded in Technology Acceptance Model (TAM), Task Technology Fit (TTF), and Job Characteristics Model (JCM), the study examines how skill variety, task identity, and autonomy affect GenAI acceptance. Interviews with 20 educators reveal that GenAI adoption depends not only on usefulness and ease of use but also on perceptions of autonomy and professional identity—offering new insights into technology adoption in academia.

Keywords: GenAI Adoption; Higher education; Technology Acceptance Model; Task technology fit; Job Characteristics Model

1 Introduction

GenAI is emerging as a crucial instrument in the domains of knowledge creation and professional practices (Peres et al., 2023) and its assimilation within higher education entails both potential advantages and obstacles where theoretical frameworks intersect with practical application. GenAI enhances efficiency in research tasks, but also fundamentally reshapes academic responsibilities, pedagogical strategies and instructional methodologies (Nguyen-Trung et al., 2024; Rogers et al., 2024). Educators demonstrate a spectrum of receptiveness, with a subset embracing GenAI as a stimulus for creativity, while others concern about creativity, ethics and professional identity (Butson & Spronken-Smith, 2024; Kurtz et al., 2024).

Prevailing technology adoption frameworks, including the Technology Acceptance Model (TAM) and Task-Technology Fit (TTF), emphasize perceived usefulness and task congruence, neglecting the ways in which GenAI reconfigures workflows, task identification, and professional independence (Mishra et al., 2023). This study employs a constructivist paradigm, asserting that knowledge and instructional practices are subject to evolution through cognitive and social dynamics, thereby influencing educators' perceptions regarding the integration of GenAI. Utilizing Autor's (2013) task typologies, this research explores the ramifications of GenAI on educators' non-routine analytical activities (e.g., research, curriculum design), routine cognitive responsibilities (e.g., grading, citation management), and non-routine interpersonal engagements (e.g., mentorship, academic collaboration). The degree to which GenAI fosters or detracts from creativity, task identification, and skill diversity within education demands further investigation. To address this gap, this study seeks to investigate:

- How does the perceived fit between GenAI capabilities and specific tasks influence educators' willingness to adopt it?
- How do skill variety, task identity, and autonomy shape GenAI adoption decisions?

By extending beyond traditional adoption models, this study applies the Job Characteristics Model (JCM) to explore the evolving nature of task design in AI-enhanced education. Using a qualitative,

(Mittal et al., 2024; Yang et al., 2024) exploratory approach, it captures educators' experiences, offering insights into the pedagogical and institutional implications of GenAI adoption.

2 Literature review

In the context of higher education, GenAI has primarily enhanced efficiency, accessibility, personalized learning experiences, particularly in areas such as automated grading, adaptive learning systems, and administrative support (Bahroun et al., 2023). GenAI further amplifies these functions by enabling real-time content creation and promoting critical thinking among educators (Mittal et al., 2024; Yang et al., 2024).

2.1 Technological Adoption frameworks and their constraints

To comprehend the mechanisms by which educators assimilate GenAI into their professional practices, researchers often depend on established frameworks of technology adoption (Kizilcec, 2024). Despite models such as the TAM and TTF provide essential insights into adoption behaviors, they inadequately capture the dynamic evolution of job roles and the transformation of tasks within the context of higher education (Granić & Marangunić, 2019). TAM fails to consider the fundamental transformations that AI engenders in task execution and professional autonomy (Pakarinen & Huising, 2023). For instance, while an educator may regard ChatGPT as advantageous for the generation of lecture materials, this fundamentally modifies their conventional role in content creation, transitioning their position from knowledge creator to content curator (Cooper, 2023). This might lead to the reconfiguration of tasks or a transformation in professional identity (Gibson et al., 2010).

Proposition-1: Perceived usefulness alone is insufficient to predict GenAI adoption; task identity and autonomy act as moderating factors in the adoption process.

The TTF model (Goodhue & Thompson, 1995) has been applied in educational settings to explore the role of AI in functions such as grading, reference management, and administrative automation—areas where AI aligns well with structured, repetitive tasks (Zawacki-Richter et al., 2019). While TTF effectively explains technology adoption for well-defined, procedural activities, it falls short in addressing the transformative impact of AI on educators' cognitive and creative work (Chen et al., 2020; Kizilcec, 2024). Emerging AI tools for research, such as ResearchRabbit and Elicit, do more than optimize existing workflows—they fundamentally reshape academic practices, raising concerns about over-standardization and the erosion of originality (Burger et al., 2023).

Proposition-2: GenAI integration is most prevalent in routine cognitive tasks; however, it encounters resistance in non-routine analytical and interpersonal activities, where concerns about autonomy and originality are more pronounced.

Unlike TAM and TTF, which primarily focus on technology acceptance and task alignment, the JCM (Hackman & Oldham, 1976) provides a broader perspective on how job design influences adoption behaviors (Riaz & Mushtaq, 2024). Although JCM is not traditionally employed in the context of technology adoption (Medcof, n.d.; Venkatesh et al., 2010; Xu & Lu, 2022), we propose its integration with TAM and TTF to capture dimensions of intrinsic motivation and overall job performance (Chavarnakul et al., 2024).

Proposition-3: Educators are more inclined to adopt GenAI when it enhances skill variety and autonomy but tend to resist it when it undermines task identity.

2.2 Implications for Creativity, Innovation, and Strategic Thinking

GenAI tools—such as ChatGPT, Bard, and Canva GenAI—enable educators to streamline content creation, supporting tasks like developing case studies, generating innovative classroom activities, and producing visual assets or prototype designs (Vinchon et al., 2024). While these applications can significantly enhance creative capacity, they also raise concerns about homogenization and the possible erosion of originality.

Proposition-4: GenAI enhances creative efficiency in educational contexts; however, it also raises concerns about the preservation of originality and the potential diminishing of critical depth in the ideation process.

GenAI tools such as PredictAI, JasperAI, and ResearchRabbit offer valuable support to educators by aiding in the synthesis of research data for case discussions, simulating real-world consumer behavior scenarios through AI-generated insights, and generating predictive models for student projects. While these tools enhance the efficiency of research and analysis, they lack contextual judgment and industry-specific intuition, which can result in misinterpretations of market dynamics (Chan & Hu, 2023).

Proposition-5: The integration of GenAI in higher education is most effective in tasks involving structured, data-driven processes, but faces resistance in areas that rely on human judgment and domain-specific expertise.

Educators have adopted AI-enhanced tools such as HubSpotAI, SEMrushAI, and Google's Bard for automated generation of content, but at the same time they voice concerns regarding the potential deskilling of students who might develop an excessive reliance on GenAI (Hyde et al., 2024). Furthermore, insights produced by AI may inadequately address cultural nuances and emerging trends, thereby constraining their relevance in global contexts.

Proposition-6: GenAI is transforming education by automating data analysis and content creation; however, overreliance on these tools may undermine critical thinking and contextual decision-making skills.

Drawing upon Autor's (2013) classifications of tasks, the implementation of GenAI is contingent upon the specific characteristics of the tasks involved:

Task type	**Role of GenAI in Marketing Education**	**Transformation of educators' work**	**Challenges and theoretical considerations**
Non-routine analytical	AI-powered data analytics, automated content creation, and predictive modeling for consumer behavior studies (e.g., ChatGPT, Bard, DALL·E)	Augments research efficiency and ideation, but still requires human validation	Risk of AI-generated inaccuracies, loss of deep critical engagement (Autor, 2013)
Routine cognitive	AI-assisted grading, syllabus generation, and automated citation management	Reduces time spent on repetitive tasks, allowing educators to focus on higher-order marketing strategy coaching	Over-standardization of learning materials, diminished educator control over content personalization (Goodhue & Thompson, 1995)
Non-routine interpersonal	AI chatbots for student inquiries, AI-driven tutoring for adaptive learning	Facilitates student involvement but is unable to emulate industry mentorship, strategic branding seminars, or client-oriented consulting initiatives	Ethical concerns over AI-driven bias, reduction in human-to-human interaction (Radanliev, 2025)

Table 1: AI's Impact on Task Categories in Education.

3 Methodology

This qualitative study adopts a constructivist approach to explore educators' perceptions and experiential use of GenAI in professional practice. Twenty educators from Europe and North Africa were purposively selected for diversity in roles, institutions, and AI expertise. Participants, ranging from lecturers to full professors, had 2–20+ years of experience and varying AI familiarity (having formal AI

training, being self-taught, or low exposure). Their primary teaching responsibilities covered consumer behavior, branding, digital marketing, and research methods.

Semi-structured interviews (≈1 hour) were conducted via Google Meet/Zoom, focusing on GenAI's impact on teaching practices and roles, investigating benefits and challenges. Interviews were audio-recorded, transcribed verbatim, anonymized, and analyzed using Braun & Clarke's (2006) six-step thematic analysis. Saturation was achieved after 18 interviews, 2 more confirmed stability.

To ensure rigor, two researchers cross-checked coding and resolved differences collaboratively. Triangulation with existing literature validated findings, offering a nuanced understanding of GenAI in higher education.

4 Findings

4.1 Impact of Skill Variety, Task Identity, and Autonomy on GenAI Adoption

This study identifies skill variety, task identity, and autonomy—as outlined in the JCM—as key factors influencing GenAI adoption among educators. Interviews revealed that GenAI impacts educators' task execution, sense of ownership, and decision-making, while task significance and feedback played a limited role in adoption behaviors.

- Task significance remains largely unaffected, as educators continue to view their roles as central to student learning and professional development, regardless of GenAI integration. Participants acknowledged AI's role in automating tasks (Chan & Hu, 2023; Hyde et al., 2024).
- Task identity is highly valued, particularly by educators who derive meaning from designing learning experiences and mentoring. Concerns arise over AI-generated materials potentially undermining educators' roles as knowledge creators (Farrelly & Baker, 2023).
- Autonomy emerged as a critical driver of GenAI adoption. Educators emphasized the importance of retaining control over curriculum design and instructional methods. Adoption is more likely when GenAI is perceived as a supportive tool rather than a directive imposed by institutional policy (Kizilcec, 2024). Mandated AI use, in contrast, is often met with resistance due to perceived restrictions on professional freedom.

JCM	Adoption level	Testimonials
Task significance	Non differentiating	Ed17: "While AI may take on some tasks in creating content, it certainly doesn't diminish the importance of my role in helping students navigate the complex world of responsible marketing choices." Ed14: "Absolutely! While AI can offer automated feedback on assignments [using Likewise], I truly value the insights gained from engaging discussions, evaluations of case studies, and reviews of real-world projects […] AI simply cannot replicate in a meaningful way".
Task identity	Concerns arise over AI-generated materials potentially undermining educators' roles as knowledge creators	Ed11: "If AI begins to take the lead in developing difficult branding case studies and crafting comprehensive digital strategy models, I find myself thinking whether I will continue to play a pivotal role in shaping the marketing expertise of my students, or if I will simply be overseeing content that has been generated by AI, which could lead to a change in my involvement and influence in their learning journey". Ed6: "Whenever I'm working on putting together marketing materials, I totally rely on AI to help me out with the initial drafts, but you know what? I always go back and tweak them a bit to make sure they really hit home in terms of being relevant and feeling genuine."
Autonomy	The adoption is beneficial if it	Ed7: "I utilize AI to help create marketing materials, and I am the one who chooses what elements to keep and what requires further enhancement. If

	guarantees autonomy	AI begins to dictate our course content, we may risk losing our capacity to adapt to changes in the industry effectively […]". Ed8: "I rely on AI to help create content, but I ultimately choose what to keep and what requires further improving." Ed18: "AI can help in producing organized content, but if organizations order uniform AI-generated resources, it overlooks the distinctive teaching approaches and industry knowledge we offer to our students." Ed20: "These tools lack flexibility, making it difficult to integrate current market changes, emerging technologies, and evolving consumer behaviors into lesson planning. I think educators need the freedom to modify and contextualize content beyond the constraints of AI."

Table 2: AI adoption across JCM.

4.2 GenAI capabilities and task types

Educators perceive GenAI as:

- Well suited for routine cognitive tasks where it effectively optimizes repetitive activities—such as grading or formatting—allowing educators to focus on more complex academic responsibilities.
- Selectively useful in non-routine analytical tasks. While AI supports literature organization and initial drafting, educators stress the need for human oversight due to concerns about content depth and accuracy.
- Largely unsuitable for non-routine interpersonal tasks such as mentorship, industry collaboration, and classroom interaction. Educators argue that GenAI lacks in human intuition and adaptability, strategic reasoning, and contextual sensitivity required for these engagements.

These findings align with TTF model, which suggests higher adoption when technology aligns with structured and well-defined tasks (Peres et al., 2023; Rogers et al., 2024). However, the resistance in non-routine context underscores the moderating role of Task Identity, as outlined by JCM. Educators resist GenAI when it is seen as diminishing their expertise, creative authorship or professional autonomy (Al-Abdullatif, 2024). These findings reaffirm autonomy as a critical factor in educators' decision to adopt GenAI.

Task Type	**Adoption Level**	**Reasons for Adoption or Resistance**	**Theoretical Link**	**Testimonials**
Routine Cognitive (Grading, Admin Tasks)	High	GenAI improves efficiency and reduces workload in repetitive academic tasks	Task-Technology Fit (TTF)	Ed5: "Now that I've made lesson planning and quiz creation way easier, I can get these things done a lot faster, which means I've got more time to really chat with my students about cool market trends […]." Ed2: "I'm really relieved [...] I no longer need to dedicate endless hours to formatting citations or creating meeting agendas […], focusing on […] innovativeness and thoughtfully case studies that can truly elevate my students' learning experiences."
Non-Routine Analytical (Research,	Selective	AI speeds up work but requires	Skill Variety (JCM)	Ed3: "ChatGPT accelerates the organization of literature reviews and research concepts but requires validation and critical evaluation, particularly in digital marketing trends."

Content Creation)		human oversight for industry relevance		Ed12: "AI can totally be a super handy tool […], but it often tends to miss those really important little details […] it might just spit out some pretty basic responses that don't really dig deep into the whole marketing scene […]." Ed10: "I really love how efficient the tool is, still I have many concerns about its ability to fully capture the accuracy needed for evaluating those complex and creative responses that require a nuanced understanding of the industry."
Non-Routine Interpersonal (Mentorship, Industry Collaboration, Strategy Discussions)	Low	AI lacks contextual marketing expertise & human intuition	Task Identity (JCM)	Ed7: "No AI tool can substitute for the mentorship process […], where we assist students in interpreting market data […], and navigating real-world industry hurdles." Ed19: "[…] For sure, AI just doesn't have that personal vibe needed to boost students' confidence and leadership skills." Ed16: "If students lean too heavily on AI for generating campaign concepts, they jeopardize their ability to think critically about brand positioning and market segmentation. […] I've observed students accepting AI-generated marketing insights without questioning their authenticity, which undermines their analytical abilities."

Table 3: AI adoption across task types

4.3 TAM, TTF and JCM

The findings indicate that task fit, perceived usefulness, and educator autonomy are key determinants of GenAI adoption. The TTF model help explain the higher adoption rates for routine cognitive tasks – such as grading and administrative activities – where GenAI aligns well with structured, structured and repetitive tasks. In contrast, non-routine analytical and interpersonal tasks encounter resistance due to GenAI's limitations in originality, contextual understanding, and strategic reasoning. The TAM model further clarifies this dynamic, showing that educators' perceptions of GenAI usefulness and usability vary by task type, influencing their willingness to adopt. Finally, insights from JCM highlight the influence of task identity, skill variety, and autonomy. Educators who perceive GenAI as compromising their professional judgement, creative authorship, or control are more likely to resist its adoption.

Task type	**GenAI adoption Level**	**Benefits for educators**	**Challenges and ethical considerations**	**Institutional and Ethical Concerns**	**Theoretical framework**
Routine Cognitive Tasks	High	Automates grading, content generation, reference management	Risk of over-standardization, reduces personalized learning	Data privacy concerns, reliance on AI-generated content for assessments	High Fit (TTF), Perceived Usefulness (TAM)
Non-Routine Analytical Tasks	Selective	Enhance research efficiency, assist in branding	Task Identity concerns, educators fear AI threatens their expertise	Ethical concerns over originality, AI bias in research	Moderate Fit (TTF), Moderated by Task Identity (JCM)

		strategy development			
Non-Routine Interpersonal Tasks	Low	AI chatbots assist student queries, adaptive learning tools provide basic feedback	AI lacks emotional intelligence, weakness in mentorship & industry networking	Institutional policies on AI use in mentorship stay unclear	Low Fit (TTF), Resistance due to Autonomy & Task Identity (JCM)

Table 4: Findings" Summary

5 Conclusion, theoretical and practical implications

This research advances the theoretical discourse on technology adoption in higher education by integrating insights from the TAM, TTF, and the JCM. The findings demonstrate that GenAI adoption is not solely driven by perceived usefulness and ease of use but is also significantly influenced by the ways in which GenAI reshapes academic labor and professional identity.

By incorporating job design dimensions, this study expands the scope of existing adoption models, highlighting task identity, skill variety, and autonomy as critical factors in facilitating GenAI acceptance. Educators who view GenAI as enhancing their professional capabilities and the meaningfulness of their tasks are more likely to embrace it, while those who perceive it as diminishing their intellectual agency tend to resist its use. This contribution enriches the current literature by moving beyond traditional usability-focused frameworks and shedding light on the evolving nature of academic autonomy in an AI-driven context. While GenAI serves as a powerful support tool, its integration also raises concerns about the centralization of decision-making authority in areas such as curriculum design, assessment standards, and research processes. Future theoretical models should account for these nuanced dimensions to more accurately capture the complexities of GenAI adoption in higher education.

For universities and higher education institutions, the development of a comprehensive framework is essential to ensure transparency and promote the ethical integration of GenAI. As GenAI increasingly automates routine academic tasks, institutions must reconsider and redefine faculty roles to reflect this evolving landscape. Policymakers and academic leaders are encouraged to adopt a holistic approach to AI governance, extending beyond individual departments or institutions, to establish coherent, system-wide strategies that align with educational values and long-term goals.

Given its qualitative design, this study offers in-depth exploratory insights; however, it does not permit statistical generalization. Future research should complement these findings with quantitative methodologies, such as structural equation modelling, to empirically examine the relationships between GenAI adoption and factors such as task identity, skill variety, autonomy, and institutional support. Comparative studies across different academic disciplines could further elucidate the broader implications of AI integration in higher education. Finally, longitudinal studies tracking changes in AI adoption over time would provide valuable insight into how educators' perceptions evolve in response to technological advancements and shifting institutional policies.

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UNDERSTANDING SMART WORKING THROUGH THE EYES OF GENERATION Z

Short Paper

Giulia Flamini, Università Politecnica delle Marche, Ancona, Italy, g.flamini@staff.univpm.it
Chiara Morelli, Università del Piemonte Orientale, Novara, Italy, chiara.morelli@uniupo.it

Abstract

This paper explores how smart working influences the motivation, satisfaction, and career aspirations of Generation Z. Drawing on Self-Determination Theory, Herzberg's Two-Factor Theory, and Person–Organization Fit, the study investigates whether smart working serves as a motivational or hygienic factor in the post-pandemic work context. A structured questionnaire administered to 426 Italian university students examined work values and perceptions of remote work. Principal Component Analysis revealed six key dimensions of work values, identifying partial smart working as an independent and central component. The findings show that flexibility and hybrid work arrangements are now perceived as essential conditions rather than optional benefits. The study provides practical implications for organizations seeking to attract, motivate, and retain young talent in a changing employment landscape shaped by digitalization and new expectations of work-life balance.

Keywords: Generation Z, Smart Working, Motivation, Sustainable HRM, Work Values

1 Introduction

This research endeavors to intricately dissect and elucidate the distinct motivational facets inherent in Generation Z. The focal point lies in ascertaining whether smart working paradigms are a productive instrument in retaining and stimulating this demographic's work ethos. Integral to this inquiry is the application of goal-construct theories (Locke & Latham, 2002), which provide a framework for understanding Generation Z's cognizance regarding their psychological welfare. This aspect is pivotal, given the burgeoning emphasis on mental health in contemporary occupational discourse (Deci & Ryan, 2000).

To complement this theoretical foundation, the study also draws upon the Person-Organization Fit theory (Kristof-Brown, Zimmerman, & Johnson, 2005). This theoretical perspective is utilized to scrutinize the compatibility of the pervasive adoption of smart working within current organizational structures vis-à-vis the employment aspirations of Generation Z. The crux of this alignment analysis is to determine if the shift towards smart working methodologies resonates with the intrinsic and extrinsic motivational drivers of this cohort (Herzberg, 1968).

The empirical substrate of this study is anchored in a meticulously structured questionnaire administered to a representative sample of 426 undergraduate students from three Italian universities: Univesrità Politecnica delle Marche, Univesrità del Piemonte Orientale e Università di Roma Tor Vergata. This questionnaire bifurcates into two seminal sections: the first section aims to capture the quintessence of the professional aspirations harbored by these young individuals. The second part, drawing inspiration from Herzberg's seminal work on job satisfaction and motivational factors (Herzberg, Mausner, & Snyderman, 1959), delves into the participants' perception and understanding of smart working.

Furthermore, in light of the contemporary organizational dynamics and employee attitudes (Kniffin et al., 2021), this study pays particular attention to the shifting paradigms in job satisfaction and motivational factors. Before the pandemic, smart working might have been perceived primarily as a

motivational factor by younger workers; however, post-pandemic, it appears to have transitioned into a hygienic factor, necessitating a reevaluation of organizational values and structures (Bouziri et al., 2020).
The paper seeks to provide an in-depth exploration of Generation Z's work-related motivations and aspirations. It offers valuable insights into how organizations can adapt to the evolving expectations of this critical workforce segment in the post-pandemic era.

2 Theoretical background

The COVID-19 pandemic has profoundly transformed the nature and organization of work (Mefi & Asoba, 2021), prompting companies to reduce working hours, enhance remote and smart working practices, and redesign work processes (Manuti et al., 2020). These changes have also triggered a broader reconfiguration of Human Resource Management strategies (Ulrich, 2020). Five years after the outbreak of the pandemic, the shift towards remote and e-working represents a substantial and enduring transformation in the world of work (Dlamini & Ndzinisa, 2020; Mefi & Asoba, 2021; Malhotra, 2021; Verma et al., 2023).

The shift towards remote working and e-working, highlighted by Dlamini & Ndzinisa (2020) and Mefi and Asoba (2021), represents a significant transformation in the nature and process of work This evolution has increased role ambiguity, job insecurity, and social isolation (Manuti et al. 2020), potentially affecting employee well-being, job satisfaction, and productivity. Liang et al. (2022) emphasize that if not managed effectively, such changes can harm the Person-Environment (P–E) fit, a concept crucial for understanding the alignment between employee expectations and the organizational environment.

Generation Z, also known as "post-millennials" or "centennials," represents individuals born after the millennium (Amiama-Espaillat & Mayor-Ruiz 2017). Roblek et al. (2019) describe this generation as intrinsically connected to the internet, having never experienced life without it. Before the pandemic, they were characterized as social, multitasking, materialistic, realistic, creative, and ambitious (Lazanyi & Bilan 2017). The pandemic, however, has reshaped these traits. Generation Z's preference for flexible working arrangements and their adept use of information technology for communication and work are vital considerations for contemporary HR practices.

Understanding the work values of Generation Z is crucial for organizations seeking to establish a strong Person-Environment (P-E) fit. As articulated by Rousseau (1995), the concept of P-E fit refers to a psychological contract of unwritten expectations between the employer and employee. Ballout (2007) and Su Murdock & Rounds (2015) highlight that a lack of fit can lead to adverse outcomes in the employment relationship. In this context, understanding Generation Z's evolving aspirations and values becomes vital for ensuring a mutually beneficial and productive employment relationship in the post-pandemic era. In advancing the discourse on how organizations have to reshape human resource management and the professional inclinations of Generation Z, it becomes essential to introduce our specific research questions: RQ1: What are the work aspirations of Generation Z? RQ2: Is smart working the correct tool to motivate Generation Z?

These questions have been meticulously curated to probe deeper into the complexities of the evolving work environment and the psychosocial dynamics affecting Generation Z in the workplace. Their inclusion is vital for a twofold purpose: firstly, to fill the critical gaps identified in existing literature, mainly focusing on the unique interplay between Generation Z's work values and the transformed post-pandemic professional landscape; and secondly, to provide a scaffold for future research and practical HR strategies. These questions are not merely academic pursuits but are instrumental in bridging the theoretical insights with empirical validation, aiming to unravel the nuanced facets of motivation, job satisfaction, and organizational alignment within the context of the contemporary workforce.

3 Methodology

This study employs a multifaceted questionnaire designed to garner insights into the life goals, ideal job characteristics, and attitudes towards smart working among Generation Z. Rooted in the Self-determination Theory (Ryan & Deci, 2000), the questionnaire is divided into two key sections:
a) *Aspirations*: This section assesses the participants' life and job aspirations. It features an Aspiration Index, encompassing extrinsic (wealth, fame, image) and intrinsic (relationships, personal growth, community contributions) and health aspirations. Participants rate each aspiration's importance, perceived attainability, and current attainment level (Kasser & Ryan, 1993; Sheldon & Kasser, 1998).
b) *Smart Working:* Focused on understanding the participants' knowledge and opinions on smart working, this section draws upon Herzberg's dual-factor theory of satisfaction and motivation (Herzberg, 1959). It evaluates how smart working has transitioned from a motivational to a hygienic factor post-COVID-19, affecting Generation Z's perception of work.
Data was collected via a survey administered to 426 Italian bachelor students from the Università Politecnica delle Marche, Università del Piemonte Orientale e Univesrità di Roma Tor Vergata. The sampling strategy was purposive, targeting a population that epitomizes the characteristics of Generation Z in an educational setting.

4 Main Findings

In assessing RQ1, we explored an initial comprehensive set of 22 survey scales collected from existing literature to measure the seven work values (Hurs & Good, 2009; Luscombe et al., 2013; Maloni et al., 2019). Students were asked to assess each item with: "Thinking ahead to after college graduation, how important is each item below for your ideal job?" with the response scale ranging from 1–not important to 7–essential. The descriptive findings reveal that Generation Z places high importance on jobs that offer opportunities for professional growth and financial stability. Conversely, less importance is attributed to jobs that fulfill relational and social needs.
To address RQ2, we conducted a Principal Component Analysis (PCA) on a combined set of variables including the 22 ideal job characteristics and five additional items specifically designed to investigate the role of smart working in Generation Z's job preferences. These additional items (wbsw1–wbsw5) were developed to explore participants' perceptions of partial smart working, drawing on Herzberg's dual-factor theory (Herzberg, 1959). This theoretical lens allows us to examine whether smart working has transitioned from a motivational to a hygienic factor in the post-pandemic work context. PCA was selected as a data reduction technique to identify latent dimensions underlying the broader structure of work-related values, and to better understand how smart working integrates within these patterns. As a preliminary check for PCA suitability, we conducted the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. All individual KMO values exceeded 0.80, with many above 0.90, indicating an excellent level of inter-item correlations (Kaiser, 1974). The overall KMO result confirmed that the sample was highly appropriate for dimensionality reduction through Principal Component Analysis.
The analysis was conducted using oblique Promax rotation, allowing for correlations between latent factors. To enhance the interpretability of the factor loading matrix, the blanks(.2) option was applied. The main goal was to explore how the smart working-related needs integrate into the broader structure of Generation Z's work values—specifically, whether these items form an independent dimension or load onto existing factors.
The Principal Component Analysis conducted on all 27 variables (including the smart working items) revealed a well-defined six-factor structure, explaining 63.4% of the total variance. The oblique rotation allowed for the identification of interpretable and realistically correlated components. Notably, an independent component emerged, entirely associated with partial smart working. All five items (wbsw1–wbsw5) loaded strongly and exclusively on the second factor, confirming that access to flexible work arrangements represents a distinct and specific need for Generation Z students. This result suggests that remote work is not perceived merely as an accessory benefit but as a central driver of job satisfaction, motivation, and career choice. The remaining components essentially replicate the structure identified in earlier analyses, and can be interpreted as follows: Recognition and growth (Component

1), Autonomy and independence (Component 3), Work-life balance (Component 4), Security and stability (Component 5), and a more critical dimension related to perceived pressure or control (Component 6). The emergence of a dedicated component for partial smart working carries important practical implications for organizations and HR managers. The possibility to work—at least partially—from home is no longer perceived as an optional perk, but rather as a core dimension of workplace well-being for Generation Z. The five items display a coherent and compact profile, indicating that partial smart working is simultaneously perceived as: a source of general satisfaction (wbsw1), a motivational lever during job choice (wbsw2, wbsw4), and a potential cause of dissatisfaction and demotivation when absent (wbsw3, wbsw5).This configuration suggests that talent attraction and retention policies will increasingly need to incorporate flexible work models, even in industries where physical presence has traditionally prevailed. Offering hybrid arrangements—even just one or two days per week—may represent a significant competitive advantage, particularly in recruiting high-potential young professionals. Furthermore, integrating smart working as a motivational factor may enhance: the perception of trust and autonomy among young employees, work-life balance, and reduce early career turnover intentions.

5 Contributions

The research conducted in this study offers a deep dive into the motivational landscape of Generation Z in the context of smart working post the COVID-19 pandemic. The multifaceted findings comprehensively understand this demographic's work-related aspirations and attitudes. Generation Z's perception of smart working reveals a significant shift. Pre-pandemic, smart working was seen primarily as a motivational factor, offering flexibility and autonomy (Herzberg, 1959). Post-pandemic, it has evolved into a hygienic factor, now viewed as a basic necessity for work-life balance and mental health (Kniffin et al., 2021; Bouziri et al., 2020). This shift reflects the changing landscape of work where smart working is no longer a perk but a fundamental aspect of job design. The pandemic has undeniably influenced Generation Z's work preferences and motivations. There is a heightened emphasis on job security and stability, possibly due to the economic uncertainties engendered by the pandemic (Liang et al., 2022). Additionally, the importance of mental health and well-being has been amplified, altering how this generation views work-life integration (Manuti et al., 2020).

6 Final Remarks

It is important that you write for a general audience. It is also important that your work is presented in a professional fashion. This guideline is intended to help you achieve that goal. By adhering to the guidelines, you also help the conference organizers tremendously in reducing our workload and ensuring an impressive presentation of your conference paper.

We thank you very much for your cooperation and look forward to receiving a professional-looking, camera-ready version!

7 Theoretical Implications

The findings challenge and expand upon traditional motivational theories like Herzberg's Motivation-Hygiene Theory (Herzberg, 1959) and Self-Determination Theory (Ryan & Deci, 2000). They underscore the need to adapt these theories to the nuances of the digital age and a generation that has grown up in a fundamentally different socio-economic environment.

The study also contributes to the Person-Organization Fit theory by highlighting the dynamic nature of fit in the context of evolving work paradigms like smart working (Kristof-Brown et al., 2005). It suggests that organizational values and structures must be agile and responsive to the changing expectations of employees, particularly those belonging to Generation Z.

This paper sheds light on the intricate motivational framework of Generation Z and provides actionable insights for organizations striving to adapt to the post-pandemic work environment. The study bridges

the gap between theoretical constructs and practical applications, offering a nuanced understanding of Generation Z's workplace preferences and motivations.

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THE INFLUENCE OF COGNITIVE BIASES ON INTENTION TO USE AI AND THE MODERATING ROLE OF INFORMATIONAL SOURCES: AN EXPERIMENTAL STUDY

Research Idea

Federica Giorda, Università Cattolica del Sacro Cuore, Milan, Italy, federica.giorda@unicatt.it

Valentina Iacopino, Università Cattolica del Sacro Cuore, Milan, Italy, valentina.iacopino@unicatt.it

Federico Rajola, Università Cattolica del Sacro Cuore, Milan, Italy, federico.rajola@unicatt.it

Abstract

Most theories on AI adoption assume perfect rationality; humans, however, are not perfectly rational: knowledge is not always objective, but it can be biased, influencing behavioral intention. Challenging the assumption that more knowledge automatically leads to greater willingness to adopt AI, this study aims to investigate how people can be biased in their adoption decisions, by testing the impact of confirmation bias, framing effect, and the Dunning-Kruger effect on the individual intention to use AI. It also explores whether this relationship is moderated by different informational sources. We will conduct an experiment with undergraduate students, using a questionnaire based on prior literature and adapted to the AI context. We expect that biases will influence the intention to use AI, and that this relationship will be positively or negatively moderated, according to the type of informational sources used. The study broadens literature about adoption decisions and offers insights for managers to reduce resistance.

Keywords: Artificial Intelligence, Intention to Use, cognitive biases, organization.

1 Introduction

The rapid development of Artificial Intelligence (AI) technologies in organizations are leading to profound changes in the workplace. The integration of AI generates a "disruptive effect" on the organization, as it significantly differs from traditional technologies. While AI implementation offers significant opportunities in terms of productivity and results, it also presents new challenges to organizations, in terms of impact and interaction with and among workers. Workers' attitudes play a significative role in AI implementation, as they can limit or even impede employees' adoption of AI technologies (Tong et al, 2021; Bankins, 2023). The machine effectiveness, furthermore, depends not only on its productivity, accuracy and reliability, but also on the individual readiness to use it. Thus, understanding the determinants and barriers of AI adoption is crucial to ensure an effective organizational implementation.

2 Theoretical background and hypothesis development

An effective integration of AI technologies in organizations, indeed, partially depends on whether people are willing to adopt them (DeFreitas, 2023). When individuals are faced with the decision of whether to adopt such tools, they can be influenced by a variety of factors (Radhakrishnan et al, 2020).

Barriers can emerge from external conditions, considering AI features and innovation development at the organizational level, for example DOI - Diffusion of Innovation (Rogers, 2003) or TOE - Technology, Organization, and Environment Framework (Tornatzky et al., 1990), or they can depend on individual factors. In this regard, TAM (Theory of Acceptance Model) and its evolutions (Davis, 1989; Venkatesh et al, 2000, 2008), UTAUT (Unified Theory of Acceptance and Utility Theory – Venkatesh et al, 2003), AIDUA (AI Device Users Acceptance Model – Gursoy et al, 2019), focus on the intention of individuals to accept and use technology. Trust in algorithms, then, has also been identified as a predictor of adoption, generated by different factors despite the accuracy of the algorithm (Dietvorst et al., 2015; Logg, 2019; Jussupow, 2020; Araujo et al, 2020; Filiz, 2021). The set of psychological, cognitive, and emotional characteristics shape how he perceives and responds to a technology. These internal dispositions may indeed shape the decision to adopt it, regardless of the technology's objective characteristics or external conditions. People may or may not be incentivized to adopt a new technology based on their attitudes such as subjective perceptions, beliefs, feelings and emotions (Au et al., 2000; Van der Heijden 2004; Suseno, 2022). As a matter of fact, most of these theories on AI adoption assume perfect rationality, grounding for example on the idea that the relationship between knowledge about a technology and the intention to use it is direct and linear. Humans, however, are not perfectly rational decision-makers. The knowledge they have about a topic is not always objective but can be biased: the kind of knowledge people have or receive about a topic can make the difference on the behavioral intention related to it, so that more knowledge does not mean more intention to use. People behave differently according to whether new knowledge confirm or disconfirm their previous beliefs – the so-called confirmation bias – and according to the way this knowledge is framed – the framing effect; in addition, people can be biased about the evaluation of the knowledge they have, overestimating or underestimating it – the so-called Dunning-Kruger effect.

The aim of our study is to investigate how people can be biased about AI depending on the knowledge they have, examining the impact of these three biases on intention to use AI. Moreover, we aim to examine how different kinds of informational sources moderate this relationship.

As for the confirmation bias, people tend to prefer information that confirms their prior beliefs, reinforcing them and related behaviors. So, people who hold negative beliefs about an object tend to preferentially search for and better evaluate negative evidence, and this reinforces negative beliefs and related behaviors; on the contrary, people who hold positive beliefs about the same object tend to preferentially search for and to better evaluate positive evidence, reinforcing positive beliefs and related behaviors. So, we hypothesize:

H1: Confirmation bias is associated with intention to use AI, being negatively related among individuals with negative beliefs about AI, and positively related among those with positive beliefs.

As for the framing effect, giving the same information but with a positive or a negative frame can lead to opposite beliefs and behavior, and this is particularly clear in the media context where the way in which media frame knowledge about a technology can shape different beliefs leading people to adopt some behavior instead of others, suggesting an influence not only on the way people make sense of this technology but also on the behavioral intention. We hypothesize:

H2: The framing of AI knowledge is associated with intention to use AI, being negative for a negative frame and positive for a positive frame.

As for the Dunning Kruger effect, people often lack the metacognitive skill to recognize their incompetence, so that the self-evaluation of their expertise of an object is biased: people with more knowledge of a tool underestimate their self-efficacy related that object, while people with less knowledge overestimated it because they are unable to recognize their incompetence. So, we hypothesize that:

H3: People who are less likely to recognize their incompetence about AI (and have a higher degree of AI-related Self-Efficacy) are more likely to display a higher degree of intention to use AI.

Literature shows that scientific informational sources and knowledge like papers, training, guidelines allow people to be well informed and to reach more objective knowledge and consideration of evidence,

while informal sources like social influence and social media can exacerbate biased knowledge. We thus hypothesize:

H4a: Scientific sources and knowledge, guidelines, paper, training and learning programs attenuate the relation between biases and intention to use AI

H4b: Informal sources like social media and advice exchanged through informal and formal network reinforce the relation between biases and intention to use AI

3 Methodology

We will collect data from an experiment conducted on undergraduate students voluntary enrolled in an AI course. The impact of biases on the intention to use AI and the moderation of different informational sources will be measured through a questionnaire, adapted from items used in prior literature. Intention to use will be measured through the five-point Likert scales anchored between 'strongly disagree' and 'strongly agree' developed by Bhattacherjee and colleagues (2006). As for the framing effect, we use Cobb (2005) framing conditions adapted to our context. As for confirmation bias, we measure individuals' prior beliefs about AI adapting the study conducted by Baekgaard et al. (2016). As for the Dunning-Kruger effect, we measure the AI knowledge and the AI-related self-efficacy referring to the scale developed by Guan (2025) and Said (2023). Participants will be assigned randomly to different experimental conditions.

4 Expected Results

Confirmation bias is expected to influence intention to use AI based on previous beliefs. Negative frames are expected to be negatively associated to intention to use AI, while positive frames are expected to be positively associated to it. Lack of knowledge about AI is expected to be positively associated to AI-related Self-Efficacy, positively related to intention to use AI. Scientific sources and knowledge, like guidelines, training and learning programs are expected to attenuate the relationship between cognitive biases and intention to use AI, while Informal sources like social media, advice exchanged through formal and informal network are expected to reinforce the relation between biases and the intention to use AI.

5 Theoretical and managerial contributions

This study will extend literature on the factors involved in AI adoption, by analyzing the effects of cognitive biases on intention to use AI. They can indeed constitute a barrier to it. Moreover, the following project can provide several insights and guidance for managers and practitioners. AI can make the difference for companies' success, because its implementation in the workflow helps companies to remain competitive and face the challenges of today's scenario and marketplace. Especially in the financial sector, there is still a low level of awareness about these topics. Knowing how employees are biased toward AI, and how different informational sources can lead to opposite choice (adopt/not adopt AI) is crucial for managers to understand which behavior and strategies adopt to reduce this resistance to innovation.

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BLOCKCHAIN TECHNOLOGY IN HR MANAGEMENT: REFLECTIONS ON ITS PROMISES AND PERILS

Research Idea

Antonio Mastrogiorgio, Università di Roma "Unitelma Sapienza", Roma, Italy, antonio.mastrogiorgio@unitelmasapienza.it
Primiano Di Nauta, Università degli Studi di Foggia, Foggia, Italy, primiano.dinauta@unifg.it
Franca Cantoni, Università Cattolica del Sacro Cuore, Piacenza, Italy, franca.cantoni@unicatt.it
Marco Arcuri, AMPM Consulting, ASSOPM, Roma, Italy, m.arcuri@ampmconsulting.it

Abstract

Grounded in transaction cost economics, this paper examines how blockchain features enhance the efficiency of routine HR activities. Using a conceptual analysis supported by illustrative examples, we explore the alignment between blockchain functionalities and different categories of HR tasks such as verification of qualifications, contract management, employee information management, payments and rewards. We argue that while blockchain may streamline transactional processes, its features are ill-suited for relational and discretionary functions that require contextual judgment and human sensitivity. Uncritical adoption risks displacing HR's strategic role and may introduce new inefficiencies, including psychological transaction costs. We advocate for a balanced and context-aware approach to integrating blockchain in HRM, cautioning against overhyped narratives that underestimate the importance of trust-based, interpersonal dimensions central to effective human resource management.

Keywords: Blockchain, Smart Contracts, HR Management, Transaction Costs.

1 Introduction

An emerging domain of research in organization studies seeks to investigate how blockchain technology will affect HR management in the years to come. Blockchain is a technology based on a decentralized digital ledger that records information across a network of computers, ensuring that the data cannot be retroactively altered. Blockchain technology enables the creation of smart contracts, which are codes executed on the blockchain to facilitate, implement, and enforce the terms of agreements between parties that do not trust each other (Narayanan et al., 2016).

The reduction in transaction costs due to blockchain technology is revolutionizing HR management, significantly impacting traditional HR functions such as the verification of qualifications, contract management, employee information management, payments, and rewards. With the rise of blockchain technology, several HR functions face disruption, as the blockchain—by reducing transaction costs—challenges the intermediary role HR plays in matching untrusted parties, such as employers and employees (e.g., Ioakimidis, 2023; Weber, 2023).

In this contribution, we discuss the benefits and perils of applying blockchain technology to HR management.

2 Theoretical background: blockchain in HR management

Blockchain is a technology based on a decentralized digital ledger that records information across a network of computers, ensuring that the data cannot be retroactively altered. For simplicity, one can

imagine a spreadsheet (like Excel) duplicated thousands of times on a network of computers. Since no central authority controls the network and every intervention on the spreadsheet is visible to all, the system guarantees transparency, security, incorruptibility, and credibility while preserving the quality of data (Narayanan et al., 2016). The properties of blockchain technology include trust, decentralization, intermediation, consensus, immutability, data security and privacy, data integration, transparency, traceability, interoperability standards, automation, efficiency (e.g., Ramachandran & Murugesan, 2023).
Although blockchain technology is still under development, its potential impact on HR management could be disruptive (e.g., Chillakuri & Attili, 2022). Blockchain can be applied to HR to improve efficiency, transparency, and security of processes such as the verification of qualifications, contract management, employee information management, payments and rewards.
Mishra and Venkatesan (2021) studied awareness of blockchain technology and opinions about its scope in organizations, comparing populations of HR and non-HR employees, finding no significant difference between the groups. Blockchain technology has emerged as a powerful tool to address reduced efficiency, increased costs, fraud risks, and time-consuming procedures in the process of finding and hiring talent (Kişi, 2022). It has also been found useful in verifying the qualifications of job candidates to prevent fraud (Mishra & Venkatesan, 2021). Additionally, blockchain technology can reduce vulnerabilities and risks for specific categories of workers, such as migrants, who are more susceptible to deceptive recruitment practices (Christ & Helliar, 2021). It can also help mitigate skills and competency gaps in the workforce by providing a unified framework shared by employers and employees (Fachrunnisa & Hussain, 2020). Furthermore, blockchain technology has the potential to enhance training effectiveness (Jain, Sharma & Shrivastava, 2021).

2.1 Smart contracts

Blockchain enables the creation of smart contracts. A smart contract is a self-executing agreement written as computer code implemented on a blockchain. It executes and enforces the terms of the agreement between untrusted parties without the involvement of a trusted third party. This system assigns digital assets to the parties involved once predefined conditions are satisfied.
Allam (2018) highlights the advantages of smart contracts, which include accuracy (smart contracts are formulated as precise, self-enforcing if-then statements), transparency (every detail of the transaction is codified and exposed), speed and efficiency (smart contracts self-execute when prespecified conditions are met), security (smart contracts rely on a decentralized network of non-trusting parties and on cryptographic techniques), and cost reduction (smart contract eliminate the need for third-party intermediaries to facilitate transactions). Allam (2018) also addresses the potential disadvantages of smart contracts, noting their immutability (smart contracts exhibit rigidity, as changes after establishment present significant technical challenges), secrecy (smart contracts operate within an anonymous network, but the maintenance of a public ledger means visibility), and enforceability (legal enforceability may be problematic, as smart contracts might not integrate seamlessly into traditional and institutionalized legal systems).

3 Theory development: the promises of blockchain technology in HR management

The conceptualization of blockchain's role within organizational studies can be approached through the lens of transaction cost economics. Transaction costs can be categorized into three types: search and information costs, bargaining and decision costs, and policing and enforcement costs (i.e., Dahlman, 1979). When transactions costs are present, the market alone is not an efficient allocational device, and an organizational structure (the firm) becomes necessary. (i.e., Coase, 1937; Williamson, 1979).
Blockchain technology impacts transaction cost structures by reducing them. Speculatively, the existence of HR functions can be conceptualized as arising from various transaction costs that cannot be managed directly by the parties involved (employer and employee). From this perspective, HR acts as an intermediary agent, aligning the employer's needs with the employee's prerogatives. However,

with the rise of blockchain technology, several HR functions are at risk, as blockchain reduces many of the frictions and inefficiencies that sustain specific HR offices. The elimination of several intermediary HR functions through blockchain is a fundamental aspect of this technology. Blockchain enables peer-to-peer safe transactions, reducing the need for a third-party intermediary.
The reduction of transaction costs due to blockchain technology could have a significant impact on several traditional HR functions:

- Verification of Qualifications. Blockchain can be used to verify the identity, qualifications, and experience of candidates during the selection process, reducing the risks of fraud, ambiguities, and excessive management time.
- Contract Management. Smart contracts can automate processes, reduce administrative costs, and minimize human errors. Furthermore, blockchain addresses inefficiencies in managing complex processes by providing a single, always accessible "source of truth", facilitating dispute resolution.
- Employee Information Management. Blockchain can manage employee information (such as performance, training, and career progression), improving the quality of information and reducing management time, ensuring precise, unambiguous, and certified information.
- Payments and Rewards. Blockchain can manage employee payments, including specific contractual clauses, reducing transaction costs while ensuring certainty and transparency. Automation of these processes aids enforcement, facilitates fraud prevention, and simplifies dispute resolution. It also helps avoid deceptive recruitment practices.

3.1 The perils of blockchain technology in HR management

Blockchain technology, due to its ability to reduce transaction costs and eliminate hierarchical intermediation, has been used as a persuasive argument to endorse "bossless companies". The idea of bossless company, which is predominantly popular among practitioners, suggests that organizations without hierarchical structures can achieve superior performance and may eventually replace traditional bureaucratic frameworks. In their best-selling book, *Humanocracy*, Hamel & Zanini (2020) use data-driven arguments to criticize bureaucratic structures, proposing that they will be supplanted by more distributed and flat organizations in the future. Blockchain technology supports this vision of flat organizations by significantly reducing transaction costs through smart contracts, which eliminate the need for a trusted third party to align the prerogatives of the involved counterparties. In this way, blockchain technology serves as a revolutionary tool that diminishes the necessity of hierarchical systems, allowing even untrusted parties to coordinate effectively through market mechanisms due to the notable reduction of various types of transaction costs.
However, the concept of bossless company has faced criticism from opponents who argue that many of its claims rely on flawed analysis and weak theoretical foundations. Foss & Klein (2023), in a dedicated book, argue that managers still play an essential role, as management coordinates activities within organizations and motivates individuals to work together more effectively than bottom-up, spontaneous coordination. The authors caution that adopting flatness as a universal principle—without considering specific organizational contingencies—can be risky. Building on this argument, Weber (2023) highlights that bossless firms are susceptible to holdup, promote employee opportunism, and hinder the development of trust. Weber suggests that novel "psychological transaction costs" arise in bossless companies, stemming from employee motivations and barriers to trust development.
We concur with the skepticism expressed by these authors. While blockchain technology may be valuable for many typical tasks within HR management—especially considering that several HR functions can be externalized—the same argument does not apply to tasks that, due to their complexity and need for adaptability, cannot be prespecified or automated. In other words, while blockchain can effectively support many standardized administrative tasks, we believe that it cannot be easily utilized for scenarios where adaptive orchestration, contextual judgment and human sensitivity are crucial determinants of success.

4 Conclusions

While we acknowledge that blockchain technology is revolutionizing HR management, we also recognize that its application could be problematic in activities where interactions between parties involve idiosyncrasy and uncertainty, leading to significant transaction costs (cf., Williamson, 1979). Indeed, when blockchain machinery replaces the richness of human interaction, it may result in the emergence of "psychological transaction costs" such as cheating, opportunism, and lack of trust (Weber, 2023; Foss & Klein, 2023).

We argue that the rhetoric surrounding blockchain technology can be more detrimental than its superficial and unwise application. If the complexity of HR management is reduced to blockchain mechanisms, the strategic role of HR in orchestrating the human dimension of organizations may disappear along with its prerogatives. Such rhetoric risks forcing HR management to revert to outdated practices, relegating it to technical staff focused solely on the automation of HR administration.

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CAN AI-DRIVEN RÉSUMÉ SCREENING REFLECT HUMAN COMPETENCE COMPLEXITY? A CORPUS-ASSISTED DISCOURSE ANALYSIS OF CURRICULA VITAE

Short Paper

Francesca Nannetti, University of Modena and Reggio Emilia, Modena, Italy, francesca.nannetti@unimore.it

Anna Chiara Scapolan, University of Modena and Reggio Emilia, Reggio Emilia, Italy, annachiara.scapolan@unimore.it

Matteo Di Cristofaro, University of Modena and Reggio Emilia, Modena, Italy, matteo.dicristofaro@unimore.it

Abstract

Taking into account the defining elements of the objectivist approach to the concept of competence, this paper shows how the growing employment of AI applications to résumé screening and evaluation seems to support and strengthen Competency-based Human Resource Management, by framing human competence as a measurable, observable, and predictable attribute. By focusing on the narrative and discursive dimension of a Curriculum Vitae, this study introduces and adopts a Corpus-Assisted Discourse Studies approach to the analysis of résumés, thus suggesting a perspective on the notion of competence that results from the interplay between information included - or not - in traditional quantitative indicators and textual fields relating to personal capabilities, motivations and aspirations. Hence, this research is based on a corpus of Curricula Vitae submitted by recent graduates from the University of Modena and Reggio Emilia, whose self-representation is claimed to emerge from the interaction between different approaches in competencies reporting.

Keywords: Competency-based HRM, AI-driven résumé screening, Corpus-Assisted Discourse Studies

1 Introduction

Today's renewed interest in the so-called Competency-based Human Resource Management is evidenced by the numerous contributions in the organisational literature (Salman et al., 2020), as well as by the wide dissemination of non-academic reports (OECD, 2023). With McClelland (1973), Boyatzis (1982), Spencer and Spencer (1993) often identified as the cornerstones of the objectivist approach to competence - regarded as a specific set of attributes that workers use to accomplish their work (Sandberg, 2000) - the *mainstream* approach assumes that organisations can precisely identify, define and codify the competencies required to achieve desired performance. In this regard, the categorisation and crystallisation of certain combinations of universal characteristics and properties is meant for rapid identification and efficient mobilisation of resources (Vecchio, 2021). This results in an extreme inclination to codification of know-how, which leads to a problematic reductionism (De Terssac, 1992).

Alongside this prevailing perspective on human competence at work, the involvement of Artificial Intelligence (AI) tools is gradually affecting all different HRM tasks (Kim et al., 2025), and the progressively more and more automated recruitment process through AI-powered software represents a widespread transformative trend (Hunkenschroer & Luetge, 2022). Taking into account the defining elements of the objectivist approach to the concept of competence, this paper shows how the growing

employment of AI applications to résumé screening and evaluation seems to support and strengthen Competency-based HRM, by framing human competence as a measurable, observable, and predictable attribute.

Therefore, building on Tambe et al. (2019, p. 16) argument about the necessity to develop theoretical and conceptual thinking, since "data science analyses - when applied to decisions about people - can create serious conflicts with what society typically sees as important for making consequential decisions about individuals", and relying on the centrality of discursive practices and narrative knowledge (Czarniawska, 2004; Nicolini, 2012) in the construction and reproduction of all organisational and social things, this paper introduces and adopts a Corpus-Assisted Discourse Studies (CADS) approach (Gillings et al., 2023) to the analysis of Curricula Vitae (CVs). By focusing on the narrative (Lipovsky, 2014) and discursive dimension of a CV, this paper suggests a perspective on the notion of competence that results from the interplay between information included - or not - in traditional quantitative indicators and textual fields relating to personal capabilities, motivations and aspirations. Hence, this research is based on a corpus consisting of Curricula Vitae from recent graduates of the University of Modena and Reggio Emilia, whose self-representation is claimed to emerge from the interaction between different approaches in competencies reporting.

2 Theoretical Background and Research Question

Competency-based HRM today presents itself as a lexicon of predetermination, consisting of *skills dictionaries* from which individual labels are selected to form a role profile against which people are assessed and recruited (Curzi & Fabbri, 2024). Given the dominance and pervasiveness of this perspective, competence is conceptualised on the basis of an understanding of human beings and workers as resource-object, characterised by a set of enduring properties (Neri, 2021), and the organisational requirements are categorised into distinct roles, delineating the anticipated contribution of each and defining it in terms of the specific activities to be undertaken (Berdicchia, 2013). Therefore, the adoption of quantitative indicators is perceived to make the overall recruitment and selection process more objective, by allowing the construction of a sort of individual competence profile, which can be represented by sequence of quantitative measures using algorithms (Elia & Margherita, 2015).

Effectively pursuing a sort of "objectivity by design" (Gafni et al., 2024), organisations are increasingly deploying "quantitative, evidence-based, and data-driven approaches" (Giermindl et al., 2022, p. 410) in hiring processes. This is particularly evident in the outsourcing of candidate evaluation to AI systems, especially through automated résumés screening processes (Cowgill, 2020). AI applications are now used to scan CVs to score or rank candidates, and to match candidate profiles with job openings to identify the best fit (Hunkenschroer & Luetge, 2022). In this regard, by treating human competence at work as a quantifiable and measurable attribute, AI tools appear to align with - and even reinforce - the unambiguous, codified profiling of candidates required by the mainstream approach to recruitment and selection (Paquette et al., 2021). This contributes to a specific perception of *algorithmic reductionism* (Newman et al., 2020).

However, as suggested by Dietz et al. (2000, p. 420), a résumé "is not simply a list of credentials, but a historical document that evolves over time capturing changes in interests, jobs, and collaborations". Intended as a "form of self-representation" (Phillips et al., 2019), these "living documents" (Fillenwarth et al., 2017, p. 52) convey what "applicants' deem are their most important life experiences believed to be applicable to a work context" (Cole et al., 2009, p. 6). Moreover, according to Lipovsky (2014), since applicants' qualifications and experiences are acquired over time, their personal, educational and employment histories are typically presented as a sequential progression over time. This "introduces into the CV a temporal dimension that suggests a narrative" (Lipovsky, 2014, p. 438). The structure of a CV is therefore intended to convey this narrative dimension through the coexistence of metadata and free-text fields that allow the candidates to express their personal and professional identity.

Thence this study aims to explore if candidates' self-representation of competencies can be fully intercepted through quantifiable and scaled indicators, by comparing the way they navigate and complete standardised sections on competencies and free-text discursive fields.

3 Materials and Methods

This study is based on a purpose-built corpus of CVs containing at least one degree certified by the University of Modena and Reggio Emilia during the 2022/2023 academic year. Data were provided by AlmaLaurea, an inter-university consortium currently representing 82 universities and about 90% of graduates in Italy. AlmaLaurea provided a total of 8,096 CVs in XML (Extensible Markup Language) format; extraction and formatting of the data was conducted using a custom Python script, whose function was that of creating a machine-readable XML structure preserving both metadata and textual contents. The Italian final corpus was loaded on #LancsBox X (v. 4.0.0, Brezina & William, 2024) and consists of 8,096 texts, 2,597,760 grammar tokens and 2,520,735 space tokens.

Data is investigated through a Corpus-Assisted Discourse Studies framework, which explores language as a social practice (discourse) through examining sets of textual data (corpora), thus linking "micro-linguistic choices with context, not only on a text level, but also on organisational, political, and societal levels" (Gillings et al., 2023; Gillings et al., 2024). A procedure able to mix both qualitative and quantitative perspectives enables a comprehensive analysis of the underlying narrative present in CVs, while making it possible to combine textual and metadata contents. This method is applied to the subcorpus which includes textual fields to aid candidates in reflecting on their social, organisational, technical and artistic skills, as well as a personal description of themselves, their professional objectives and their desired profession: 3,859 CVs were found with at least one of them, thus generating a subcorpus of 324,846 tokens. The linguistic content of these fields has been analysed and compared with what is provided in the structured metadata relating to digital and so-called soft skills.

4 Analysis and Results

4.1 Competencies as Quantitative and Scaled Indicators

As previously discussed, Competency-based HRM today operates through predefined skills dictionaries, where specific labels are combined to construct role profiles used to assess and select candidates. Different names have been proposed to label these individual characteristics, but *soft skills* certainly is the most common (Asefer & Abidin, 2021). Among them, different categories have been labelled to identify in a standard and quantifiable manner personal attributes. Table 1 shows the results summarising the data extracted from the CVs.

Skill rating	sklear	skinfo	skdeta	skself	skflex	skinit	skauto	sklead	skcomu	skobje	skplan	skprob	skstre	skteam
0	4.296	4.296	4.296	4.296	4.296	4.296	4.296	4.296	4.296	4.296	4.296	4.296	4.296	4.296
1	1	1	---	1	1	1	1	6	---	1	1	1	1	1
2	---	---	1	2	---	2	1	3	1	---	---	---	2	---
3	2	1	---	1	---	2	3	10	---	---	1	---	3	1
4	---	3	1	7	3	5	4	23	6	---	2	4	10	1
5	5	8	8	28	3	34	17	54	13	3	9	15	26	8
6	25	60	55	112	24	165	60	276	93	24	68	64	111	25
7	253	521	363	581	226	697	472	846	595	164	413	516	628	243
8	1.032	1.511	1.029	1.560	948	1.322	1.580	1.235	1.360	976	1.146	1.443	1.472	892
9	1.283	1.108	1.189	960	1.254	916	1.068	857	1.022	1.325	1.121	1.110	1.017	1.225
10	1.199	587	1.154	548	1.341	656	594	490	710	1.307	1.039	647	530	1.404
Tot	8.096	8.096	8.096	8.096	8.096	8.096	8.096	8.096	8.096	8.096	8.096	8.096	8.096	8.096

Table 1. Soft skills self-assessment.

Across all skills categories, a significant number of candidates (53.1% in each case) assigned themselves a score of 0, which means that they did not report these skills in their CVs. The results also show that there is considerable variation in how they rated themselves, with skills such as teamwork, goal orientation and flexibility exhibiting a higher proportion of the maximum score (10). Leadership, on the contrary, presents the lowest number of candidates assigning themselves the maximum score, together

with stress resistance and self-confidence. Widely discussed as crucial for the present and future of occupations (Rikala et al., 2024), graduates were also asked to evaluate their own digital competencies. Table 2 presents the results extracted from the data provided in the CVs, showing that the majority (>50%) of users did not evaluate (or simply fill in) the relevant fields.

Answer	Communication	Content creation	Information processing	Problem solving	Safety
No Answer	4.835 (59,7%)	4.856 (60%)	4.820 (59,5%)	4.850 (59,9%)	4.878 (60,3%)
None	8	40	6	34	106
Basic user	281	888	267	836	973
Autonomous user	1.594	1800	2.037	1.831	1.754
Advanced user	1.378 (17%)	512 (6,3%)	966 (11,9%)	545 (6,7%)	385 (4,8%)
Tot	8.096	8.096	8.096	8.096	8.096

Table 2. Digital competencies self-assessment.

Among those who evaluated their digital skills, most considered themselves to be autonomous users rather than advanced users; a self-assessment that seems to reflect confidence in basic digital tasks, yet not necessarily in more advanced or specialised digital activities. A notable consideration given that *Generation Z* is often referred to as the *digital native* generation - grown up in a world where the Internet and digital technologies are not just tools but integral parts of daily life (Benitez-Marquez et al., 2022).

4.2 Competencies in Free-Text Fields

As previously mentioned, from the whole corpus of CVs a subcorpus has been compiled by including textual fields. The analysis began with the exploration of word frequencies, identifying the most frequent ones. Table 3 shows the 50 most frequent words in the corpus in descending order.

Ranking	Word	Frequency	Ranking	Word	Frequency
1	di (*of*)	20.413	26	buona (*good*)	1.612
2	e (*and*)	14.224	27	mio (*my*)	1.599
3	in (*in*)	7.812	28	esperienza (*experience*)	1.597
4	a (*to/at*)	4.235	29	della (*of the*)	1.589
5	che (*that*)	4.075	30	conoscenze (*knowledge*)	1.538
6	capacità (*capabilities*)	3.809	31	i (*the*)	1.512
7	il (*the*)	3.678	32	ambito (*fields*)	1.499
8	le (*the*)	3.584	33	studi (*studies*)	1.473
9	mi (*me*)	3.521	34	l' (*the*)	1.449
10	per (*for*)	3.198	35	ad (*to / at*)	1.443
11	la (*the*)	3.091	36	alla (*to / at the*)	1.332
12	con (*with*)	3.008	37	da (*from*)	1.312
13	un (*a*)	2.884	38	lavorare (*to work*)	1.296
14	ho (*I have*)	2.585	39	gestione (*management*)	1.289
15	una (*a*)	2.476	40	acquisite (*acquired*)	1.272
16	sono (*I am / they are*)	2.261	41	poter (*to be able to*)	1.258
17	del (*of the*)	2.216	42	competenze (*competencies*)	1.233
18	lavoro (*work*)	2.187	43	delle (*of the*)	1.203
19	nel (*in the*)	2.165	44	mie (*my*)	1.181
20	durante (*during*)	2.026	45	mia (*my*)	1.178
21	al (*to / at the*)	1.823	46	dei (*of the*)	1.136
22	vorrei (*I would like*)	1.816	47	dell' (*of the*)	1.077
23	all' (*to / at the*)	1.666	48	come (*as*)	1.068
24	gruppo (*group*)	1.655	49	gli (*the*)	1.047
25	grazie (*thanks*)	1.631	50	comunicazione (*communication*)	1.033

Table 3. Frequency list.

The very frequent use of first-person forms reflects a strong tendency toward self-representation. Verbs are mostly tied to the expression of actions, desires, and states: the high frequency of *sono* (2,261), *ho* (2,585) and *vorrei* (1,816) refers to the formulation of personal experience, identity, and ambitions. Together, these verbs create a layered narrative. Some of the most frequent lexical words are nouns related to the semantic domain of self-assessment and description of abilities. The fact that *capacità* appears as the first content word in the frequency list may reflect the individual's effort to shape their identity, by actively positioning themselves as someone who possesses valuable skills for potential employers. The presence of *lavoro*, *ambito* and *studi* further emphasises both the professional and academic orientation of the discourse and the aim to place capabilities within specific work or study contexts.

The use of *capacità* was further investigated through its collocates, namely "words which frequently co-occur, more often than would otherwise be expected by chance alone" (Gillings et al., 2023, p. 27). The top 30 collocations were identified and displayed in Table 4 - ranked by Log Dice. The set parameters were freq. (collocation) >10, Log Dice >6 and range L1-R3.

Collocate	**Freq. (collocation)**	**Freq. (subcorpus)**	**Log Dice**	**Z-score**
buona (*good*)	1.033	1.612	12,6	233,2
di (*of*)	2.903	20.413	11,9	172,1
buone (*good*)	493	721	11,8	166,6
comunicazione (*communication*)	490	1.033	11,7	137,3
ottime (*excellent*)	330	458	11,3	140
lavorare (*to work*)	329	1.296	11	80,5
ottima (*excellent*)	265	458	11	112
adattamento (*adaptation*)	250	394	10,9	114,1
adeguarsi (*to adapt oneself*)	228	253	10,8	130,6
comunicative (*communicative*)	235	456	10,8	99,3
e (*and*)	986	14.224	10,8	63,4
ad (*to / at*)	280	1.443	10,8	63,9
organizzative (*organizational*)	205	354	10,7	98,6
in (*in*)	500	7.812	10,5	42,7
mie (*my*)	190	1.181	10,3	47,3
relazionali (*interpersonal*)	148	262	10,2	82,7
ascolto (*listening*)	144	269	10,2	79,3
ottenuta (*obtained*)	124	274	10	67,4
gestione (*management*)	143	1.289	9,8	32,9
con (*with*)	163	3.008	9,6	21,5
organizzazione (*organisation*)	112	878	9,6	31,7
solving (*solving*)	87	263	9,5	47,8
a (*to / at*)	161	4.235	9,4	15,8
problem (*problem*)	79	259	9,3	43,6
lavoro (*work*)	115	2.187	9,3	17,6
-buona (*-good*)	67	106	9,1	59
organizzativa (*organisational*)	62	86	9	60,7
la (*the*)	98	3.091	8,9	10,3
comunicativa (*communicative*)	55	69	8,9	60,2
grazie (*thanks*)	77	1.631	8,9	13,2

Table 4. Collocations of "capacità".

Many collocates of *capacità* are evaluative adjectives that qualify the extent or quality of one's abilities, indicating that *capacità* is frequently framed in positive and self-promotional terms. A significant number of collocates pertain to the semantic domains of communication and organisation, thus suggesting an emphasis on interpersonal, verbal, as well as management and planning competencies. However, regarding communication skills, it is interesting to note the relevance of *ascolto* and *relazionali* referring to two spheres not included in the predefined self-assessment labels - thus positioning themselves as socially competent and able to practise active listening seems to be crucial for young candidates.

5 Discussion and Conclusion

The research presented here introduces and explores an alternative perspective on the use of information included in CVs. Findings from soft skills self-assessment indicated the reluctance of many graduates to assess their soft skills within predefined categories, which may be indicative of a lack of confidence in the efficacy of such a method. Alternatively, it is possible that graduates may not perceive the value in explicitly categorising or formally evaluating soft skills. In addition, it is to be noted that graduates may not be able to recognise themselves as possessing the specific soft skills as defined in the established framework. Moreover, when it comes to how digital natives interact with technology, traditional categories for assessing digital skills appear to have lost some of their relevance. It was therefore interesting to focus on how candidates approach free-text fields that allow them to communicate their personal and professional identity. Only 47.7% of them completed at least one of the fields under consideration; this could suggest both a difficulty in expressing their personality and capabilities, and a disregard for these sections, stemming from the perception that they are not actually relevant for recruitment purposes. However, there emerges a desire to communicate their unique personality above all in the form of a *willingness* to do something, based on their *excellent/good capabilities* to become part of the work environment. While some of the formulations of competencies echoed those in the predefined skill dictionaries, others revealed attitudes that would not otherwise have surfaced.

The primary contribution of this study therefore is to shed light on how candidates deal with the representation of competencies both as quantitative and scaled indicators and discourse in free-text sections. By examining the interplay between metadata and textual content in CVs, this study shows how a more exhaustive understanding of candidates can be intercepted, challenging the almost "vectorial" versions based on scores tied to pre-determined labels, that are also often absent. Moreover, the insights from this study have both theoretical and practical implications.

Theoretically, it integrates and expands the existing literature which analyses and challenges the increasing use of AI tools in recruitment and selection processes. It further discusses the extent to which these tools conform to, and simultaneously serve to reinforce, a predetermined, codified and measurable conception of individuals and their competencies. Nonetheless, in consideration of the ever-present nature of narrative knowledge in all social practices (Czarniawska, 2004), the knowledge value of CVs does not solely derive from lists of competencies and qualifications, but it can be explored as a discourse through which candidates express themselves. Consequently, a methodological approach impinging on the interaction between structured metadata and textual information is proposed to explore a corpus of CVs from recent graduates. Practical implications are drawn from the information contained within the CVs, whilst it is the absence of information that is of particular significance. In fact, in the absence of scores for soft and digital skills in most CVs, the question arises as to how this information is assessed by human recruiters and, with even greater pertinence, by algorithms.

6 Acknowledgements

The authors wish to thank the AlmaLaurea Information Systems Department for their interest and helpfulness in the realisation of this research.

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HOW FUTURE WORK SELVES HIGHLIGHT MEANINGFUL PROSPECTIVE WORK AND BUFFER PURPOSE IN LIFE

Short Paper

Giulia Milani, Venice School of Management, Ca' Foscari University, Venice, Italy, giulia.milani@unive.it

Laura Cortellazzo, Venice School of Management, Ca' Foscari University, Venice, Italy, laura.cortellazzo@unive.it

Sara Bonesso, Venice School of Management, Ca' Foscari University, Venice, Italy, bonesso@unive.it

Abstract

The concept of Future Work Self (FWSs, Strauss et al., 2012), which refers to individuals' mental representations of their career-related hopes and aspirations, presents a valuable opportunity to foster a profound sense of meaningful work. Engaging in the process of meaning-making also plays a role in influencing a higher sense of purpose in life. Hypotheses were tested through a three-wave survey administered to a sample of graduate students (N = 117). Findings indicated that higher levels of salience and positive affect in envisioning the FWS were significantly connected with meaningful work, which subsequently predicted a stronger sense of purpose in life. This study highlights how envisioning a hypothetical future work scenario can serve to derive meaning from it and guide further career development. It also extends the literature on FWS by demonstrating the predictive role of FWSs in perceiving meaningful work and in nurturing a sense of purpose in life.

Keywords: Future Work Self, Purpose in Life, Work Meaningfulness.

1 Introduction

People are increasingly seeking occupations in which they perceive a sense of existential meaning (Dik et al., 2015; McKinsey, 2021) to face today's uncertain environment. We conceived meaningful work "as work that is both significant and positive in valence" (Steger et al., 2012: 323). By adopting this definition we align with the literature that considers individuals as agents able to derive meaning by reflecting on a specific job and evaluate work as significant, worthwhile, and with positive meaning (Bailey et al., 2019). Since meaningful work is associated with several benefits (e.g. higher job commitment), scholars widely inquired about its determinants (for a review see Lysova et al., 2019). Our interest particularly focuses on the practice of reflecting on a hypothetical work scenario to identify the source of work meaning (Blustein et al., 2023), and how meaning can be derived from the future while transcending the present (de Boeck et al., 2019; Fay et al., 2023). In fact, beyond the evaluation of the current work, scholars posit that meaningful work should also be seen as "an aspirational work condition oriented toward experiencing a sense of significance" (Blustein et al., 2023: 300) suggesting that meaningful work could represent a desired scenario that differs from one's current situation. However, the potential role of a desired work in engaging individuals with a sense of meaning are scantily studied in the literature (de Boeck et al. 2019; Fay et al., 2023), despite its role to direct future career steps and acquire adaptive resources (Guan et al., 2017) through the reflection on personal career aspirations. To explain how individuals can identify careers that are meaningful to them, we draw on the concept of Future Work Self (FWSs, Strauss et al., 2012), which refers to individuals' cognitive representations of their deepest hopes and aspirations in relation to work. We also state that achieving a

sense of work meaning influences an important aspect of individuals' wellbeing: purpose in life. Thus, the aim of our paper is to address the following research question: *Does envisioning FWSs enhance the acquisition of work meaningfulness, which in turn fosters the perception to have a purpose in life?* The relationships between the different constructs are depicted in Figure 1.

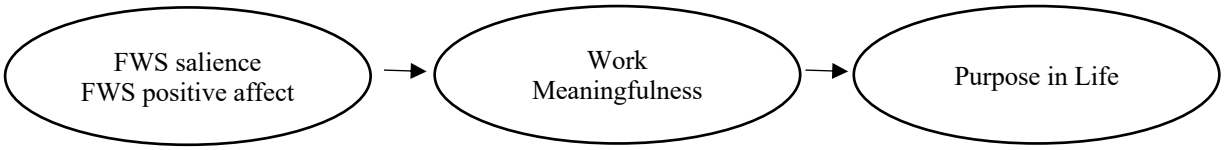


Figure 1. Research model.

The possibility of deriving meaning from future states is particularly critical at the beginning of one's career or during a process of revising one's professional identity, as it may be especially useful to transcend the here-and-now perspective, relying on pre-experience of a particular work and deriving meaning from it. For graduates, gaining insight into which types of work will be conducive of a sense of meaning can help guide their career choices and ensure future employments that align with their values. Furthermore, in a context where individuals are increasingly expected to take charge of their own career management (Hirschi and Koen 2021), it is more important than ever to explore the factors that can assist them in navigating the career construction process.

Overall, this paper makes several contributions to the literature. First, we expand the understanding of how meaning can be derived from work by reflecting on a work scenario, even when only hypothesized. Additionally, we extend the role of FWS as an antecedent of meaningfulness, considering how work can be pre-experienced through mental travel to a future reality. In this process, we highlight the spurring role of positive affect and salience associated with the image of FWS. Although the meaning is purely prospective, it facilitates the definition of a future to strive toward. Finally, we aim at enriching the literature on purpose in life by highlighting the mediated relationship between FWS and purpose in life.

2 Theoretical Background

Being work meaningfulness enhanced when current work activities are aligned with desired future (de Boeck et al., 2019), we consider the influence of FWS as the mental image of one's deepest work hopes and aspirations. Prior FWS studies only rely on the cognitive dimension of FWS in terms of salience (i.e., the extent to which the mental image of FWS is easy and clear to envision) (e.g., Kao et al., 2022; Strauss et al., 2012) as the sole dimension to observe the influence of FWSs on subsequent outcomes. Differently from previous FWS literature, we also introduce its affective dimension (i.e., the extant to which the mental image of FWS provides a positive emotional experience). Research to date has largely overlooked the potential affective component associated with envisioning the future self. Nonetheless, in their seminal paper, Markus and Nurius (1986) introduced the concept of possible selves, explicitly highlighting the role of affect. Furthermore, subsequent studies have demonstrated that envisioning an ideal scenario is associated with the experience of positive emotions (Rawolle et al., 2017; Schubert et al., 2020). For these reasons, and given that FWSs represent a form of positive possible selves (Strauss et al., 2012), we argue that FWSs are constituted by cognitive and affective dimensions.

In accordance with career construction theory (Savickas, 2013), FWS salience has been identified as an antecedent to career adaptability, which provides individuals with readiness to cope with future career challenges (Johnson, 2016). Providing a clear, future-oriented self-concept, FWS is one of the key components through which individuals individuate the necessary competences to achieve meaningful goals derived from a profound self-understanding. Studies (Dik et al., 2015; Steger et al., 2012) demonstrated that acquiring a salient self-understanding of who individuals aspire to become in the future enhances their likelihood of experiencing a sense of meaningfulness. Indeed, the acknowledgment of the ideal self in relation to work satisfies the authenticity mechanism proposed by Rosso et al. (2010), in which individuals derive meaning from work when they perceive a sense of coherence with their ''true'' self.

Support for the relationship between FWS affect and meaningful work also comes from the broaden-and-build theory. Fredrickson (2001) recognizes that positive emotions broaden individuals' cognitive and behavioural repertoires, promoting the ability to pursue meaningful goals. Scholars have provided evidence that positive affect forms a foundation for individuals to experience meaning in the work context (Dik et al., 2015) and, through positive affect they are more likely to perceive a sense of meaning in relation to their work (Lee et al., 2020). In our study, positive affect was derived from pre-experiencing the FWS, namely an inner source of positive affect, rather than the work context. This reflects a critical source that can influence the likelihood of experiencing a sense of meaning.
Based on these evidences, we state the following:

Hypothesis 1a: FWS salience positively influences meaningful work;

Hypothesis 1b: FWS positive affect positively influences meaningful work.

Purpose in life is defined as "the aspect of meaning in life that is specifically associated with the sense of direction" (Fang et al., 2024: 63). Multiple outcomes associated with a greater sense of purpose in life, both personal related outcomes (e.g., lower risk of dementia; Sutin et al., 2021), and professional ones (e.g., higher income; Hill et al., 2016), as well as the fact that purpose in life represents one of the constitutive elements of psychological well-being (Ryff, 1989). Work dimension has been attested to be a critical aspect on how individuals assess their overall purpose in life (Sewdas et al., 2017), so that how individuals shape their work life could enhance their sense of purpose in life. Prior research demonstrated that meaningfulness has a positive impact on psychological well-being and purpose in life (Fang et al., 2024; Steger et al., 2012). Although these two concepts are closely intertwined, they are distinct, and scholars highlighted how meaning related to work drives the development of purpose in life (McKnight & Kashdan, 2009). Given the previous considerations, we state the following:

Hypothesis 2: Meaningful work is positively related to purpose in life.

Scholars have provided initial support for the relationship between FWSs' salience and psychological well-being (Li et al., 2021; Pisarik & Shoffner, 2009). We hypothesized that, beyond the cognitive component of ideal selves and in accordance with prior research (Fredrickson, 2001), the affective component experienced through envisioning the FWS could enhance the sense of well-being. Relying on the aforementioned evidence that focuses on psychological well-being, we propose that this relationship may similarly apply to the specific dimension of purpose in life, which is one of the fundamental aspects of psychological well-being (Ryff et al., 1989). Therefore, we expect the following mediation to be observed:

Hypothesis 3a: FWS salience has a positive association with purpose in life, via meaningful work;

Hypothesis 3b: FWS positive affect has a positive association with purpose in life, via meaningful work.

3 Method

Data were collected in the context of an Italian public university from a sample of graduates enrolled in a self-development program designed by an academic centre to help students become aware of their career aspirations through deep reflection and a written description of their future work self. The data collection consists of three online surveys. Participants were explicitly informed about the confidential treatment of all responses and personal information, in accordance with research ethical standards. At the beginning of the course, the first survey collected demographic characteristics (e.g., gender) and personality traits (e.g., neuroticism). At Time 2, two weeks after the beginning of the course, participants created their future work self statement and completed a survey to assess affect in envisioning the FWS and FWS salience. After the end of the program (twelve weeks from Time 2), at Time 3, students received a follow-up survey to measure their perception of having found a prospective work meaningfulness and psychological well-being.

The initial number of enrolled students was $N = 163$, corresponding to the number of respondents to the first survey. The final sample, consisting of students who answered all surveys, is $N = 117$. This represents a response rate of 71,8%. The average age of the sample was 25 (SD=4.1). Seventy-eight

percent of the sample was female, which resembles the gender distribution in the population of students attending the considered university.

3.1 Measures

For all measures described below, participants were asked to respond using a 5-point scales with a response format ranging from 1 (= *Strongly disagree*) to 5 (= *Strongly agree*).

3.1.1 FWS salience

Sample's future work self salience was measured by the 5-item scale developed by Strauss et al. (2012), and participants were asked to rate how clear and easy it was for them to imagine the visualization of their desired future. The construct and predictive validity of the measure were validated in Strauss et al. (2012). Cronbach's alpha in this study was .94.

3.1.2 FWS positive affect

The positive affect associated with the experience of FWS envisioning was assessed using the Positivity and Negativity Affect Scale (PANAS; Watson et al., 1988). In light of previous studies, we used a selection of the items related to detecting positive affect (Lee et al., 2019; Shao et al., 2024). Respondents rated how five adjectives (e.g., "enthusiastic") described the affective state they experienced regarding the mental image of their desired future, as described in their future work self statement. Cronbach's alpha was .87.

3.1.3 Meaningful Work

This variable was measured through four items from Steger and colleagues (2012) (Meaning Making through Work subscale, part of the broader Work as Meaning Inventory (WAMI) and Kohles et al., (2012). From the original phrasing, we adapted the text to adjust it to our context that analyzes the FWSs. Participants were asked to rate the perception of meaning achieved after the formulation of a future work self statement during the twelve weeks prior. Cronbach's alpha was .90.

3.1.4 Purpose in Life

Participants' purpose in life was assessed using 5 items from purpose in life subscale from the Ryff's Psychological Well-Being Scale (RPWB, Ryff 1989). Participants rated how clear their sense of purpose in life was between the time they wrote the future work self statement and T3 (twelve weeks later). Cronbach's alpha was .89.

3.2 Control variables

To account for potential gender differences in envisioning the future (Ibarra & Obodarou, 2009), gender was included as a control variable (dummy coded with 0 = male and 1 = female) in analyses of FWS salience and positive affect. Additionally, neuroticism was included as an individual personality trait to examine its impact on deriving meaning from work experience (Lysova et al., 2019; Steger et al., 2006). We assessed neuroticism using 6 items from the Italian version of the Big Five Questionnaire (BFQ-2) (Caprara et al., 2008). Cronbach's alpha was .85. Finally, similarly to the positive affect, we consider the role of FWS negative affect. To do so, we employ 5 items (e.g., "nervous") from the Positivity and Negativity Affect Scale (PANAS; Watson et al., 1988). Cronbach's alpha was .86.

4 Findings

We used Lisrel 10 to analyze the data. Descriptive statistics and correlations among the study variables are reported in Table 1.

	Variable	M	SD	1	2	3	4	5	6
1	FWS salience	3.31	1.00						
2	FWS positive affect	3.55	0.88	.47**					
3	Meaningful work	3.83	0.91	.32**	.51**				
4	Purpose in life	3.68	0.88	.42**	.52**	.48**			
5	Neuroticism	3.06	0.90	-.27**	-.09	-.18	-.42**		
6	FWS negative affect	2.03	0.89	-.37**	-.39**	-.32**	-.49**	.39**	
7	Gender	0.79	0.41	.08	.01	.08	-.14	.33**	.08

*Note. N = 117. P < 0.10; *p < 0.05; **p < 0.01; ***p < 0.001.*

Table 1. Means, standard deviations and correlations.

With the aim to assess discriminant validity, we conducted confirmatory factor analysis (CFA) for the four variables within the model. Results from the data analysis indicates that the model fits the data well [$\chi2 = 205.81$, df = 146; (RMSEA) = 0.06; CI (RMSEA) = 0.0389 - 0.0772), PCI = 0.21; (SRMR) = 0.06; (CFI) = 0.96] (Hair et al., 2010; Hu & Bentler, 1999). To address the risk of CMB, following the suggestion of Podsakoff et al. (2003), we applied a single common method approach and compared the standardized regression weights of all items for models with and without a common latent factor. The differences in these regression weights were negligible, which confirmed that CMB is not a major issue in our data. Nevertheless, since we measured both meaningful work and purpose in life at Time 3, we conducted a closer examination of these variables to control for CMB. We constrained meaningful work and purpose in life to a single factor. Results show a poorer fit for this model.

Hypotheses testing was performed using structural equation modeling (SEM). In Model 1 we analyse the relationships to test how the FWS (salience and positive affect) influence meaningful work, which, in turn, is associated with purpose in life. We also try to detect whether meaningful work fully mediates the relationship between FWS dimensions and purpose in life. The global fit indexes of the SEM model 1 [$\chi2=214.09$, df=148; RMSEA=0.06; CI (RMSEA)= 0.0424 - 0.0794), PCI=0.15; SRMR=0.07; CFI=0.96] demonstrate a good model fit according to the criteria proposed by Hu and Bentler (1999). Hypothesis 1a and 1b posit a positive association of FWS salience (1a) and FWS positive affect (1b) with meaningful work. The analysis confirms a positive and statistically significant relationship between FWS salience and meaningful work ($\beta = .27$, $p = .007$), and a strong and highly significant relationship is also attested between FWS positive affect and meaningful work ($\beta = .50$ $p < .001$). These results demonstrate that both FWS dimensions are reliable and robust predictors of meaningful work, providing full support for hypotheses 1a and 1b. Hypothesis 2, which indicates that meaningful work anticipates purpose in life, was supported by the findings that show a positive and significant relationship between meaningful work and purpose in life ($\beta = .69$, $p < .001$).

Moreover, to test the mediation (Hypothesis 3a and 3b), we followed suggestions of James et al., (2006) and used the fully mediated model as a base adding the direct paths to it. We tested three comparative models, adding a direct path from FWS positive affect to purpose in life only (Model 3), adding a direct path from FWS salience to purpose in life only (Model 4), and including both direct paths (Model 2). Results, summarized in Table 2, show Model 3 fits slightly better when considering the global fit indexes. Relationships among the variables are maintained. Specifically, the hypothesized relationship between the two FWS dimensions and meaningful work is strong and significant when considering FWS salience (1a) ($\beta = .27$, $p = .007$), as well as when considering FWS positive affect (1b) ($\beta = .48$, $p < .001$). The relationship between meaningful work and purpose in life (H2) is also unchanged, showing a strong and significant influence ($\beta = .42$, $p < .001$). Moreover, when testing the hypothesized mediating relationship between FWS positive affect and purpose in life (H3b), we observed that the direct effect of FWS positive affect on purpose in life is strong and significant ($\beta = .32$, $p = .021$). As Model 3 does not include a direct path between FWS salience (3a) and purpose in life, we relied on Model 2 to further verify this relationship. Overall, these findings suggest that the relationship between FWS positive affect and purpose in life is partially mediated by meaningful work, while the relationship between FWS salience and purpose in life is fully mediated by meaningful work. Therefore, hypothesis 3a is supported,

while hypothesis 3b is partially supported. We performed the analysis including three control variables (i.e., gender, neuroticism, FWS negative affect). We rerun the model to assess: 1) the effect of gender on FWS salience and affect; 2) the effect of neuroticism on meaningful work; 3) the effect of negative affect on purpose in life. None of these variables showed a significant influence, and the findings are maintained.

Model	SB-χ2(df)	RMSEA	CI	PCI	CFI	SRMSR
Model 1	214.09 (148)	0.06	0.04; 0.08	0.15	0.96	0.07
Model 2	193.75 (146)	0.06	0.04; 0.08	0.21	0.97	0.06
Model 3	194.37 (147)	0.06	0.04; 0.08	0.22	0.97	0.06
Model 4	199.11 (147)	0.06	0.04; 0.08	0.16	0.97	0.06
	(a)	(b)	(c)	(d)	(e)	(f)

Note. (a) Satorra-Bentler chi square (degrees of freedon); (b) Root mean square error of approximation; (c) Confidence interval; (d) Probability of close fit; (e) Comparative fit index; (f) Strandardized root mean square residual.

Table 2. Models Goodness-of-Fit Indexes.

5 Final Remarks

Our research sought to provide several contributions. First, while existing research predominantly focuses on contextual organizational factors in explaining how work is perceived as meaningful, we explored how meaning is derived through the pre-experience of a hypothesised, desired work scenario. This adds to the limited literature on work meaningfulness that adopts a temporal lens. Additionally, we expand the understanding of FWS by demonstrating how it functions as a powerful antecedent that triggers the meaning making process. Specifically, we show that both FWS salience and FWS positive affect positively influence meaning acquisition. This insight is crucial in career development, suggesting that meaning can be created in advance, helping individuals navigate the career construction process and acquire the adaptive resources they need. Additionally, our evidence further confirms the predictive role of meaningfulness in shaping the perception of a purpose in life. We demonstrate that FWS can impact this perception, with work meaningfulness serving as a mediator. In this way, meaning making becomes a crucial turning point: once the FWS is defined, cognitive processing driven by meaning making is essential; it is also necessary and preparatory for developing a purpose in life, which is paramount for goal setting and sustaining consistent behaviours aligned with the inner self. Finally, our work suggests some practical implications, as organizations and educational institutions could design specific development programs to support individuals in acquiring meaningfulness related to work, while also energizing them through the mental image of their professional goals.

Overall, although the study is not without limitations, we provide new insights on how the concept of FWS serves as a way for individuals to anticipate and prepare for future work challenges by cultivating a sense of meaning related to work. This contribution also enhances our understanding of how the professional dimension can contribute to a meaningful and purposeful life.

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THE PHILOCTETES' WOUND: HEALING WORKPLACE OSTRACISM AND LONELINESS THROUGH MUTUAL RECOGNITION

Short Paper

Deborah Gervasi, Kore University of Enna, Enna, Italy, deborah.gervasi@unikore.it

Abstract

The present work aims to investigate the relational dynamics of Workplace Ostracism (WO) and Loneliness (WL), positioning these phenomena as outcomes of disrupted reciprocity within organizational environments. WO, marked by exclusion and neglect, and WL, defined by perceived relational disconnection, are shown to arise when mutual recognition is absent. Existing interventions that primarily target increased social interaction often fail to address the deeper relational causes of these issues. The study introduces a cause-effect model, proposing that the lack of mutual recognition disrupts reciprocity, which in turn leads to workplace loneliness through a self-reinforcing mechanism. Grounded in the philosophical frameworks of Honneth and Taylor, the paper advocates recognition as a relational gift that restores dignity, trust, and solidarity, mitigating the negative spiral.

Keywords: Workplace Loneliness, Workplace Ostracism, Recognition, Reciprocity

1 Introduction

Imagine being Philoctetes, abandoned on the island of Lemnos, his festering wound is not only a source of physical suffering but also a symbol of social rejection. Odysseus defends his exclusion as necessary, thereby fracturing relational bonds and eroding shared humanity (Testa, 2018). Ten years later, the Greeks decide to return, not out of redemption, but because an oracle has spoken: the victory in Troy is possible only with the help of Philoctetes. Despite their return bringing with it the promise of healing, Philoctetes refuses. He chooses exile once more. He decides to remain alone, in a circle of exclusion and self-exclusion. This dynamic of exclusion echoes ancient practices rooted in human evolution. Ostracism, derived from the Greek word ostracon, which refers to pottery shards used to expel citizens, functioned as an early, nonviolent mechanism of social control. In early societies, group cohesion was preserved by removing perceived threats, though at significant relational and psychological costs (Baumeister & Leary, 2017).

While no longer a matter of survival, nowadays, exclusion undermines fundamental needs for belonging, esteem, and control, contributing to emotional strain and reduced engagement (Howard et al., 2020; Jahanzeb et al., 2018). In contemporary workplaces, this dynamic persists through WO, i.e., the perceived exclusion or neglect by colleagues and supervisors (Ferris et al., 2017). In turn, WO can foster WL, namely, the subjective sense of relational deficiency that further erodes well-being and organizational connection (Ozcelik & Barsade, 2018).

Despite growing awareness, prevailing interventions rarely address the underlying relational disruption. Strategies to alleviate WL or WO typically focus on increasing social interaction (Haldorai et al., 2020). Yet these approaches remain superficial, treating the symptoms rather than the deeper fractures in recognition and reciprocity. This oversight reflects a broader conceptual limitation: the assumption that proximity or interaction is sufficient to repair relational disconnection (Masi et al., 2011). However, what truly heals exclusion is not reintegration alone but acts of recognition that restore dignity and relational trust (Cacioppo et al., 2014).

Drawing on the work of Axel Honneth (1996) and Charles Taylor (1989), this paper frames WO as a breakdown of reciprocity and recognition. Indeed, Taylor (1989) emphasizes how identity is shaped through meaningful interactions, while Honneth (1996) argues that recognition—expressed through love, respect, and esteem—mends relational fractures and fosters solidarity. Building on these insights, this study proposes that WO triggers perceptions of absent reciprocity, which fuel WL and reinforces exclusion. Mutual recognition, conceived as a "gift," interrupts this cycle by re-establishing acknowledgment and connection, initiating a dynamic of relational repair. The contribution of the study is twofold: (i) to propose a circular theoretical model that highlights the self-reinforcing cycle of WO and WL, and (ii) to introduce deeper tools of intervention, such as reciprocal recognition, to break the spiral. Theoretical and practical contributions are discussed.

2 Theoretical Foundation

WO and WL are interconnected yet distinct constructs that disrupt relational dynamics, psychological well-being, and professional identity within organizational contexts (Al-Atwi, 2017; Robinson et al., 2013; Wright & Silard, 2021). WO refers to the experience of being ignored, excluded, or marginalized by colleagues or supervisors, often through subtle behaviors such as withholding information, avoiding interactions, or excluding individuals from group activities (Ferris et al., 2017). These intentional or unintentional actions communicate a lack of acknowledgment, leaving individuals feeling invisible, undervalued, and unsupported (Howard et al., 2020). WO operates in subtle, indirect ways, making it harder to detect while profoundly affecting the individual's well-being and engagement (Williams, 2007). WO disrupts psychological needs like belonging, self-esteem, control, and meaning, triggering emotional exhaustion and diminished motivation (Chung, 2018).

WL, by contrast, is a subjective emotional state marked by a perceived lack of meaningful workplace relationships (Ozcelik & Barsade, 2018). Unlike physical isolation, WL reflects an internal experience of relational disconnection, even in social environments (Thau et al., 2007). It arises when relational needs, such as connection, trust, and acknowledgment, are unmet (Cacioppo et al., 2014). Indeed, WL manifests in two dimensions: emotional deprivation, namely the absence of deep, meaningful relationships, and social companionship, i.e., the lack of informal, day-to-day interactions (Weiss, 1975; Wright et al., 2006).

The distinction between being alone and being lonely is central to this phenomenon (Wright et al., 2006). Indeed, physical separation does not necessarily imply distress; WL stems from the absence of meaningful connections. Despite this nuance, many interventions focus on increasing social interaction rather than addressing more profound relational disconnection (Jahanzeb et al., 2018; Masi et al., 2011). While these solutions offer partial remedies, they overlook the deeper relational disruptions inherent in these phenomena. A broader theoretical framework is necessary to elucidate the mechanisms underlying WO and WL, as well as their impact on identity, belonging, and organizational cohesion.

3 Theoretical Frameworks previously adopted

Previous studies on WO and WL draw on various theoretical frameworks. Among the most influential is the COR theory (Hobfoll, 1989), which conceptualizes WO and WL as processes that deplete emotional and social resources, leading to disengagement and diminished organizational commitment (Al-Atwi, 2017). Resource loss can trigger negative spirals, compromising well-being and cohesion (De Clercq et al., 2019). Yet COR theory's focus on depletion overlooks how relational dynamics might replenish resources. Belongingness theory (Baumeister & Leary, 2017) provides a complementary perspective, emphasizing the fundamental human need for meaningful relationships. Unmet belonging needs lead to distress and impaired social functioning (Thau et al., 2007). However, this theory primarily addresses individual consequences, neglecting organizational and structural factors (Ferris et al., 2008). A step forward is made by Social Exchange Theory (SET; Blau, 1964), which highlights how WO disrupts reciprocal exchanges of trust, support, and relational investment, undermining interpersonal bonds and fostering isolation (Paşamehmetoğlu et al., 2022). Yet SET's transactional emphasis limits

its capacity to capture non-instrumental dimensions of relational repairs, such as solidarity and trust-building (Haldorai et al., 2020).

These frameworks illuminate the relational deficits underlying WO and WL, but they also present limitations. They focus on individual resource depletion, belonging needs, or transactional reciprocity without fully addressing the ethical and systemic dimensions of relational repair, which could be addressed by introducing the concept of mutual recognition.

4 Mutual recognition and reciprocity

The concepts of mutual recognition, as developed by Charles Taylor (1989) and Axel Honneth (1996), offer a foundational lens for understanding relational dynamics in the workplace, particularly in relation to ostracism and loneliness. Taylor (1989) emphasizes the constitutive role of recognition in shaping identity, arguing that identity emerges not in isolation but through dialogical interaction with others. A failure of recognition - manifested in humiliation, misrecognition, or neglect - inflicts deep psychological harm, undermining self-worth and fostering alienation (Taylor, 1989). Building on this, Honneth (1996) develops a theory of recognition grounded in social struggle and intersubjectivity. Rejecting anthropological models focused on self-preservation, Honneth argues that human conflict stems from a fundamental drive for recognition. Drawing on Mead (1913) and Hegel (1977), he posits that identity, freedom, and self-realization are not solitary achievements but products of social validation. Recognition is not a transactional act, but a gratuitous "gift" bestowed by others, fostering a sense of belonging, solidarity, and self-esteem (Molinari & Cavaleri, 2015).

This conceptualization aligns with broader theories of the gift, which transcend utilitarian logic to emphasize symbolic and relational value (Godbout, 1996). The act of giving creates and sustains social bonds, driven by the human desire to overcome isolation and establish meaningful connections (Caillé, 2023). Reciprocity, in this sense, is not reducible to balanced exchange but emerges from mutual recognition and acknowledgment of shared vulnerability, fostering empathy and relational sustainability (Pulcini, 2012).

In organizational contexts, WO and WL signal the erosion of this dialogical process. Ostracism denies acknowledgment essential for belonging and esteem (Ferris et al., 2008; Williams, 2007), while loneliness reflects a subjective sense of relational inadequacy despite physical presence (Ozcelik & Barsade, 2018). Both reveal a breakdown in the relational fabric of the workplace, where recognition is absent, and identity formation is impaired. The following sections outline a model that proposes mutual recognition can interrupt this cycle, thereby restoring dignity and relational connection.

5 Toward a Model of Relational Repair

5.1 From WO to WL and back

Through exclusion or marginalization, WO disrupts the implicit norms of reciprocity, sustaining organizational relationships (Robinson et al., 2013; Gervasi et al., 2022). Positive reciprocity, as a mutual exchange of positive actions (Gouldner, 1960), is essential for maintaining trust and collaboration (Cropanzano & Mitchell, 2005). Therefore, when WO occurs, it disrupts this exchange, signaling rejection and undermining the bidirectional nature of relationships (Hénaff, 2019). It, thus, prompts ostracized individuals to perceive a violation of relational norms, eroding trust and reinforcing exclusion (Paşamehmetoğlu et al., 2022). Indeed, the presence of reciprocity extends beyond transactional exchange; it encompasses moral and social acknowledgment of others' worth (Hénaff, 2019), while its absence fosters asymmetry, relational disconnection, and diminished dignity (Al-Atwi, 2017).

Proposition 1: WO leads to the perception of an absence of reciprocity.

The perception of absent reciprocity undermines the relational foundation that is necessary for individuals to feel valued and connected. Reciprocity fosters trust and emotional security; when disrupted, employees experience diminished inclusion and heightened exposure to loneliness (Gervasi et al., 2022; Gouldner, 1960; Lam & Lau, 2012). WL is particularly sensitive to relational deficits, emerging when employees feel deprived of acknowledgment and connection (Wright & Silard, 2021).

Individuals often interpret workplace relationships lacking reciprocity as indifferent or hostile, which can lead to emotional and social isolation (Cacioppo et al., 2014). This fosters perceptions of invisibility and low self-worth, leading to cognitive distortions about others' intentions (Cacioppo et al., 2014). Environments lacking relational reciprocity foster WL, as employees withdraw and avoid social engagement, thus reinforcing their isolation (Masi et al., 2011).

Proposition 2: The perception of an absence of reciprocity leads to WL.

WL, marked by relational disconnection, may further reinforce WO. WL fosters emotional and behavioral responses, such as withdrawal and cognitive distortions that perpetuate exclusion (Cacioppo et al., 2014). This dynamic creates a self-reinforcing cycle in which self-protective behaviors are misinterpreted as disinterest or hostility (Wright et al., 2006). WL may also generate negative emotional responses that alienate colleagues, like frustration or defensiveness (Ozcelik & Barsade, 2018). Over time, these dynamics foster a culture of exclusion, where WO becomes normalized. Cognitive distortions associated with WL, such as sensitivity to rejection, diminish opportunities for re-engagement and exacerbate relational disconnection (Cacioppo et al., 2014). These individual and collective dynamics erode the relational fabric necessary for healthy organizational functioning (Wright & Silard, 2021).

Proposition 3: WL reinforces WO by prompting withdrawal behaviors, negative emotional responses, and cognitive distortions that perpetuate exclusion.

5.2 The Moderating Role of Mutual Recognition

Relational breaches arise when individuals perceive themselves as ostracized, feeling unacknowledged and devalued (Williams, 2007). Exclusion may be experienced as stigmatization, reinforcing perceptions of difference and triggering loneliness (Wright & Silard, 2021).

Theories of recognition (Honneth, 1996; Taylor, 1989) provide a framework for addressing these breaches. Honneth identifies three interrelated dimensions of recognition—love, rights, and solidarity—as essential for self-realization and relational cohesion. Without these acknowledgment forms, individuals struggle to sustain their identity and sense of belonging (Taylor & Gutmann, 1994). Therefore, the "gift of recognition," as a voluntary and non-symmetrical act fostering connection and repair (Molinari & Cavaleri, 2015; Caillé, 2023), counteracts the negative spiral initiated by WO. Indeed, grounded in the theory of the gift (Godbout, 1996; Pulcini, 2012), recognition is not transactional but an intentional gesture affirming human dignity. This form of giving, rooted in empathy and shared vulnerability, breaks the symmetry of reciprocity and initiates a new relational dynamic based on trust.

Proposition 4: The social gift of mutual recognition moderates the relationship between WO and the perception of an absence of reciprocity by restoring positive reciprocity, trust, and acknowledgment.

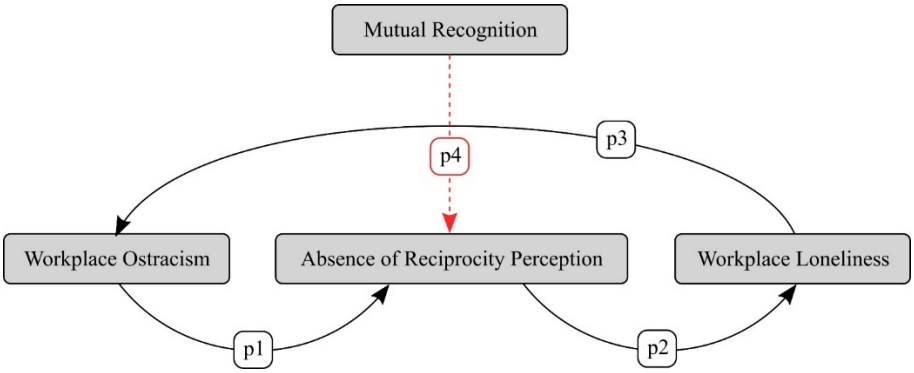


Figure 1. Theoretical model - Note(s): Dotted red lines represent the mediation effect of mutual recognition on the perception of the absence of reciprocity.

6 Discussion

This study contributes to understanding WO and WL by framing these phenomena within the theoretical lens of mutual recognition. Drawing on Taylor (1989) and Honneth (1996), it emphasizes the foundational role of recognition in sustaining relationships.

6.1 Theoretical Implications

This research offers several theoretical contributions. It integrates insights from organizational behavior with philosophical theories of recognition and the gift-giving paradigm (Pulcini, 2012), bridging disciplinary boundaries to deepen understanding of workplace relational dynamics. The study enriches the reciprocity framework by introducing the importance of positive reciprocity through mutual recognition. Indeed, in this case, positive reciprocity is not emphasized as a transactional exchange (Cropanzano & Mitchell, 2005) but is rooted in voluntary acknowledgment and recognition. This initiates relational cycles not predicated on balanced exchanges. By incorporating the gift paradigm, recognition is conceptualized as a relational gift, transcending transactional logic and creating relational spaces where individuals feel valued.

6.2 Practical Implications

This study underscores the transformative potential of recognition as a relational gift, offering it as a strategy to address WO and WL. It invites organizations to cultivate environments where employees' dignity, individuality, and belonging are actively affirmed. Mutual recognition, framed as a relational gift, can be operationalized through personalized, dialogical interactions that emphasize achievements and employees' unique contributions. Dialogue becomes more than an exchange of information; it fosters relational authenticity and dismantles misrecognition. Recognition may also be expressed symbolically through storytelling sessions, identity workshops, or curated displays of employees' contributions. Such practices affirm that belonging is rooted in membership and acknowledgment of uniqueness.

7 Conclusion

The study aimed to analyse the relationships between WO and WL through the lens of mutual recognition. By highlighting the presence of a self-reinforcing circle between the two constructs and framing them in the light of the mutual recognition theory (Taylor, 1989; Honneth, 1996), the research offers an attempt to delve deeper into the investigation of the phenomena explaining the profound relational fractures they cause. Indeed, by considering the perception of reciprocity and evaluating the importance of recognition in relational repair, the presented theoretical reasoning suggests new ways to overcome the risk of an escalation process. As in Sophocles' Philoctetes, Heracles reappears not as a

distant authority but as a figure of relational transformation (Testa, 2018); similarly, managers can assume the role of relational facilitators, offering recognition to heal fractures of WO and WL. This act affirms employees' unique identities and contributions, fostering environments grounded in trust, respect, and solidarity. Recognition is not merely a managerial tool, but a transformative relational practice that initiates cycles of positive reciprocity.

The proposed model cannot analyze all the relevant dimensions of the phenomenon; however, it tries to focus on some underestimated relationships. Future empirical research could test the proposed relationships through quantitative studies such as surveys and experiments. Furthermore, longitudinal and experimental designs could investigate how mutual recognition develops and whether it effectively mitigates the adverse effects of ostracism and loneliness.

Future studies can enrich the theoretical framework by addressing these limitations and offering practical insights into fostering healthier and more inclusive workplaces.

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THE DECISION BETWEEN VOICE OR EXIT IN SERVICE COOPERATIVES

Short Paper

Vincenzo Cavaliere, University of Florence (Italy) – vincenzo.cavaliere@unifi.it
Martina Mori, e-Campus University (Italy) – martina.mori@uniecampus.it

Abstract

This study examines how job satisfaction influences constructive voice, destructive voice, and exit intentions within service cooperatives, drawing on Hirschman's Exit-Voice-Loyalty (EVL) framework. Using survey data from 222 employees, a path model was employed to test both direct and moderated relationships. Results show that job satisfaction positively predicts constructive voice and negatively predicts destructive voice and exit intentions. Loyalty emerges as a key moderator, strengthening the positive link between satisfaction and constructive voice, while weakening the negative associations with destructive behaviours and exit. These findings underscore the importance of loyalty as a stabilising force that channels dissatisfaction into productive employee behaviours. By addressing both constructive and destructive voices alongside exit, the study provide an application of the EVL theory and enriches understanding of employee responses in cooperative contexts. Practical implications underscore the importance of nurturing loyalty to foster engagement, reduce turnover, and promote the cooperative spirit.

Keywords: Voice, Exit intention, Loyalty, service cooperatives; Exit-voice-loyalty theory

1 Purpose of the paper

The potential contribution of individuals' ideas and opinions, often expressed through employee voice, is increasingly recognised as critical to the effectiveness and sustainability of organisations. This relevance is particularly pronounced in cooperatives, where individual participation forms the foundation of their identity and organisational model. Unlike conventional organisations, cooperatives rely on their members' active participation and involvement, who share ownership and play a central role in decision-making. However, the heterogeneity of member interests (Hansmann, 1999) can introduce complexities in achieving alignment, making the attitudes and behaviours of members especially significant for fostering organisational cohesion and success.

Among individual attitudes, job satisfaction stands out as a crucial factor for both individual and organisational outcomes. Conceptually, job satisfaction reflects an overall evaluative judgement of one's work experience, ranging from positive to negative (Judge et al., 2017). Its significance has been demonstrated across diverse organisational contexts, influencing outcomes such as task performance, absenteeism, turnover, and organisational citizenship behaviours (Judge et al., 2017). For cooperatives, job satisfaction carries an even deeper significance. These organisations are inherently people-centred, owned and operated by their members, with participatory decision-making and collective value creation as core principles. Satisfied members are more likely to engage actively in the cooperative's life, extending their contributions beyond formal work tasks to champion its mission and values. In this sense, job satisfaction is not only a determinant of individual well-being but a cornerstone of cooperative vitality and identity.

Given the centrality of participation and the unique dynamics of cooperatives, understanding how members respond to their level of job satisfaction becomes critical. Hirschman's Exit-Voice-Loyalty

(EVL) framework offers a valuable theoretical lens through which to examine these responses. The framework highlights how individuals navigate dissatisfaction, deciding to participating within the organisation by expressing concerns and ideas (voice) or withdrawing from the organisation (exit). Employee voice is critical for addressing challenges, driving innovation, and enhancing customer experiences (King et al., 2020). Employee turnover has significant implications for the cooperative, particularly in terms of costs associated with the loss of institutional knowledge, skills, and expertise. These departures can result in a diminished organisational capacity, as valuable insights and competencies are lost, potentially impacting overall performance and productivity.

Applying this framework in the cooperative context allows for a nuanced exploration of how job satisfaction influences critical member behaviours, particularly voice and exit, which have far-reaching implications for the participatory ethos and overall effectiveness.

Building on these premises, this study investigates the dynamics of Hirschman's EVL framework within service cooperatives to examine the relationship between job satisfaction, employee voice, and exit responses. Moreover, in alignment with Hirschman's Exit, Voice, and Loyalty (EVL) framework, this research explores the moderating role of individual loyalty in triggering the relationship between challenging voice or exit behaviours in response to job satisfaction. By doing so, it aims to shed light on the attitudinal and behavioural mechanisms that underpin member participation, providing insights into how service cooperatives can nurture engagement and address the challenges associated with dissatisfaction.

Understanding how employees respond to job satisfaction is essential for understanding the dynamics of organisational behaviour, particularly in contexts where individual actions directly impact organisational outcomes. This is particularly true for service organisations, where employees serve as the primary—and often only—point of interaction between the organisation and its customers (Kumar et al., 2014). Unlike tangible products, which are produced and consumed separately, services are simultaneously created and delivered, placing employees at the heart of these organisations as both producers and deliverers of value (Ma & Qu, 2011; Varela González & García Garazo, 2006).

As Bienstock et al. (2003) highlight, employees' discretionary behaviours are critical in bridging the gap between organisational standards and customer expectations. Among these behaviours, employee voice—manifested through suggestions, feedback, and expressing concerns about work-related issues (Van Dyne & LePine, 1998)—emerges as particularly vital. By raising inefficiencies, proposing improvements, and addressing service delivery issues, voice behaviours enable organisations to foster continuous learning and adapt to evolving demands, ultimately enhancing service quality and customer satisfaction. These behaviours are not only beneficial but essential for service organisations striving to maintain a competitive edge.

At the same time, exit intentions—employees' deliberate decisions to leave their roles—pose a significant threat to organisational knowledge and resources, representing a definitive and often costly response to dissatisfaction. While extensive research has examined the antecedents and consequences of both voice and exit behaviours, critical questions remain.

2 Theoretical background

The theoretical framework underlying this study is the Exit-Voice-Loyalty (EVL) theory, proposed by Hirschman (1970). As a pioneering theorist, Hirschman introduced the concept of voice as "any attempt at all to change, rather than escape from an objectionable state of affairs" (Hirschman, 1970, p. 30), proposing it as the way through which organisations can identify and address deficiencies and challenges, thereby improving their processes and outcomes (p. 10). Hirschman argued that when the quality of a product or service declines, customers' responses, such as expressing dissatisfaction (voice) or choosing a competitor's product (exit), provide organisations with critical feedback to recognise shortcomings and implement necessary improvements. Given its relevance, Hirschman's framework was extended within the organisational context to explore employee responses to dissatisfaction at work. According to this perspective, the EVL theory postulates that employees who encounter dissatisfaction have two primary options: to voice their concerns to stimulate change or improvement, or to exit the

organisation by leaving for alternative employment. Hirschman emphasised the importance of loyalty in the process between two options: voice and exit. He argued that greater loyalty leads employees to prefer using their voice to express concerns rather than leaving the organisation. This loyalty encourages them to engage constructively with the organisation instead of seeking outside alternatives. (Pauksztat et al., 2011).

In recent decades, the study of employee voice has garnered substantial attention within the organisational literature, emerging as a critical area of inquiry across multiple disciplines. Scholars have explored employee voice through diverse lenses, conceptualising it as a multidimensional construct adaptable to various analytical frameworks and contexts (Wilkinson, Dundon, et al., 2020). Among these perspectives, organisational behaviour (OB) scholars have concentrated on the individual-level dynamics of employee voice. OB scholars have reframed employee voice as a proactive, well-defined form of extra-role behaviour (Van Dyne & LePine, 1998). This perspective emphasises the capacity of employees to transcend the boundaries of their prescribed roles, contributing discretionary efforts to initiate change and foster organisational improvement (Morrison, 2014; Wilkinson, Barry, et al., 2020). Research indicates that individuals can develop opinions and suggestions about the organisation and their work based on different orientations, such as promotive and prohibitive communications (Aryee et al., 2017; Chamberlin et al., 2017; Liang et al., 2012). Among the promotive forms of voice, constructive voice intends to propose a change for organisational improvement (Van Dyne & LePine, 1998). The literature has highlighted it as central to creative performance and innovation (Guzman & Espejo, 2019). The destructive voice, by contrast, refers to the prohibitive nature and assumes that individuals do not always have constructive opinions regarding work-related issues (Maynes & Podsakoff, 2014). Studies focused on destructive voice have demonstrated that it directly impacts individual performance (e. g., Song et al., 2019). Both behaviours can thus bring relevant issues to light and ensure smooth functioning and a new way of implementing the cooperative principle of democracy (Hansmann, 1999).

3 Research gap and the approach taken

Few studies have explicitly revisited or extended Hirschman's EVL framework within the OB domain (e.g., Colquitt et al., 2001). Much of the existing OB literature has been conceptualised through the lens of Blau 's Social Exchange Theory (SET) (Bashshur & Oc, 2015; Cropanzano & Mitchell, 2016). This dominant framework of OB literature (Chernyak-Hai & Rabenu, 2018) positions employee voice as a form of social exchange, emphasising the reciprocal interdependence of actions between employees and organisations by suggesting that employees engage in voice behaviours as a way to reciprocate perceived organisational support and resources, such as recognition, fairness, and growth opportunities (Cropanzano & Mitchell, 2016). However, Hirschman's EVL framework presents an underutilised yet potentially complementary perspective for investigating cooperatives. While SET emphasises the exchange and prosocial dynamics of voice as an extra-role behaviour, Hirschman's framework adds a critical layer by considering the role of dissatisfaction as a driver of voice or exit behaviours and highlighting the critical role of loyalty (Barry & Wilkinson, 2016). While satisfaction is conceptualised in SET as a trigger for voice to enhance organisational or work unit functioning, the focus of OB research on voice as a discretionary, extra-role behaviour has limited the exploration of how dissatisfaction and loyalty influence employee responses in organisational contexts (Barry & Wilkinson, 2022). However, the role of job satisfaction as a predictor of voice behaviours reveals a fundamental alignment between SET and Hirschman's EVL framework. Both perspectives recognise satisfaction—or its absence—as a crucial antecedent to employee voice, albeit with differing emphases.

Therefore, the present study adopts Hirschman's EVL framework to explore its dynamics within service cooperatives, where employee voice plays a pivotal role in renovating cooperatives' principles of participation (Mori & Cavaliere, 2024). Specifically, we propose that employees' job satisfaction influences their likelihood of engaging in voice behaviours—whether constructive or destructive—or opting to exit the organisation. Drawing from the EVL framework, we further hypothesise that loyalty acts as a key moderating factor in these choices. Higher levels of loyalty are expected to encourage

employees to channel their dissatisfaction into voice behaviours rather than resorting to exit. In this sense, loyalty is a stabilising force that mitigates the likelihood of exit and fosters organisational change.

4 Methods of analysis

This research investigates fifteen Italian service cooperative organisations operating within various sectors, including agri-food, social services, culture, tourism, communication, and consulting. These organisations deliver various services, including healthcare, childcare, social assistance, housekeeping, cultural and educational excursions, nursing, education, management, freight and passenger transportation, and agricultural and landscaping services. Data collection took place between late 2020 and early 2021, using two distinct sources: the board of top managers, middle-level managers, and other individuals, carefully indicated by the organisation based on their relevant positions in information sharing and decision-making. The survey consisted of self-perception measures based on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree), and it has been translated into Italian based on the English original scales. Following the assessment of convergent and discriminant validity, and acknowledging the potential for common method bias—a recognised limitation of self-reported data—we performed a regression analysis using Hayes' Process macro (2017) in SPSS. This analysis employed a bootstrapping technique to test our hypotheses rigorously. The moderation effect will be further examined through visual inspection of the interaction plot in a second phase of analysis, to better interpret the nature and direction of the moderating relationship.

5 Main findings

The results showed that Job Satisfaction has a weak positive association with Constructive Voice ($\beta = 0.23$; $p < 0.1$), a significant negative association with Destructive Voice ($\beta = –0.73$; $p < 0.001$), and a significant negative association with Exit Intentions ($\beta =- 1.24$; $p < 0.001$).

These findings thus reveal that Job Satisfaction positively predicts Constructive Voice while showing significant negative associations with both Destructive Voice and Exit Intentions.

In addition, the moderation analysis reveals that loyalty has a significant moderating effect on job satisfaction in predicting Constructive Voice ($\beta = 0.26$; $p < 0.001$) and Destructive Voice ($\beta = 0.16$; $p < 0.05$). Moreover, loyalty significantly moderated Exit intentions ($\beta= 0.27$; $p<0.001$). The moderation analysis thus highlights loyalty's critical role in shaping the employees' responses to job satisfaction, amplifying the positive effects of satisfaction on Constructive Voice and mitigating Destructive Voice and Exit Intentions. These findings have both specific and broader implications for the EVL framework, which will be discussed in the next section.

6 Contributions

This study advances existing scholarship by contributing in empirically addressing an important question raised in previous research: whether and how destructive voice may operate as an alternative to exit for dissatisfied employees, particularly in the context of worker cooperatives(Garner & Garner, 2010; Mori et al., 2024). Despite theoretical interest in this issue, few empirical studies have examined the distinct behavioural expressions available to employees when confronted with dissatisfaction, especially in organisational settings that promote democratic participation. By investigating the relationship between job satisfaction, constructive and destructive voice, and exit intentions, this study provides a more differentiated account of employee responses to dissatisfaction and enriches the understanding of voice dynamics in participatory workplaces.

The findings underscore the relevance of job satisfaction as a key antecedent of employee behaviour, consistent with Hirschman's (1970) theoretical framework. Satisfaction not only shapes the likelihood of employees choosing to voice concerns or withdraw but also influences the specific form that voice may take. The study reveals that while constructive voice requires more than satisfaction alone—demanding, for instance, a strong affective bond with the organisation in the form of loyalty—destructive voice shows a more direct and robust negative relationship with satisfaction. In this light,

satisfaction appears to play a protective role, reducing the tendency toward critical or harmful forms of voice, thereby contributing to organisational cohesion and preserving workplace relationships. At the same time, the significant negative association between job satisfaction and exit intentions confirms the role of dissatisfaction as a primary driver of withdrawal behaviours, reinforcing key assumptions of the EVL (Exit–Voice–Loyalty) framework. In addition, the findings offer further support for one of the central tenets of the EVL model: that loyalty moderates how satisfaction levels translate into behavioural responses. Specifically, loyalty amplifies the positive association between satisfaction and constructive voice, while simultaneously mitigating the risk of destructive voice and exit intentions, even in conditions of low satisfaction. Loyal employees appear more likely to transform dissatisfaction into proactive, constructive forms of engagement rather than turning to criticism or disengagement. In this sense, loyalty acts as a stabilising force that channels employee energy toward organisational improvement rather than deterioration, especially in cooperative contexts where values of mutualism and participation are central (Hoffmann, 2006; Mori & Cavaliere, 2024).

Finally, the study invites a broader theoretical reflection on how voice and employee responses to dissatisfaction are conceptualised within organisational behaviour (OB) research. Much of the OB literature has been grounded in Blau's Social Exchange Theory (SET), which emphasises reciprocity as the basis for employees' willingness to engage positively with their organisation (Cropanzano et al., 2017), this perspective aligns with Hirschman's Exit-Voice-Loyalty (EVL) framework when applied within the context of organisations, in underscoring the critical role of satisfaction in shaping employee reactions. This study shows that SET, and in particular, the norm of reciprocity, can be meaningfully integrated with Hirschman's EVL framework to offer a more comprehensive lens for understanding the interplay between employee satisfaction, loyalty, and behavioural outcomes. While reciprocity captures the logic of exchange behind employee voice, EVL provides a dynamic model for interpreting strategic reactions to dissatisfaction. This integrated perspective deepens our understanding of how employees navigate their work experiences and how organisations might support voice behaviours not merely as reciprocal gestures but as crucial mechanisms for improvement, resilience, and democratic functioning. As such, future research could further explore this theoretical convergence to develop a more nuanced understanding of the motivational processes underpinning employee responses across different organisational contexts.

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INDUSTRY 4.0 ACCEPTANCE: A MOTIVATIONAL PERSPECTIVE

Short Paper

Emanuele Gabriel Margherita, Link Campus University, Rome, Italy, e.margherita@unilink.it
Danila Scarozza, Link Campus University, Rome, Italy, d.scarozza@unilink.it

Abstract

This study examines the motivations of workers in adopting Industry 4.0 (I4.0) technologies by applying the Technology Acceptance Model and Herzberg's two-factor theory. A single-case study was conducted with a manufacturing company that successfully implemented a range of I4.0 technologies. Data collection consisted of 30 semi-structured interviews, supplemented by observations and secondary sources. The findings identify six extrinsic and four intrinsic factors that influence the acceptance of technology. This research contributes to the I4.0 literature as the first to offer a motivational perspective on technology adoption, establishing a foundation for future studies in human resource management and organizational behavior. The study also provides practical insights, suggesting that executives should account for intrinsic and extrinsic workers' motivations when implementing I4.0 technologies.

Keywords: Industry 4.0, Industry 5.0, Herzberg, motivation, technology acceptance model.

1 Purpose of research

Over the past decade, Industry 4.0 (I4.0) technologies have been transforming manufacturing, driving competitive advancements through extensive digitalization (Frank et al., 2019). These technologies enhance production efficiency by enabling the creation of more personalized goods and autonomously addressing standardized mechanical issues (Kagermann et al., 2013; Margherita & Escobar, 2025). While I4.0 is often associated with fully automated production without human involvement (Kang et al., 2016), recent studies challenge this assumption, showing that I4.0 technologies have unexpected issues (Frank et al., 2024; Margherita & Braccini, 2024). Thus, some studies highlight that I4.0 is primarily implemented in socio-technical production systems, where workers play a supervisory role, ensuring effective technological performance (Margherita & Braccini, 2024; Margherita & Bua, 2021). Starting from these premises, several studies call for further research into the soft and social dimensions of I4.0 production, paving the way for more human-centric production, also called "Industry 5.0" (Breque et al., 2021; Frank et al., 2024; Kaasinen et al., 2019). Although this is an emerging research area, some studies have explored key aspects such as the role of workers in I4.0 production, the need for digital skills, decentralized decision-making, and the resulting shifts in managerial control (Cagliano et al., 2019; Cimini et al., 2020; Margherita & Bua, 2021). These studies reflect the traditional Weberian perspective of rational-legal authority and role clarity. However, the organizational theory argues that it is not sufficient for the effective management of workers in relation to technology acceptance (Bakker & Demerouti, 2007). A motivational perspective, alongside these principles, is necessary to enhance worker satisfaction, ultimately leading to more efficient interaction between workers and technology (Alshmemri et al., 2017). Thus, to cope with the implementation of I4.0 technologies, understanding the science of motivation remains critically important. Organizations should ensure that the workforce is able to adapt to new models of work. Thus, it is significant that work motivation is given due recognition and understood so that the organization can provide the necessary input to its workers (Alshmemri et al., 2017). Therefore, understanding work motivation in I4.0 production is as important as other issues studied in previous literature. In this regard, the worker-centric design and evaluation framework for

Operator 4.0 suggests that a user's acceptance of technology is a mediator between individual and organizational antecedents and work well-being (which includes work motivation) (Kaasinen et al., 2019).

This study aims to contribute to the growing field by investigating the motivational factors influencing the acceptance of I4.0 technology for human-centric production. An "effective" motivational factor will direct, intensify, and persist in behavior (Reeve, 2018). It is undeniable that not all behaviors are driven by a single factor. As such, different work behaviors require different motivation factors to stimulate (Grant & Shin, 2012; Reeve, 2018). Paying a high salary to a worker may motivate their task performance, but it may not be effective in stimulating an individual to engage in knowledge sharing. In contrast, a sense of belonging may motivate an individual to share his knowledge, but it does not necessarily enhance work intensity (Reeve, 2018). Based on this theoretical foundation, identifying which motivational factors correlate with various essential work behaviors is pivotal. To provide a theoretical framework in order to fulfill this gap, two theoretical frameworks are applied in this study: the two-factor theory and the technology acceptance model (TAM). The two-factor theory, developed by Frederick Herzberg (1966, 1968, 1987), is one of the most frequently cited theories in management research. Using the critical incidents method, hygiene factors and motivational factors were identified. Hygiene (extrinsic) factors are extrinsic elements such as salary, job security, valid technical characteristics for work, and work conditions that do not directly motivate employees but can cause dissatisfaction if absent. Motivational (intrinsic) factors, on the other hand, are intrinsic aspects such as recognition, responsibility, and growth, which drive job satisfaction and engagement. Meanwhile, TAM asserts that technology must be accepted by users, in our case workers, for effective use. It suggests that organizations must foster intrinsic and extrinsic motivational factors to support technological acceptance with ease of use and perceived usefulness being key predictors of acceptance (Davis, 1989). Coherently, in the TAM, hygiene factors are necessary to prevent dissatisfaction, while motivational factors drive positive engagement and adoption (Davis et al., 1992). However, a comprehensive analysis of these motivational factors remains largely unexplored in the literature, especially related to I4.0 technologies. Broadly, the motivational model for technology acceptance (Davis et al., 1992) covers these two motivational factors claiming enjoyment as an intrinsic factor as well as ease of use and perceived usefulness as extrinsic factors. User acceptance of information technology (UTAUT) model add the importance of facilitating conditions, such as human resource training, as a further extrinsic factor (Venkatesh et al., 2003). Therefore, we raise the following research question: *"What are the extrinsic (hygiene) and intrinsic (motivational) factors influencing I4.0 technology acceptance?"*

To address this gap, we conducted a single-case study of a manufacturing company implementing a suite of I4.0 technologies. We report a set of ten motivational factors associated with I4.0 acceptance, six extrinsic and four intrinsic factors.

2 Methodology & Sample

We conducted a single-case study, a methodology that is particularly valid when a phenomenon is in its early stages of investigation and when hypothesis development is not yet feasible (Yin, 2018). This applies to the study of intrinsic and extrinsic motivational factors for I4.0 technology acceptance, which have been scarcely explored in the literature. The selected case provides an ideal context for investigating this phenomenon for three key reasons. First, the organization has successfully adopted several I4.0 technologies, making it a relevant setting for studying technology acceptance. Second, we have access to longitudinal data covering the entire I4.0 adoption process, allowing us to analyze the motivational factors influencing acceptance over time. Third, our dataset includes workers' perspectives on these technologies, providing valuable insights into their perspectives on motivational aspects during the adoption process.

We collected primary and secondary data from 2019 to 2022 related to I4.0 implementation. Primary data consisted of semi-structured interviews and observations. We followed an interview framework that covered both organizational aspects of I4.0 acceptance, intrinsic and extrinsic motivators. In total, we conducted 30 interviews. To further enrich our analysis, we incorporated secondary data from

newspapers and company reports. All interviews were transcribed, and we used NVivo as a supporting tool for data analysis. Our approach followed the Gioia methodology, applying a three-level coding process (Gioia et al., 2013). Given that our analysis was centered on identifying motivational factors influencing I4.0 acceptance, we structured our coding accordingly. In the first-order analysis, we identified and coded informants' statements related to motivational factors. In the second-order analysis, we looked for similarities among these statements, allowing us to develop specific motivational factors. Finally, in the aggregated analysis, we categorized each motivational factor according to the two established dimensions in the literature—intrinsic (motivational) and extrinsic (hygiene) factors.

3 Findings and Conclusion

ALPHA is an enterprise producing a variety of electrical switches. It has several production lines, and one of them has strongly adopted I4.0 technologies (collaborative robots, forklifts, virtual reality applications). The work is conducted with several socio-technical interactions between workers and automated technologies. Our analysis is centered on this type of shop floor and its workers. Table 1 shows that the I4.0 acceptance is influenced by six extrinsic and four intrinsic motivational factors.

Extrinsic (Hygiene)	**Intrinsic (Motivational)**
A secure job	Personal achievement
Perceived use	Data-driven feedback
Easy-to-use I4.0 technologies	Autonomy
Supervision at work	Challenging work
Status	
Teamwork	

Table 1. Extrinsic and Intrinsic factors for I4.0 acceptance

Starting from the extrinsic factors, all workers highlighted the importance of job security as a key factor in accepting Industry 4.0 technologies. As one worker stated: *"Technology offers us a way to remain productive and maintain our work. I4.0 technologies are not perfect. Management also provides us a permanent working contract."* (A maintenance worker). Further, our findings align with two key constructs of TAM: perceived usefulness and perceived ease of use. I4.0 technologies are perceived as useful by workers because they automate several repetitive and low-value tasks, otherwise, they help them conduct their activities by providing real-time information. "*For our work that is manual, a cobot is very useful"* (A worker). Additionally, these technologies feature user-friendly interfaces and intuitive control systems, making them easy to use. *"The cobot has an easy analogic controller"* (A maintenance worker). *"The AR system is easy to read and understand"* (A worker). Another extrinsic motivational factor driving I4.0 acceptance relates to the status. Workers expressed that I4.0 contributes to their professional identity and sense of prestige. *"We work in one of the leading companies for innovation. For us, I4.0 was not a revolution but a natural evolution"* (A worker). *"We have always embraced cutting-edge innovation, and our competitors are well aware of it"* (A manager). Moreover, workplace supervision plays a crucial role in I4.0 acceptance. Workers can rely on the assistance of experienced colleagues and maintenance personnel when using these new technologies. *"When these technologies are active, they can sometimes cause issues in assembly, but we continuously receive support from various supervisors whenever problems arise"* (A worker). Finally, the opportunity to work in teams rather than individually was identified as an extrinsic motivational factor for I4.0 acceptance. I4.0 technologies enable a production workflow, where tasks are divided into different phases, fostering collaboration. Workers can support one another, exchange opinions on work processes, and discuss potential improvements. "*Before, each worker assembled an entire product alone. Now, we work in teams, with each worker responsible for a specific part of the product. This allows us to better understand the production process and share ideas for improving our interactions"* (A worker).

In addition to extrinsic motivators, four key intrinsic motivational factors influencing I4.0 acceptance were identified. First, the work is perceived as challenging and engaging. Instead of performing routine tasks, workers are now responsible for supervising I4.0 technologies. This shift enriches their roles by introducing knowledge-based tasks, which, rather than being monotonous, present new situations to manage, keeping the job dynamic and intellectually stimulating. *"I4.0 for workers implies high-level tasks. It is about working in tandem with I4.0 technologies"* (A manager). Second, many workers perceive I4.0 acceptance as driven by a personal need for self-fulfillment. I4.0 technologies are seen as a source of personal and professional growth, particularly in the maintenance unit. *"When we performed maintenance on the cobot for the first time, it wasn't moving as we wanted, so we reprogrammed it. For us, it was a challenge that we successfully overcame"* (A worker). Third, continuous feedback from management is viewed as an important intrinsic motivator for I4.0 acceptance. Thanks to these artefacts, managers can analyze workers' performance data and provide guidance or training on how to improve their tasks. *"We collect data from workers' operations, allowing us to identify groups performing below standards and provide them with targeted guidance"* (A manager). Finally, greater autonomy in the workplace has also led to the acceptance of I4.0. Workers now have the flexibility to choose their workstations, select which I4.0 technologies to use, and independently implement job rotation, further increasing their sense of control and engagement in the work process. *"At the beginning of the work shift, we select the role to play and the I4.0 technology to use"* (A worker).

To conclude, this study offers some theoretical contributions to I4.0 literature. While previous studies have analyzed I4.0 acceptance focusing on digital skills, work organization, and the evolving role of workers (Cagliano et al., 2019; Cimini et al., 2020), our study extends this perspective by identifying ten motivational factors influencing I4.0 acceptance. Motivation, alongside the necessary skill set for using I4.0 technologies, plays a pivotal role in their adoption. Job security enables workers to maintain their positions while fostering a human-centric approach to production, distinguishing I4.0 from previous forms of automated manufacturing (Frank et al., 2019). Workers' acceptance of these technologies is largely influenced by the two core constructs of the TAM: perceived usefulness and ease of use (Davis, 1989). While these constructs have been widely applied in studying information systems (Davis, 1989), our study provides new insights into their relevance for I4.0 technologies, which differ significantly in form and function.

Beyond these factors, our study contributes to the I4.0 literature by introducing three further extrinsic motivational factors: status, teamwork, and supervision at work. I4.0 acceptance is not merely about reducing the workload (Romero et al., 2016); it is also about fostering a sense of belonging within an organization. Workers are motivated to use I4.0 technologies because they help maintain their status as employees operating in an innovative environment. Additionally, I4.0 promotes a shift from individual work to teamwork, allowing workers to collaborate, support one another, and enhance their use of these technologies. Our findings also align with the UTAUT, particularly its emphasis on facilitating conditions (Venkatesh et al., 2003). In this context, workplace supervision plays a critical role in easing the transition from traditional to I4.0 technologies.

Finally, our study addresses a gap in the literature regarding intrinsic motivational factors for I4.0 acceptance in human-centric production (Kaasinen et al., 2019; Raj & Jeyaraj, 2022). While existing research primarily focuses on extrinsic factors that prevent demotivation, our findings highlight the intrinsic factors that actively drive motivation, which is in line with Herzberg's motivation theory (Herzberg, 1966, 1968, 1987). The TAM and UTAUT frameworks typically consider enjoyment as a broad extrinsic factor (Davis et al., 1992; Venkatesh et al., 2003), but our study enriches this perspective by identifying four specific intrinsic motivational factors. Rather than simply deriving joy from using I4.0 technologies (Davis et al., 1992), workers view their adoption as a personal achievement. Using innovative technology is not just a means to perform tasks but a goal in itself. The transformation of work brought by I4.0 requires continuous monitoring of technologies and fosters more creative tasks compared to traditional roles. Moreover, I4.0 technologies contribute to skill enhancement, as management can analyze worker data to support professional development. Finally, increased autonomy

in choosing which technologies to use and how to organize tasks further encourages workers to accept and integrate I4.0 technologies into their workflows.

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REIMAGINING ADVICE-SEEKING NETWORKS: THE IMPACT OF GENERATIVE AI ON PROFESSIONAL COLLABORATION

Research Idea

Giovanni Gatti, Università Cattolica, Milan, Italy, giovanni.gatti@unicatt.it
Valentina Iacopino, Università Cattolica, Milan, Italy, valentina.iacopino@unicatt.it
Federico Rajola, Università Cattolica, Milan, Italy, federico.rajola@unicatt.it

Abstract

This research idea investigates how Generative Artificial Intelligence (GenAI) transforms advice-seeking networks within knowledge-intensive organizations. Advice networks typically emerge through informal, voluntary exchanges shaped by psychological costs, social norms, and recognition of expertise. GenAI introduces a new layer of informational support that may alter these dynamics: by offering interactive and explanatory capabilities, it can reduce the need to seek advice from colleagues, while simultaneously creating new advice demands toward domain experts in AI usage. Building on theories of social exchange and network formation, we theorize that GenAI weakens traditional human advice ties, while strengthening ties to specialized actors. To test this, we will collect egocentric network data from a technological consultancy firm and analyze it using Social Network Analysis (SNA) and Exponential Random Graph Models (ERGMs). This study will contribute to understanding how AI technologies reshape informal knowledge flows and the evolving structure of workplace social networks.

Keywords: Advice-seeking, Social Network Analysis, Generative AI, Organizational Knowledge Flows, Egocentric Network.

1 Introduction

An advice relationship is social exchange between seekers and givers (Reagans and McEvily, 2003), through which seekers intend to obtain useful resources such as good-quality information, knowledge or mentoring (Cross et al., 2001). Advice networks are a form of informal relationships and individuals voluntarily decide to cross intraorganizational boundaries, to seek and share advice. This relationship arises as the seeker recognizes the expert authority of the giver, to compensate for the time dedicated to information provision (Lazega et al., 2006). However, psychological and social barriers can discourage individuals from seeking advice across certain intraorganizational boundaries (Siciliano, 2015). These socal costs concern about status loss (Agneessens and Wittek, 2012), fear of exposing individuals' ignorance (Borgatti & Cross, 2003), and causing substantial discomfort (McGrath et al., 2003).

Although many researchers have identified the dynamics of advice-seeking networks, recognizing the main factors influencing the emergence of these relationships within organizations (Agneessens and Wittek, 2012; Lazega et al., 2006), they generally assume that these conditions remain stable over time. Mirc and Parker (2020) criticize this view, claiming that advice-seeking relationships evolve over time, being subject to organizational changes. However, the role of new technologies in shaping advice-seeking networks' dynamics remains largely unexplored. Nowadays the rise of new technologies, such as Generative Artificial Intelligence (GenAI), has the potential to considerably transform the structure and the dynamics of advice relationships within organizations. Therefore, it becomes crucial to understand the role of GenAI in reshaping work-related advice-seeking networks.

GenAI offers a new layer of informational support, generating responses that resemble human explanations and advice, which in turn may have the capacity of altering the advice-seeking networks'

structure (Rhebolz et al., 2024). These tools, working as a cognitive assistant, can help overcome the limitations of human judgement and irrationality, eliminating the social costs of seeking human advice. Therefore, this research project aims to understand the impact of GenAI on advice-seeking network of work-related ties. Specifically, the paper will investigate how GenAI, reducing the reliance on human advice, may generate new dynamics within organizations. Indeed, technology may increase the centrality of those individuals with greater expertise in AI usage or in their tasks. They can guide their colleagues to adopt GenAI, helping them evaluate the accuracy of GenAI outputs, or interacting with the technology, suggesting specific prompts. This research project will contribute to a deeper understanding of the evolving social structures in the workplace, also offering practical guidance for managers and organizations that are planning to adopt GenAI.

2 Background and Hypotheses

Advice relationships primarily arise when the seeker acknowledges the giver's expert authority, justifying the time invested in providing information. This recognition establishes trust and reinforces the value of the advice exchange, fostering more effective and collaborative interactions (Lazega et al., 2006). The choice to seek or share advice is discretionary and influenced by more than just the need for information or expertise (Renzini et al., 2024). In fact, the act of seeking and sharing advice can be very difficult. Psychologically individuals may wish to "*save face and avoid feeling incompetent*", while on a social level the "*expectation of reciprocity*" can impose a cost that some may perceive as too high (Bland and Williams, 2019). However, the emergence of GenAI systems introduces a transformative layer of informational support, reshaping the dynamics of advice networks.

GenAI and Large Language Models (LLM), since the release of ChatGpt in 2022, have sparked significant curiosity about how humans will use Artificial Intelligence. These technologies can produce responses that mimic human explanations and guidance, redesigning the way individuals seek and share advice (Rhebolz et al., 2024). Unlike previous algorithmic advice, GenAI offers greater interactivity and explanatory capacity. Research shows that users tend to give more weight to algorithmic advice when it is accompanied by an explanation and when they can actively engage with the tool delivering the advice (Rhebolz et al., 2024). This shift raises questions about the impact on traditional advice structures and the potential for increased reliance on machine-generated insights. The availability of GenAI as a tool may, indeed, reduce the number of individuals within a seeker's advice network, as they can rely on AI-generated information to fill gaps in their knowledge. Using a tool to seek advice may reduce the psychological and social costs typically associated with advice-seeking, without the need to cross intraorganizational boundaries. Therefore, we predict that using GenAI reduces the reliance on human advice, decreasing the number of people in the advice-seeking network.

Following this reasoning we formulate the first hypothesis:

H1: Using GenAI reduces the intensity of work-related ties based on human advice, weakening the strength of connections in the advice-seeking network.

Knowledge-intensive firms often comprise various communities, each equipped with highly specialized knowledge and associated technology (Tenkasi & Boland, 1996). In this context, innovations are not neutral tools: they actively reshape the way they work, and advice seeking is organized (Barley, 1986). To seek advice about how to engage with and use GenAI tools, we claim that individuals may cross organizational boundaries, increasingly interacting with content and domain specialists. This may include questions about prompting, optimizing AI responses, and navigating the tool's functionalities. Thus, the rise of GenAI not only may reshape the way individuals seek and share advice but also changes the structure of advice-seeking networks, as new roles emerge.

Hence, we formulate the following hypothesis:

H2: Using GenAI increases the intensity of work-related ties based on domain and content advice, increasing the strength of connection in the advice seeking network.

Algorithms that provide explanations tend to be perceived as more trustworthy, enhancing both stated trust and the persuasive power of their advice. However, GenAI outputs sometimes do not align with

actual decision-making processes and may mislead users, as they are susceptible to domain-specific inaccuracies, confidently presenting erroneous or hallucinatory information (Johnson, 2023). These issues may limit the adoption of GenAI in professional and work-related contexts. Consequently, we predict that when users perceive GenAI tools producing hallucinatory or erroneous outputs, they will exhibit reduced trust in technology, and they will tend to rely heavily on human advice.

Following this reasoning, we formulate these hypotheses:

H3: A higher level of perceived hallucinations while using GenAI does not reduce the intensity of work-related ties based on human advice, maintaining unaltered strength of connections in the advice-seeking network.

H4: A higher level of perceived hallucinations while using GenAI increases even more the intensity of work-related ties based on domain specialists.

3 Methodology

To collect our data, we will draw a sample from a technological consultancy firm, issuing a questionnaire to its employees. In this sector, organizations have been the most proactive in integrating generative AI technologies, making it an ideal context for our study.

Our analysis will rely on Social Network Analysis (SNA) method. In this framework, networks are modelled as collections of nodes (e.g., co-workers), connected by ties representing specific types of relationships (e.g., advice-seeking; Wasserman & Faust, 1994). We will use an egocentric network sampling strategy that concerns selecting a subset of individuals ("egos") who are asked to report on their own direct connections ("alters")—those colleagues they regularly turn to for work-related advice. This approach is cost-effective, compatible with standard survey methods, and particularly well-suited for studying informal interaction patterns in large organizations.

Therefore, we will analyze data using Exponential Random Graph Models (ERGMs). This approach offers a framework in which fitted models can generate full network structures of any chosen size, aligned with patterns identified in the sample data. By doing so, it becomes possible to estimate the distribution of whole-network characteristics based on the observed egocentric network measures. To measure changes in advice network structures, we will use egocentric network metrics, such as degree centrality, to assess the prominence of each ego within their local network, and tie strength to assess the intensity of interaction of each ego. These measures will help us understand how GenAI use affects not only the size of advice networks but also their composition and the relative importance of certain ties. To further assess the composition and boundary-spanning nature of advice ties, we will collect additional network characteristics, such as alter role (e.g., peer, domain expert), organizational unit, and whether the alter is internal or external to the ego's immediate team. Finally, for perceived hallucinations we will assess on a five-level Likert scale the degree of unreliable or hallucinated responses of GenAI tools perceived by individuals.

4 Expected Results

We expect that the use of GenAI will reduce reliance on traditional human advice ties by lowering the psychological and social costs of seeking information. At the same time, it will intensify advice-seeking ties toward domain specialists, both those skilled in AI prompting and those with subject matter expertise relevant to the tool's output. However, when GenAI is perceived as unreliable or hallucinatory, individuals may continue to rely on human advice and may increase interactions with subject matter experts. Overall, GenAI is likely to reconfigure rather than diminish advice networks, shifting the center of advice toward new forms of expertise.

5 Potential Contributions

This research idea will extend advice network theory by introducing GenAI as a transformative factor that reshapes informal knowledge flows within organizations. By challenging the assumption of stable

advice-seeking conditions, it will highlight how GenAI can mediate psychological and social costs, weaken or strengthen interpersonal ties, and give rise to new roles—such as AI usage experts—within organizational networks.

For practitioners, the research project will offer actionable insights into how GenAI adoption impacts collaboration patterns. It will help managers recognize shifts in advice dynamics, support the emergence of new expert profiles, and foster trust in AI-generated outputs. Moreover, it will inform the design of organizational interventions that ensure effective integration between human and AI-based knowledge sources, sustaining productivity and preserving critical social learning processes.

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GENERATIONAL DIVERSITY IN SHAPING THE IMPACT OF PERFORMANCE EXPECTANCY AND FACILITATING CONDITIONS ON TECHNOLOGY PERCEPTION

Short Paper

Maria Cristina Manocchio, University of Molise, Campobasso, Italy, mariacristina.manocchio@unimol.it
Antonia Puccio, University of Molise, Campobasso, Italy, a.puccio@studenti.unimol.it
Yasir Faheem, University of Molise, Campobasso, Italy, y.faheem@studenti.unimol.it
Francesca Di Virgilio, University of Molise, Campobasso, Italy, fradivi@unimol.it

Abstract

The aim of this paper is to investigate the factors influencing technology perception within employees and to specifically explore the role of generational diversity in this process. The role of generational diversity in shaping the impact of performance expectancy and facilitating conditions for technology adoption within small- and medium-sized enterprises remains insufficiently studied. The quantitative analysis, involving 167 employees in small- and medium-sized enterprises, aims to analyze how factors such as technological attitude, behavioral intentions, effort expectancy, and facilitating conditions—demonstrating robust reliability and validity—affect technology perception across various generations, providing insights into the importance of generational diversity in this context.

Keywords: Generational Diversity, Performance Expectancy, Technology Perception, Intergenerational Collaboration.

1 Introduction

In the workplace, organizational dynamics are influenced by intertwined aspects such as performance, generational change, and collaboration in the adoption of emerging technologies (Soja & Soja, 2020; Choudhary et al., 2024). The increasing integration of technology across all sectors necessitates a hidden understanding of the factors that drive its perception and effective utilization by a diverse workforce (Hasani et al., 2023). The success of technology integration depends on crucial aspects, including the way employees perceive the usefulness of new technologies for their job performance and the extent to which they believe organizational and technical infrastructure supports their use (Zamani, 2022; Hasani et al., 2023).

To measure the effects of the relationships between these constructs, particularly considering the influence of generational aspects and the impact on performance and intergenerational collaboration, the model that best allows us is the Unified Theory of Acceptance and Use of Technology (UTAUT). UTAUT model posits that specific factors—Performance Expectancy and Facilitating Conditions—significantly impact technology adoption and usage. Furthermore, the model implicitly acknowledges the role of social influence and effort expectancy, which can also be shaped by generational differences and intergenerational interactions (Kašparová, 2023). Understanding these relationships is crucial for leveraging the diverse capabilities of multigenerational workforce employees to enhance overall performance and intergenerational collaboration (Öngel et al., 2023).

Based on our knowledge (Web of Science, Google Scholar, and Scopus), present understanding of generational diversity and these specific UTAUT constructs, particularly their impact on technology perception within small- and medium-sized enterprises (SMEs), is limited. While most studies in the field have only focused on generational differences in technology behavior (Calvo-Porral et al., 2020; Choudhary et al., 2024; Ramírez-Herrero et al., 2024), technology adoption in SMEs (Zamani, 2022; Hasani et al., 2023), and intergenerational dynamics in the workplace (Öngel et al., 2023; Ramírez-Herrero et al., 2024), no previous study has specifically investigated how the impact of performance expectancy and facilitating conditions on technology perception varies across generations within the SMEs context.

Therefore, this study examined the subsequent research question:

RQ1. What is the role of generational diversity in shaping the impact of performance expectancy and facilitating conditions on technology perception within SMEs?

RQ2. How does intergenerational collaboration affect technology perception in SMEs?

The data were collected using quantitative methods. The authors also created an online survey, which was sent to the employees of SMEs affiliated with Confartigianato in Italy's Molise Region.

This study aims to provide better insight into how fostering cooperation between generations can enhance technology perception and drive intergenerational collaboration within diverse workforces, offering practical recommendations for SMEs.

2 Theoretical Background

2.1 Generation Diversity and Intergenerational Collaboration

Generation diversity refers to the coexistence of people from different age groups within an organizational environment, each with distinct values, experiences, and work approaches influenced by the socio-historical and technological environment (Fedorova et al., 2023). Intergenerational collaboration involves interaction and cooperation between generations to achieve common goals (Whear et al., 2023; Yadav & Lenka, 2020).

The exchange of knowledge and experiences between generations helps bridge competency gaps: senior workers provide strategic experience and maturity, while younger employees contribute digital skills and innovation (Fedorova et al., 2023). Collaboration encourages corporate knowledge sustainability, enhances problem-solving from multiple perspectives, and allows for bidirectional mentoring (Bui et al., 2019; Yadav & Lenka, 2020; Nurhas et al., 2022).

Social influence is significant: institutional norms and HR policies can foster effective collaboration, while emotional intelligence enhances intergenerational understanding. Open and frequent communication, as well as multigenerational leadership capable of coordinating conflicting perspectives, are critical supportive variables (Bui et al., 2019; Nurhas et al., 2022). A work environment that promotes psychological safety and equality across generations fosters collaboration, while formal processes and financial support ensure its long-term viability (Zurba et al., 2020).

2.2 The Impact of Generation Diversity on Performance and Technology Perception

The impact of generational diversity on organizational performance and technology perception is significant. Teams with members from different generations can rely on a diverse set of skills and perspectives, fostering innovation, creativity, and effective problem-solving (Bui et al., 2019).

Nevertheless, if not managed effectively, this diversity can result in workplace challenges deriving from differing viewpoints and job expectations (Bui et al., 2019; Dietz & Fasbender, 2022). Generational differences often influence performance expectations: while older workers tend to value long-term projects, younger employees might focus more on achieving immediate results (Fedorova et al., 2023).

To enhance team productivity, aligning these differing perspectives through effective communication and emotional intelligence is vital (Bui et al., 2019). Regarding technology perception, younger generations are typically more receptive to new technologies, whereas older employees might resist due to issues of familiarity and trust (Fedorova et al., 2023).

Encouraging intergenerational collaboration can help overcome this resistance, fostering knowledge exchange and improving technology perception (Zurba et al., 2020). Digital adaptability across generations is key to optimizing technology use for various work needs (Nurhas et al., 2022).

3 Research Methodology

3.1 Data Collection

This research involved SME employees affiliated with Confartigianato Molise in Italy. A total of 167 participants provided their opinions on digital technology and intergenerational interaction through a survey. The presence of participants from different age groups enabled a comparative study of technology adoption. The participants represented multiple age groups, enabling a comparative assessment of technology use. A sample of 100 respondents from distinct generational cohorts was further analyzed to ensure research reliability.

3.2 Measurement scales

We used the UTAUT model, which consisted of factors, i.e Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Facilitating Conditions (FC). Technological Perception (TP) consists of Behavioral Intentions (BI) and Attitudes Towards Using Technology (ATUT) and checking Intergenerational Collaboration (IC) (Im et al., 2011; Kašparová, 2023). We have two sections in our questionnaire. Demographics, i.e., age and gender, is the first section. The second section contained 33 measurement items consisting of the factors of the UTAUT model (Kašparová, 2023).

3.3 Data Analysis

Partial Least Square Structural Equation Modeling (PLS-SEM) was used in this study as a tool by using the software Smart PLS. The study featured two components: the measurement model and the structural model (Hair et al., 2012; Jr. et al., 2017). In the first step, validity and reliability evaluated was evaluated by the measurement model. Cronbach's alphas (CA), Average Variance Extracted (AVE), β, *t values,* and f^2 were also checked.

4 Results

4.1 Demographic

There were a total of 167 respondents, among them there were 43.11% male, while the remaining 56.89% were female. The respondents were divided into different age groups (Méndez-Suárez et al., 2023), in respect of age bracket the age group from 18-24 were 10.18%, the age group 25-34 was 23.95%, the age group 35-44 was 8.38%, the age group 45-54 made up 32.93%, and the age group 55-65+ made up 24.55% of the total respondents.

4.2 Measurement Model

In the study, CA coefficient, AVE, convergent validity, and composite reliability values are available in Table 1. To check convergent validity, factor loadings were measured. The results showed that the factor loadings were in an acceptable range.

In the results Table 2 Cronbach are in the range of 0.815 to 0.954, showing a good internal consistency in a moderate way. According to Hair et al. (2017), the value must be above 0.5 of Average Variance Extracted (AVE). In this study, the values are between 0.853 and 0.970.

	Cronbach's Alpha	**Composite Reliability**	**Average Variance Extracted (AVE)**
Attitude Towards Using Technology (ATUS)	0.877	0.916	0.734
Behavioral Intentions (BI)	0.954	0.970	0.916
Effort Expectancy (EE)	0.932	0.951	0.830
Facilitating Conditions (FC)	0.815	0.853	0.530
Performance Expectancy (PE)	0.875	0.914	0.728
Social Influence (SI)	0.845	0.884	0.558
Technology Perception (TP)	0.869	0.899	0.561

Table 1. Construct Reliability and Validity

	ATUS	**BI**	**EE**	**FC**	**PE**	**SI**	**TP**
ATUS	0.857						
BI	0.383	0.957					
EE	0.610	0.445	0.911				
FC	0.470	0.448	0.688	0.591			
PE	0.609	0.415	0.713	0.533	0.853		
SI	0.581	0.268	0.503	0.360	0.552	0.666	
TP	0.864	0.796	0.645	0.554	0.628	0.527	0.749

Table 2. Discriminant Validity and Fornell-Larcker Criterion.

Discriminant validity in this study was also tested, and the results were that squared correlations between each set of variables (pair) did not come above the AVE of variables individually, hence verifying the discriminant validity of this study model. Further to evaluate convergent validity, the Fornell-Larcker criterion and HTMT tests were applied, and the results were in acceptable ranges, as shown in Table 3. This shows that the data meets the necessary standards of validity and reliability, making it feasible for further analysis.

	ATUS	**BI**	**EE**	**FC**	**PE**	**SI**	**TP**
ATUS	0.857						
BI	0.419						
EE	0.672	0.471					
FC	0.652	0.583	0.90				
PE	0.690	0.457	0.791	0.880			
SI	0.632	0.302	0.480	0.793	0.527		
TP	0.841	0.877	0.710	0.762	0.714	0.587	

Table 3. Heterotrait-Monotrait Ratio (HTMT).

According to the study analysis of IC dimensions, 50.7% (R2 =0.507) of TP shows a strong explanatory power (Hair Jr et al., 2017). As in the data, ATUS and BI are the factors of Technology Acceptance, the

independent variable evaluated the level of effect size (f2) on a dependent construct where values are 0.043, 0.036, 0.055 and 0.058, showing small effect sizes (Cohen, 2013). The results showed that all the dimensions of the IC have small effect sizes on TP, i.e., the degree or level of effect size of EE on TP is small (f2= 0.043), FC on TP is small (f2= 0.036), PE on TP is small (f2= 0.055), SI on TP is small (f2= 0.58) (Cohen, 2013) as shown in Table 4.

Variables/Factors	**ATUS**	**BI**	**TP**
EE			0.043
FC			0.036
PE			0.055
SI			0.058
TP	2.948	1.729	

Table 4. Effect size evaluation (f^2).

4.3 Structural Model

As predicted in the hypothesis, all the IC dimensions were found to have a statistically significant and positive impact on TP i.e., EE (H1: β = 0.242 and t = 2.073); FC (H1: β = 0.183 and t = 2.656); PE (H2: β = 0.246 and t = 1.928); SI (H2: β = 0.204 and t = 2.591), with all having a p-value less than 0.05 shown in Table 5.

	B	**Sample Mean (M)**	**Standard Deviation**	**T Statistics**	**P Values**
EE -> TP	0.242	0.225	0.117	2.073	0.019
FC -> TP	0.183	0.207	0.069	2.656	0.004
PE-> TP	0.246	0.237	0.135	1.969	0.051
SI -> TP	0.204	0.214	0.079	2.591	0.005

Table 5. Mean, Standard Deviations, T and P values.

5 Discussion and Practical Implications

This study objective was to assess the impact of generational diversity on TP and IC within SMEs. The results showed significant insights into the dynamic relationship between TP, generational diversity, and the adoption of digital tools. By using PLS-SEM, this study reveals that generational diversity influences TP, as younger employees show greater adaptability and proficiency with digital tools compared to older employees. Furthermore, the statistical analysis confirmed that IC positively impacts TP, thereby emphasizing the importance of collaboration between different age groups in the workplace.

The findings show that key factors from the UTAUT model, i.e PE and FC play a significant role in shaping technology perception and adoption. These factors positively affect TP, highlighting the need for strategies to address the needs of diverse generational employees. Specifically, while younger employees typically require less support in adopting digital tools, older employees benefit from additional training and assistance, highlighting the importance of creating inclusive support structures within SMEs.

Interestingly, the analysis demonstrated that IC resulted for 50.7% of the variance in TP. Despite the small effect sizes observed in this study, the results suggest that generational diversity can be leveraged to improve TP and ultimately adoption outcomes. Targeted change and strategies, such as mentorship programs and customized training, can help mitigate the challenges linked with these generational gaps and promote a more inclusive digital transformation process in a diverse organization (Kamioka, 2023).

From a practical perspective, SMEs should prioritize the development of strategies that promote intergenerational interaction and collaboration. For example, training programs could facilitate knowledge transfer between younger and older employees, enabling both groups to learn from one another's strengths and experiences (Rupčić, 2018).

These findings contribute to the existing literature on organizational change and technology perception and adoption with a diverse workforce, offering actionable insights for SMEs seeking to improve their digital transformation processes in organizations with a diverse workforce. By addressing the unique needs of different generations and fostering IC, SMEs can enhance technology perception and adoption and ultimately drive greater innovation and efficiency.

6 Conclusion

This research highlights the relevant influence of generational diversity on employees' perceptions of technology and promotes intergenerational collaboration within SMEs. While younger workers generally possess stronger digital skills, older staff members often require additional training and assistance to improve their technological capabilities. The UTAUT model, especially the elements of Performance Expectancy and Facilitating Conditions, influences how technology is perceived and adopted. Intergenerational collaboration explains 50.7% of the variance in technology perception. SMEs should focus on strategies that encourage intergenerational interaction and knowledge sharing to boost their digital transformation initiatives, thereby enhancing efficiency and innovation.

7 Future Research

Further studies should explore the lasting effects of intergenerational cooperation on the adoption of new technologies and overall organizational success. An in-depth study of the effects of generational diversity on technology perceptions in various business sectors and cultural backgrounds could generate meaningful findings. Moreover, analyzing corporate culture, the incorporation of new technologies, and the psychological aspects that drive generational gaps in technology adoption could provide further clarity.

8 Acknowledgements

Research Activity carried out in the framework of the NextGenerationEU - National Recovery and Resilience Plan, Mission 4 Education and Research - Component 2 from research to business - Investment 1.5, ECS_00000041 VITALITY - Innovation, digitalisation and sustainability for the diffused economy in Central Italy - CUP H73C22000320001.

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GAMIFIED LEARNING IN THE WORKPLACE: A CORPORATE TRAINING CASE STUDY

Short Paper

Marzia Ventura, "Magna Græcia" University of Catanzaro, Catanzaro, Italy, marziaventura@unicz.it

Walter Vesperi, University of Palermo, Palermo, Italy, walter.vesperi@unipa.it

Concetta Lucia Cristofaro, e-Campus University, Novedrate, Italy, concettalucia.cristofaro@uniecampus.it

Anna Maria Melina, University of Messina, Messina, Italy, annamaria.melina@unime.it

Rocco Reina, "Magna Græcia" University of Catanzaro, Catanzaro, Italy, rreina@unicz.it

Luigi Severini, Italian Human Resource Manager and Federmanger Association (Calabria Regioni), Italy, severini.luigi@gmail.com

Abstract

This paper explores the role of business games (BG) in fostering knowledge sharing within organizational training programs. The study highlights the potential of BG to enhance employee engagement and knowledge retention, addressing limitations of traditional training methods. The research focuses on organizations in Southern Italy and demonstrates the valuable opportunities for strategic leaders to manage training and knowledge sharing. The first results show that game-based training positively influenced employee engagement, boosting the ability to retain and apply knowledge effectively at work. The study contributes to the fields of knowledge management and organizational learning. Future research will extend the study to the national level, exploring how cultural and organizational characteristics specific to the Italian context may influence the effectiveness of professional training. This will enhance the contribution of the research and provide insights for strategic leaders.

Keywords: Business Game; knowledge sharing; workplace; training; case study

1 Introduction

Knowledge is the most important strategic resource in organizations, and its management is considered fundamental for organizational success (Nahapiet & Ghoshal, 1998; Spender & Grant, 1996). Knowledge sharing is defined as the voluntary dissemination of acquired skills and experiences to the rest of the organization (Davenport, 1997; Ipe, 2003). The exchange of knowledge among individuals and among organizational units generates competitive skills that can lead to the success of the organization (Ipe, 2003; Kogut & Zander, 1996; Nonaka & Takeuchi, 1995). Nonaka and Takeuchi's well-known work on creating organizational knowledge emphasizes the interaction of explicit and tacit knowledge held by individuals, organizations, and society. According to Nonaka and Takeuchi (1995), the process of creating organizational knowledge is a circular dynamic process that never ends. The organization is stimulated by the environment. Knowledge sharing has been linked to learning (Hurley & Hult, 1998; Weerawarden & O'Cass, 2004). Discussing organizational learning and organizational

knowledge is therefore an implicit acceptance that knowledge is not just an individualized phenomenon, even though individuals are the basic "learning units." The learning and sharing of knowledge among professionals are two essential aspects to ensure optimal performance. As a result, most organizations have implemented strategies that create opportunities for knowledge creation and sharing among their employees to address the new challenges that organizations face in order to be successful (Steininger et al., 2010). Zigan and Zeglat (2010) describe among the different means of sharing knowledge, with training being seen as the learning opportunity provided to share and receive required knowledge. Chang and Chuang (2011) believe that knowledge emerges from integrating information, experience, and theory. When people form groups and interact with each other, they tend to share knowledge and experiences, thus augmenting learning. Organizations and employees need to acquire sufficient flexibility in order to remain current and relevant in a rapidly changing environment (Milic et al., 2016). In this context, Information and Communication Technology (ICT) resources have become an alternative to traditional training methods, enabling remote skills training. Globally, advances in strategies used in remote training are recognized, as well as in the sharing of materials via digital tools (Huber & Helm, 2020; Judd et al., 2022; Flores et al., 2021; Horn & Staker, 2017; Laufer et al., 2021).

2 Games as a support of the training

The development of new technologies led in the last fifteen years to a deep revolution within the corporate training. Training is essential for employees because it improves the productivity of workers by enhancing their skills. In the last years, the use of digital devices in the workplace is essential for business (Bakkali et. al., 2016). Thereby, some employees consider that the traditional ways of learning are boring (Bakkali et. al., 2016). Moreover, the training strategy called “gamification” has demonstrated potential to improve the way of providing training to staff (Petridis et.al., 2015). Previous research have shown how “Gamification” is the most effective methodology for transmitting contents, engaging learners in a deep involving user experience (Deterding et. al., 2011). Among the huge number of training methodologies, the application of business games in corporate training have become more and more important (Reusch et.al., 2008). Nowadays, business game-based learning tools are used to simulate the development of workflows, to simulate management decisions in markets (Reusch et.al., 2008) or other issues – such as the evaluation of employees’ skills and knowledges (Baldassin et.al., 2013). Many scholars and practitioners assert that it is not still clear what a business game is. There is no univocal definition of the term “business game” which can be subject to misinterpretations. As a matter of fact, the games used for managerial learning are known by various simulator, learning environment, management simulator, multi person computer simulator, digital learning games etc.
Grobler and Maier (2000) suggest that this uncertainty can be attributed to various reasons: the different academic background of the people involved, and the adoption of terms originally used with other intended meanings. The relevant literature classifies games based on technologies within the category of digital learning games in turn included in the broader category of serious game, in particular the digital ones (figure 1)



Figure 1: Categorization of BGs; Source: Baldassini et.al.2013, p. 5

The Caillois (1976) defines a game as an activity that is: free: the player cannot be forced to play, otherwise the game loses the appeal approvided by the fun element; limited: limited in space/ time by precise constraints set before-hand; uncertain: its evolution can neither be given nor can the results be obtained in advance. Elgood (1997) highlights that the activities in the games lead to situations in which human actions developed within it.

Instruments used in the game (cards, balls, computer etc.…)
Rules
prerequisites
strategies
Probability: some games are directly influenced by luck whereas others indirectly

Table 1. Element of BG. Source: our elaboration by McGonigal, 2011

The *Serious Games* represent a dramatic convergence of games and e-learning technologies in order to provide a rich, immersive virtual learning environments. By combining sophisticated theories of education with cutting-edge technology, serious games have tackled a wide range of challenges ranging from corporate training and education through to emergency medical response. The broadest definition of a serious game, therefore, is perhaps best defined as a game played for a purpose other than entertainment. Zyda (2005) provides a broad-stroke definition of a serious game as “a mental contest, played with a computer in accordance with specific rules that uses entertainment to further government or corporate training, education, health, public policy, and strategic communication objectives. Serious Games are games designed with the purpose not just to entertain, but to also solve a problem. Bogost (Bogost, 2013) in his book "Serious Games" defines them as games that “have an explicit and carefully through-out educational purpose and are not interned to be played primarily for amusement”. Serious Games involve any application of the wider ecology of games (Deterding et.al, 2011). Many researchers (Gee,2003; Sánchez and Olivares, 2011) provide evidence that games have the capability of satisfying a range of needs found in (Maslow, 1954) hierarchy of needs. The serious games can be a useful productivity tool, it is equally true that some employers have concerns regarding the intrusion of entertainment games into the workplace through both desktop PCs and mobile devices, distracting employees and reducing productivity (Petridis, 2015). Serious games, however, have the potential to satisfy both stakeholders: the employer sees productivity gains through employees who are highly engaged with interactive and entertaining tools or training media, and the employees themselves gain both the pedagogical benefits of more interactive training, and the motivational benefits of engaging gameplay - making work "fun" need not mean sacrificing productivity; in fact, it can enhance it. The

Digital Learning Games belong to the category of serious games and are a particular subset of gaming simulations implemented using software-based or web-based architectures that raise the degree of interaction by creating eye-catching simulated contexts. The digital learning games are serious games with specific purpose of supporting the user in the achievement of skills and knowledge related to a specific discipline by increasing motivation and active participation in the learning process thanks to the incorporation of educational content into video games. According to Elgood (1997) Business Game can be considered both as digital learning games and as business simulations. Greenlaw (1964) considered the BGs a business simulation or game may be defined as a sequential decision-making exercise structured around of business operation, in which participants assume the role of managing the simulated operation. Greco et al. (2013) concludes that a business game is a serious game in a business environment that can lead to one or both of the following results: the training of players in business skills. After the creation of virtual companies (represented by individual or teams) the playing process of a business game includes the following fundamental step: Analysis of market information; taking game decision within a predetermined time period; display and analysis of results. This process is cyclical. After analysing the results, the participants take decision for the next period; the business game triggers a new round of decision-results and so until the end of the game. One of the most significant aspects of training is its role in knowledge sharing. Every organization is an ecosystem of information, practices, and processes. Employees, with their experiences, skills, and perspectives, represent a wealth of knowledge that can be shared within the work group. Training provides a structured opportunity to transfer this knowledge. An innovative way to foster knowledge sharing is the use of business games (BGs). In corporate training, gamification aims to make traditional learning experiences more engaging and dynamic, thereby improving employee learning outcomes and job performance (Schöbel et al., 2020). BG, in an organizational context, can help simulate real-world scenarios, allowing employees to practice decision-making, problem-solving, and communication skills in a risk-free environment. Knowledge sharing can then occur naturally during these experiences, as team members share insights and solutions to challenges posed in the game. By incorporating game mechanics, organizations can create a more enjoyable and effective learning environment that fosters continuous improvement and knowledge sharing among employees (Kraus et al., 2023).

3 Objective and Methods

Business Games involves the application of game design elements to an existing training method to bring about a desirable change in that method; it is often intended to improve a training outcome of interest (e.g., learning or transfer) when existing training is below effectiveness expectations. On this premise, the general purpose of this paper is to investigate knowledge sharing (KS) through BGs. Specifically, the objective is: to understand the diffusion and effects of BGs in staff training in organizational contexts. The study adopted a quantitative approach based on data collection through questionnaires and documentary research. The quantitative study seemed particularly suitable for exploring the process of implementing the Business Game in training activities by identifying its potential and critical points. The object of our study is the organizations belonging to the Federmanger Association and AIDP (Southern Italy). From a methodological point of view, the data and information useful for this work were collected through online questionnaires. Interviewees were invited to participate in the survey via email. The interviewees' responses were limited to a fixed set of answers following the Likert scale: (1) Strongly disagree, (2) Disagree, (3) I don't know, (4) Agree, (5) Strongly agree. The data collection was conducted with the strategic top of the organization and the human resources manager.

3.1 Profile of participants

Consistent with the purpose of our article, we conducted our research with a privileged observer of this phenomenon: In line with the purpose of our article, we conducted our research with a privileged

observer of this phenomenon: Federmanger and Italian Human Resource Manager associates (Calabria Region), offering a regional perspective on the adoption of gamified training. Participants included n° 214 strategic top managers and n° 56 human resources managers. Each respondent consented to the use of their personal data for this academic survey. The response rate was 48% for Strategic top Managers and 40% for HRM.

		Strategic top Manager (%)	HR Manager (%)
SEX	MAN	70%	52%
	WOMEN	30%	48%

Table 2. Sex of participants. Source: our elaboration

The average age of the participants is 52 years, with the youngest participant being 28 years old and the oldest participant being 65 years old. This suggests that the majority of the respondents in this study belong to the older generation. Not all participants hold a degree: 15% of Strategic top Manager do not have a degree, and 4% of HR Managers do. Most of the participants have a seniority of more than 15 years of service as top managers, while HRM have an average seniority of around 10 years.

4 First Findings and Conclusions

The results demonstrate the valuable opportunities for strategic leaders to strategically manage training and knowledge sharing. In this research, the BG played a significant role in knowledge sharing. The game-based training positively influenced employee engagement, which in turn boosted the ability to retain and apply knowledge effectively at work. Social interaction mediated the relationship between game techniques and knowledge sharing, highlighting the role of collaborative learning environments. These insights offer valuable guidance for top managers and human resource (HR) professionals aiming to develop engaging and personalized training programs that meet diverse employee needs and learning preferences. The preliminary findings reveal that the BG addresses particular limitations of traditional training methods, such as low interaction or limited tacit knowledge exchange, and differing from other gamification techniques in promoting knowledge sharing. For the business game to be most effective, training programs should be tailored to the varying knowledge levels of employees. Gamified corporate training programs offer major competitive advantages for organizations. The companies, by equipping employees with the latest skills and knowledge, enhance their ability to innovate and adapt to changing market conditions and the trained employees are more likely to contribute to the development of a company. The goal of this paper was to explore the impact of business games on professional training. We aimed to figure out how a game-based learning context could influence the training process (if positively or negatively) and in which way employees could take advantage of a similar training approach. Basing on the collected data the effectiveness of a business game-based approach as an innovative methodology, providing successful outcomes in terms of proficiency and of engagement of the employees.

5 Implications

Training is far more than just a method of teaching new skills. It's a critical mechanism for the exchange of knowledge within an organization. By fostering an environment where knowledge is shared freely—through structured programs, peer learning, and collaborative tools—organizations can ensure that they are continuously evolving, improving, and adapting. In the end, effective knowledge transfer through training is a key driver of success in today's fast-paced, knowledge-driven business world. The findings provide valuable insights for designing more effective corporate training programs. By understanding the gamification approaches that best target attention and engagement, top managers and human resource management can develop programs that maximize learning outcomes and enhance knowledge retention. Companies can include efficient gamification techniques in their standard training programs

to improve staff competencies. These findings can also be used by new technologies companies specialized in gamification software to enhance their products. Novel gamification strategies and resources can be created to engage users in an efficient way. The study's findings also provide valuable insights for corporate training policymakers, supporting the development of policies and strategies that promote the adoption of impactful gamification approaches in corporate learning and development settings. The next step of this research is to extend it to the national level, as the paper could benefit from a more in-depth discussion on how the cultural and organizational characteristics specific to the Italian context—such as managerial culture, hierarchical structures, or attitudes toward training—may influence the effectiveness of professional training. The next research phase will expand to the national level, examining how cultural and organizational characteristics specific to the Italian context influence training effectiveness. This broader scope will significantly enhance the research's contribution to knowledge management and organizational learning fields.

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WITH A LITTLE HELP FROM MY BOSS AND MY PEERS: JOB SATISFACTION UNDER TECH PRESSURE

Short Paper

Francesca Sanguineti, University of Pavia, Pavia, Italy, francesca.sanguineti@unipv.it
Rocco Palumbo, University of Rome "Tor Vergata", Rome, Italy, rocco.palumbo@uniroma2.it
Damiano Petrolo, University of Eastern Piedmont, Vercelli, Italy, damiano.petrolo@uniupo.it
Federica Testa, University of Rome "Tor Vergata", Rome, Italy, federica.testa@uniroma2.it
Pietro Previtali, University of Pavia, Pavia, Italy, pietro.previtali@unipv.it

Abstract

Ever found yourself apologizing for a frozen screen during an important online meeting? This scenario captures the core of our study, which explores the direct and indirect impacts of technological hindrances on job satisfaction in a public-sector smart working context. Survey data from 165 public servants revealed that technological hindrances negatively affect job satisfaction during smart working. Interestingly, strong leader-member exchange and peer-to-peer relationships help mitigate these effects. Our findings highlight the importance of the interplay between technological readiness and social exchange processes, emphasizing the need for both robust digital infrastructure and supportive relationships to increase job satisfaction in smart working.

Keywords: Smart working, public sector, job satisfaction, leader-member exchange, peer-to-peer exchange

1 Introduction

"Can you see my screen?"

"I am sorry, I can't turn my camera on - I'm having connection issues"

"Oh my gosh! Locked out again..."

How many times have we experienced such situations? Whoever has worked at least once outside of the organizational premises is aware that shifting to remote work requires appropriate arrangements that supports human-technology and human-human interactions that are mediated by technology (De Assis Dornelles, Ayala, & Frank, 2022).

Among remote work arrangements, smart working – which is broadly understood as a way of organizing work through technological pervasiveness, distributed working, and timeless and spaceless settings (Boorsma & Mitchell, 2011) – promises to be the new normal in the public sector (Palumbo et al., 2024). Yet, the effectiveness of smart work arrangements depends on the organizational capability to set a socio-technical infrastructure supporting the shift towards remote working. The transition to smart working often collides with outdated or non-user-friendly digital tools and Information and Communication Technologies (ICTs), which may cause frictions to daily work experiences and, eventually, to the job satisfaction of public servants (Palumbo et al., 2023).

This study investigates how technological hindrances influence job satisfaction within smart working arrangements in the public sector. Furthermore, we are interested in understanding whether the social exchanges with supervisors and peers mediate the implications of technological hindrances on job satisfaction.

2 Theoretical Background

Smart working arrangements are expected to offer flexibility, autonomy, and improved work-life balance, allowing employees to operate in timeless and spaceless settings enabled by digital tools (Boorsma & Mitchell, 2011). When the technological conditions are poor or unreliable, working experiences with such arrangements can be far from positive.

Technological barriers, such as poor connectivity, difficulties in accessing institutional platforms remotely, lack of adequate workstations, and the absence of timely IT support (Cellini et al., 2021), can generate tensions in the execution of tasks, communication, and collaboration (Bonacci, Scarozza, & Greco, 2024). These hindrances can become barriers to effective smart working and, therefore, have a negative impact on job satisfaction in smart working environments (Menshikova et al., 2025).

Job satisfaction is often defined as the positive attitudinal response an individual develops based on how they evaluate their job and work-related experiences (Locke, 1976). In digitally mediated environments, this appreciation is dependent on the smooth functioning of technological systems and the organization's capacity to support these work arrangements with adequate infrastructure (Monroe & Haug, 2022). When coping with daily technical obstacles, such negative experience may directly impact job satisfaction. From this standpoint, we argue that:

H1. Barriers to smart working negatively affect job satisfaction during smart working.

2.1 The role of leader-member exchange in the relationship between digital barriers and job satisfaction

Alongside individual experiences, technological conditions might impair hierarchical relationships in the workplace – i.e., the exchanges between subordinates and supervisors. The quality of this relationship, generally epitomized in the leader-member exchange (LMX) construct, reflects the degree of mutual trust, support, and communication that shapes exchanges between managers and subordinates (Graen & Uhl-Bien, 1995).

However, technological hindrances may give rise to frictions, as they could prevent timely feedback and negatively affect communication smoothness, undermining LMX. More specifically, in digitally mediated work arrangements, the supervisor-subordinate interaction is often channeled by digital platforms and communication tools. As a consequence, the quality of LMX relationships in a smart working context depends on the readiness and reliability of technological tools that support interaction and coordination. Accordingly, we propose that:

H2. Barriers to smart working negatively affect leader-member exchange during smart working.

It is worth noting that prior research pointed out that the quality of LMX is positively associated with job satisfaction (e.g., Dienesch & Liden, 1986; Epitropaki and Martin, 2005; Gerstner and Day, 1997). Subordinates who perceive their supervisors as accessible, fair, and supportive tend to feel more valued and aligned with organizational and work objectives. This, in turn, translates into increased job satisfaction in smart working settings (Bonacci, Scarozza, & Greco, 2024). Following this line of arguments, we expect that:

H3. Leader-member exchange is positively associated with job satisfaction during smart working.

Previous research already demonstrated that leaders play a key role in strengthening team communication and trust within public servants in digitally-mediated work arrangements (Green & Roberts, 2010). Notably, in smart working contexts, supervisors who maintain strong LMX relationships can offer both practical guidance and psychological anchoring (Onnis & Onnis, 2019), creating stability and direction amidst the uncertainties triggered by potential technological disruptions (de Vries, Tummers, & Bekkers, 2019).

Building on these arguments, we propose that:

H4. Leader-member exchange during smart working mediates the relationship between barriers to smart working and job satisfaction.

2.2 The role of peer-to-peer exchange in the relationship between digital barriers and job satisfaction

While the quality of vertical relationships with supervisors plays a critical role in shaping the remote work experience, the horizontal dimension — i.e., peer-to-peer exchange — also deserves attention, especially in contexts such as the public sector (de Vries, Tummers, & Bekkers, 2019).

Work arrangements permeated by digitalization have reshaped the way employees interact, often overcoming informal and spontaneous exchanges that are central to workplace cohesion (Barbieri et al., 2021). In this context, peer-to-peer relationships become both more fragile and more essential, particularly in public sector organisations where rigid hierarchies and bureaucratic constraints may limit the autonomy of relational dynamics (Hur et al., 2019).

Hindrances to effective smart working, such as a lack of adequate infrastructure, unstable connections, or poor access to digital platforms, are likely to hinder opportunities for informal communication and social interaction (Cellini et al., 2021). When digital environments become fragmented or frustrating, the likelihood of meaningful peer exchange decreases (Palumbo et al., 2023). Therefore, we propose that:

H5. Barriers to smart working negatively affect peer-to-peer exchange during smart working.

At the same time, peer relationships can act as a resource capable of sustaining job satisfaction. In virtual settings, peer support, trust, and informal socialisation can compensate for the absence of physical proximity, providing emotional and professional support (Buonomo et al., 2024). Prior studies on remote teams and digital collaboration suggest that strong peer-to-peer relationships enhance engagement and overall well-being (Palumbo et al., 2024). Accordingly, we propose that:

H6. Peer-to-peer exchange during smart working positively affects job satisfaction during smart working.

Building on these assumptions, we argue that peer-to-peer exchange may mediate the relationship between technological barriers and job satisfaction. When relational dynamics are preserved despite existing hindrances, the adverse effects of such barriers may be buffered. Conversely, when peer relations are disrupted, barriers are more likely to translate into dissatisfaction (Luqman, Zhang & Hina, 2023). Therefore, we expect that:

H7. Peer-to-peer exchange during smart working mediates the relationship between barriers to smart working and job satisfaction.

Figure 1 provides a graphical overview of the developed conceptual framework and research hypotheses addressed in this research.

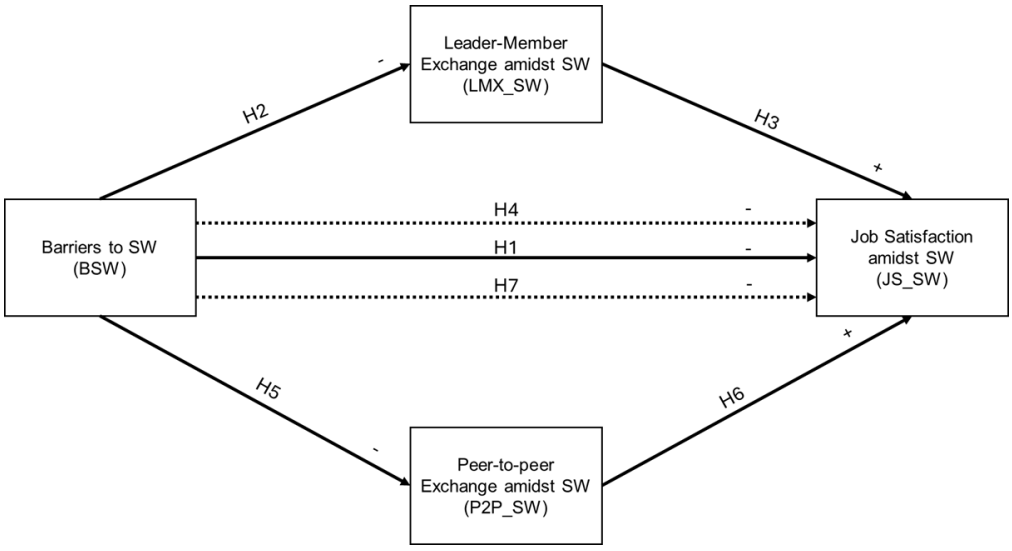


Figure 1. Conceptual framework and research hypotheses.

3 Research Design

To test the research hypotheses that were articulated in the previous section, we arranged an empirical study design, which involved a purposive sample of 165 public servants operating in a large higher education institution in Northern Italy. The sample included members of the administrative staff who adhered to smart working arrangements. To enhance the reliability of the study findings, we did not include all professional categories in our sampling. Rather, we focused only on people having a D-level classification of their jobs and above. More specifically, only public servants who had multi-specialistic knowledge and needed a university degree to get their jobs were involved in the analysis.

The sample was unbalanced in terms of gender, with women representing about 3 in 4 respondents (73%). The average age was 50 years ($\sigma = 8.8$), ranging from a minimum of 28 years to a maximum of 65 years. About one in four public servants reported to be single at the time of the survey (24.8%). Most of the respondents had at least one child (61.2%). Besides, a quarter of the sample disclosed having at least one child with less than 13 years living with them (26.1%). Most public servants revealed that they had to deal with caregiving activities (73.3%). Only a limited part of the sample had a part-time work arrangement (6.7%). A large part of respondents operated in staff to the rectorate of the higher education institution (69.1%), while the remaining part was allocated to the scientific departments of the organization (30.9%). Lastly, yet importantly, few public servants were included in a small organizational unit with less than six people (11%). About one in five worked in large-sized organizational units with more than 20 people (21.8%).

Coherently with the structure of the conceptual model proposed above, we run a parallel mediation analysis. More specifically, following the methodological recommendations provided by Hayes (2022), we implemented an ordinary regression-based model, relying on 5,000 bootstrap samples. All statistical computations were run through the IBM Statistical Package for Social Sciences (SPSS, vers. 25). Furthermore, we used AMOS to check the robustness of our empirical model and the PROCESS macro to accomplish the parallel mediation analysis. More specifically, we used Model 4 of the PROCESS macro.

Our independent variable concerned the public servants perceived technological barriers to smart working (BSW). Based on the extant literature (Cellini et al., 2021; Langa & Conradie, 2003), we referred to different hindrances that might impair the effective transition toward smart working, e.g., limited connectivity, lack of technical support for ICT-related troubles, and overload of platforms and information services needed to accomplish the job. Altogether, BSW was assessed through six items, which were gauged through a five-point Likert scale (1 = barrier not relevant; 5 = barrier really relevant). This variable had good internal reliability and adequate discriminant and convergent validity ($\alpha = 0.92$; CR = 0.89; AVE = 0.70).

Satisfaction with smart working (JS_SW) represented our dependent variable. It broadly concerned the positive attitudinal sensations perceived by public servants when involved in smart working arrangements (Bonacci, Scarozza & Greco, 2024; Monroe & Haug, 2022Ref). We contemplated different manifestations of satisfaction with smart working, including the self-determination triggered by it and the improvement in the positive feelings with work. In sum, JS_SW was assessed through five items, which were structured following a five-point Likert scale (1 = poor satisfaction; 5 = high satisfaction). This variable had adequate reliability and sufficient validity ($\alpha = 0.86$; CR = 0.90; AVE = 0.49).

The two mediating variables concerned the relationships established by public servants with their supervisors and their peers. On the one hand, we were interested in capturing the quality of the exchange with supervisors amidst smart working arrangements (LMX_SW), contemplating the perceived leaders' ability to communicate effectively and to build trust in the workplace (de Miranda et al., 2024; Qin, 2024). Six items were used to gauge LMX_SW, to which we attached a five-point Likert scale (1 = poor exchange with the leader; 5 = good exchange with the leader). This variable had high reliability and validity ($\alpha = 0.87$; CR = 0.88; AVE = 0.83). On the other hand, we assessed the quality of the exchanges between public servants involved in smart working and their peers (P2P_SW). Once again, we contemplated the degree of trust in establishing a connection with others and the quality of socialization

(Bonacci, Scarozza & Greco, 2024). This variable was assessed through four items articulated through a five-point Likert scale (1 = poor quality of the relationship; 5 = good quality of the relationship). P2P_SW had good reliability and adequate validity ($\alpha = 0.87$; CR = 0.88; AVE = 0.83).

We ran an Exploratory Factor Analysis, which empirically confirmed the four-factor articulation of our conceptual model, which explained 73% of the total variance (KMO=0.87; approx. $\chi 2 = 6{,}702.13$; sig. at the 0.001 level). Besides, we run a Principal Component Analysis to check the robustness of our empirical model. The evidence collected supported the statistical fit of the empirical model (CMIN = 746.85; DF = 184; $p < 0.001$; NFI=0.89; RFI=0.87; IFI=0.92; TLI=0.90; CFI=0.92; RMSEA=0.07), whose results are briefly reported in the next section.

4 Findings

Figure 2 reports a graphical representation of the study findings, enabling us to test the research hypotheses presented in the second section of this manuscript. As forecasted by H1, public servants who perceived more hindrances to smart working were less satisfied with smart work arrangements ($\beta = -0.26$, significant at the 0.001 level). Lack of adequate resources to accomplish the individual job in settings other than the organizational premises undermines positive workplace attitudes, making people less satisfied with their work. Interestingly, we found that barriers to smart working generate negative implications on the quality of the relationship established with supervisors ($\beta = -0.28$, significant at the 0.01 level), thus confirming H2. The greater the constraints faced in the smart working setting, the poorer the perceived exchange with supervisors, which is an important factor in determining positive attitudes at work. In line with these arguments, our evidence confirmed H3, with LMX having positive effects on satisfaction with smart working ($\beta = 0.11$, significant at the 0.05 level). From this standpoint, hindrances to smart working were found to have an indirect, negative effect on positive attitudes at work through the mediation of exchanges with leaders ($\beta = -0.16$, significant at the 0.05 level). This evidence confirmed our H4.

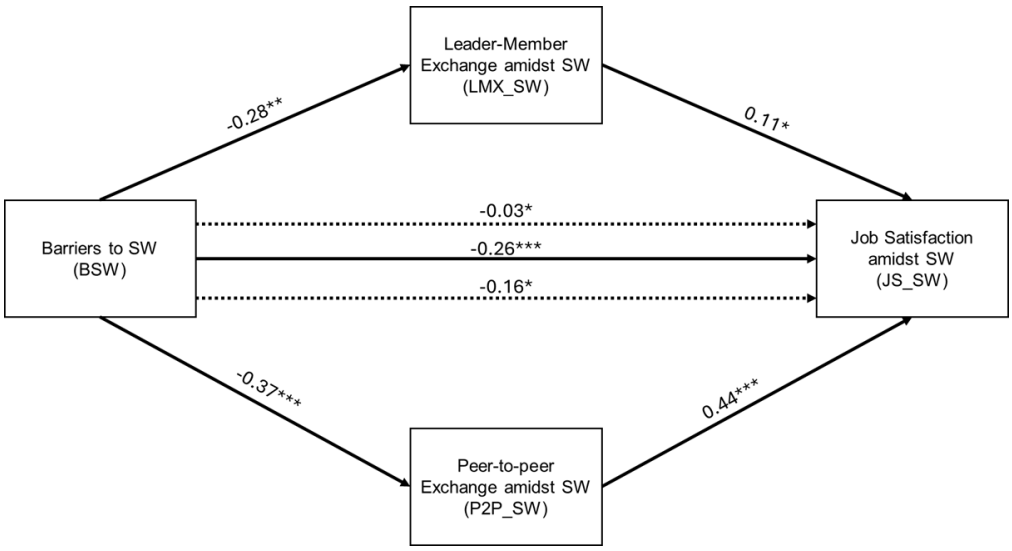


Figure 2. Results.

It is worth noting that hindrances to smart working were also found to jeopardize the quality of the exchange with peers ($\beta = -0.37$, significant at the 0.001 level). Public servants who experienced troubles and/or barriers in shifting to smart working were more likely to report issues in their interplay with colleagues, supporting H5. As assumed in H6, trustworthy and reliable exchanges with peers are conducive to job satisfaction. Our evidence confirmed this hypothesis, with good relationships established with peers having positive implications on perceived satisfaction ($\beta = 0.44$, significant at the

0.001 level). In line with these arguments, we found support for our H7. More specifically, barriers to smart working deteriorated peer-to-peer exchanges, having cascaded negative effects on satisfaction with smart working (β = -0.26, significant at the 0.001 level).

5 Concluding remarks

This empirical study attempted to collect evidence on the direct and indirect implications of barriers jeopardizing the ability to work remotely on the satisfaction for smart work arrangements. We found that technological hindrances have both direct and indirect negative effects on positive attitudes towards smart working. More specifically, indirect effects are mediated by negative implications of these barriers on the quality of relationships that smart workers develop with their peers and supervisors. These indirect effects explain about 40% of the shortcomings generated by hindrances to smart working on individual job satisfaction.

From a theoretical perspective, we contribute to the ongoing discussion on digitally-mediated work environments and socio-technical systems by highlighting the role of vertical and horizontal relational dynamics in reducing the potentially negative impact of technological hindrances on smart working experience. Our findings support the view that job satisfaction in digitally-mediated environments cannot be understood without considering the interplay between technological conditions and social exchange mechanisms (Bednar & Welch, 2020).

In terms of practical implications, public sector entities should recognize that many technological hindrances are not under their direct control, as they are contextualized in the external workspace where public servants accomplish their smart working activities. Nevertheless, attention should be paid to their manifestation. Public sector entities should undertake preventative measures aimed at supporting public servants in overcoming any potential hindrance to the effective accomplishment of smart working. This may include enhancing digital infrastructure, ensuring timely IT assistance, promoting leadership behaviors that foster trust and communication, and encouraging virtual environments for informal peer interaction. By investing in both technological readiness and social connection, public sector entities can help sustain job satisfaction and improve the quality of work relationships.

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ADDRESSING ORGANIZATIONAL BARRIERS IN AI IMPLEMENTATION: EVIDENCE FROM ITALIAN COMPANIES

Short Paper

Grazia Garlatti Costa, University of Trieste, Trieste, Italy, grazia.garlatticosta@units.it
Francesco Venier, University of Trieste, Trieste, Italy, venier@units.it

Abstract

This study examines how Italian organizations navigate socio-technical barriers to AI implementation through the lens of Socio-Technical Systems Theory. Based on a two-phase survey of 109 Executive MBA graduates, we identify critical implementation barriers and evaluate effective governance structures and integration strategies. Our findings reveal that Italian firms predominantly adopt incremental approaches to AI implementation, with skills gaps, centralized decision-making, and data quality issues emerging as primary challenges. Successful implementation requires comprehensive capability development integrating technical and business expertise, evolution from centralized to inclusive governance structures, incremental deployment strategies enabling iterative learning, and robust data management frameworks. This research advances understanding of the interplay between technical systems and organizational dynamics in AI adoption, offering practical guidance for organizations navigating digital transformation challenges in the distinctive Italian business landscape characterized by family-owned enterprises and traditionally craft-oriented sectors.

Keywords: Artificial Intelligence, AI implementation, Barriers, Socio-Technical Systems theory, Italian companies.

1 Introduction

Artificial Intelligence (AI) has become integral to modern business, reshaping how organizations operate, innovate, and deliver value. While AI significantly improves efficiency, decision-making, and competitive advantage (e.g., Davenport & Ronanki, 2018), many companies struggle with its effective adoption and integration (Ångström et al., 2023). This challenge reflects the socio-technical nature of AI implementation, where success depends on aligning technological capabilities and organizational dynamics (Yu et al., 2023). This paper examines how Italian organizations navigate socio-technical barriers to AI implementation, utilizing empirical evidence from a comprehensive survey across multiple industries. Our research is particularly relevant given Italy's distinctive economic landscape characterized by family-owned businesses, established hierarchical structures, and deeply embedded regional business cultures (Garlatti Costa et al., 2025; Saracco, 2022). Applying the Socio-Technical Systems theory (Trist & Bamforth, 1951; Appelbaum, 1997), we identify critical implementation barriers, including skills deficiency (appearing consistently across multiple dimensions), highly centralized governance structures, and data management challenges. These barriers represent misalignments between technical and social subsystems that prevent the joint optimization necessary for successful AI integration (Chowdhury et al., 2022). This study contributes to the discourse on organizational digital transformation by extending socio-technical systems theory to the specific context of AI adoption in Italian organizations. By identifying implementation patterns and practical governance approaches, we provide evidence-based guidance for practitioners navigating the complex socio-technical landscape of AI implementation.

2 Theoretical background

Grounding on the Socio-Technical Systems (STS) Theory as its foundation, this paper recognizes that effective AI implementation requires joint optimization of technical and social systems. Developed by Trist and Bamforth (1951), STS theory views organizations as complex systems where technology, people, processes, and structures mutually influence each other, requiring joint optimization for effective performance. In the AI context, Appelbaum's (1997) emphasis on coordinated human-technical activities has been extended by recent scholars demonstrating how AI implementation specifically requires integration of technical capabilities with social dimensions (Yu et al., 2023; Chowdhury et al., 2022). AI technologies transform business processes, workflows, and organizational structures (e.g., Davenport & Ronanki, 2018), necessitating comprehensive change management. Leadership commitment represents a critical dimension, as Kotter (2012) establishes that technological initiatives often fail without executive support. Bankins et al. (2024) reveal the multilevel nature of AI adoption, showing how leadership approaches must address impacts across individual, team, and organizational levels simultaneously. Implementation methodology significantly influences outcomes, with Shneiderman's (2020) work advocating for incremental deployment strategies that prioritize safety and trust. This approach aligns with STS principles by recognizing that technological success depends on integration with organizational social dynamics. Chowdhury et al. (2023) complement this by highlighting the need to develop both technical and human capabilities concurrently. Through the socio-technical lens, implementation challenges represent misalignments between technical and social subsystems. Leadership commitment and strategic vision constitute one dimension, with Westerman et al. (2014) demonstrating that organizations linking AI initiatives with strategic objectives achieve higher implementation success. Employee resistance represents another barrier, with Brynjolfsson and McAfee (2017) examining concerns about job displacement in automated environments. The skills gap represents a third barrier, with Dwivedi et al. (2023) emphasizing talent management initiatives addressing both technical competencies and organizational capability development. Data governance functions as a critical boundary management mechanism safeguarding implementation integrity while enabling information exchange (Appelbaum, 1997; Yu et al., 2023). Organizations must establish coherent data strategies as integrity issues can compromise algorithmic performance regardless of technology sophistication. Simultaneously, organizational culture profoundly influences AI adoption, with Raisch and Krakowski (2021) emphasizing that overcoming cultural challenges requires significant organizational change initiatives beyond technical solutions. Drawing on this socio-technical systems framework, and building on recent advances in AI adoption research (Chowdhury et al., 2022; Bankins et al., 2024), this study investigates:

How do Italian organizations perceive and navigate socio-technical barriers to AI implementation, and what governance structures and integration strategies are identified as most effective in addressing these challenges?

3 Methodology

Our research employed a two-phase web-based survey methodology to investigate AI adoption patterns and perceptions among Italian organizations. The initial survey (late 2023) measured AI adoption levels across organizations, garnering 237 responses from Executive MBA graduates of a leading Italian business school. A follow-up survey administered in early 2024 focused on perceptions and barriers to AI adoption, yielding 109 responses. Our analysis concentrates exclusively on the 109 participants who completed both surveys, ensuring a consistent sample for examining relationships between adoption levels and perceived implementation challenges. Both surveys utilized Computer Assisted Self-Interviewing techniques, enabling efficient data collection while minimizing entry errors. This sequential approach provided complementary quantitative and qualitative insights into the socio-technical dimensions of AI implementation within Italian organizational contexts.

4 Findings

4.1 Current State of AI Adoption in Italian Organizations

4.1.1 Enterprise-Wide AI Implementation

The analysis reveals that most Italian organizations remain early in enterprise-wide AI adoption. The largest segment of respondents (44.0%, n=48) reported "Small-scale use" of AI, indicating implementations limited to specific departments or functions rather than organization-wide deployment. A substantial portion (34.9%, n=38) indicated they are "Not implementing" AI at all, highlighting that a significant market segment has yet to commence their AI adoption journey. Only 13.8% (n=15) of organizations reported "Transitioning to scale," actively working toward broader implementation across their operations. The smallest group (7.3%, n=8) has achieved "Fully scaled" AI implementations integrated throughout their organizations. The data suggests that Italian organizations approach AI implementation cautiously, beginning with small-scale, experimental deployments before proceeding to broader organizational integration.

4.1.2 Organizational Engagement with AI

The largest segment of organizations (38.5%, n=42) characterized themselves as "Exploring applications" of AI, indicating an exploratory phase focused on identifying potential use cases and value opportunities. Similarly, 31.2% (n=34) reported "Small-scale testing" of AI technologies, suggesting pilot projects or limited implementations to evaluate feasibility and benefits. Notably, 13.8% (n=15) of respondents admitted having "No idea" about their organization's engagement with AI, pointing to potential communication gaps around technology initiatives. At the extremes of the engagement spectrum, 11.0% (n=12) of organizations were "Not considering" AI implementation at all, while only 5.5% (n=6) described their AI initiatives as "Fully implemented" across the organization.

4.1.3 Organizational Experience with AI

Consistent with previous findings, a significant portion (34.9%, n=38) reported a "No Implementation" experience with AI. Among organizations with AI experience, the distribution was bimodal: 30.3% (n=33) claimed "Extensive" experience exceeding one year. In comparison, the remainder was split between "New" implementations of less than six months (16.5%, n=18) and "Some" experience of six to twelve months (18.3%, n=20). This experience distribution suggests a market segmentation where organizations tend to cluster at opposite ends of the spectrum: either having no implementation experience or having accumulated significant expertise over time.

4.1.4 AI Applications in Italian Organizations

The findings reveal a diverse range of AI utilization, with 25.7% (n=28) of respondents reporting "Not using AI" at all. Among organizations implementing AI, the most common applications included "Experimenting/Testing AI" (24.8%, n=27), "NLP/Chat/Messaging" (23.9%, n=26), "Robotic Process Automation (RPA)" (22.9%, n=25), and "Anti-fraud/Security" (22.0%, n=24). Less frequently implemented but still notable were "Computer Vision" (16.5%, n=18), "Content Creation" (15.6%, n=17), and "Recommender Systems" (11.0%, n=12). A small percentage (4.6%, n=5) reported "Other" AI applications not specified in the predefined categories.

4.2 Key Challenges and Barriers to AI Implementation

4.2.1 Primary Challenges in AI Implementation

The empirical analysis identified limited talent and resources as the most significant primary challenge, reported by 41.3% of respondents (n=45). This was followed by unclear or undefined use cases (27.5%, n=30) and inadequate data availability or quality (22.9%, n=25). Less frequently reported but still notable were concerns regarding low return on investment (9.2%, n=10), insufficient leadership support (8.3%, n=9), and other issues, including cultural barriers and user adoption problems (4.6%, n=5).

4.2.2 Integration Obstacles in AI Implementation

When examining specific obstacles to integrating AI into existing work practices, skills deficiency emerged as the predominant barrier, cited by 56.9% of participants (n=62). Data privacy and security concerns constituted the second most significant obstacle (53.2%, n=58), while 44.0% of respondents (n=48) indicated employee resistance to change. Technical complexity presented challenges for 38.5% of organizations (n=42), with implementation costs (22.0%, n=24) and impact on company culture (21.1%, n=23) also representing substantial obstacles. A smaller percentage (8.3%, n=9) identified other issues, including lack of integration capabilities and uncertain return on investment.

4.2.3 Organizational Barriers to AI Adoption

From an organizational perspective, the most prevalent barrier was a lack of skills (62.4%, n=68), confirming the findings from the previous analyses. Other organizational priorities taking precedence over AI initiatives constituted the second most significant barrier (56.0%, n=61), followed by resource limitations (44.0%, n=48). Lack of clear use cases (34.9%, n=38), insufficient data (33.9%, n=37), and limited leadership sponsorship (28.4%, n=31) were also identified as substantial organizational obstacles. Only 3.7% of respondents (n=4) cited other organizational barriers.

4.2.4 Concern Levels Regarding AI Risks

The analysis also examined the level of concern among organizations regarding AI risks such as bias, accuracy, plagiarism, and hallucinations. The findings revealed a mixed landscape of risk perception. The most prominent participants (45.9%, n=50) reported being “somewhat concerned” about potential AI risks. A similar proportion (44.0%, n=48) indicated they were “not at all concerned,” while a smaller percentage (10.1%, n=11) expressed being “extremely concerned” about AI risks.

4.3 Data Management Practices and Challenges

4.3.1 Data Acquisition Sources for AI Applications

Analysis of data acquisition practices reveals that organizations predominantly rely on internal data resources for their AI initiatives. An overwhelming majority (66.1%, n=72) of respondents reported utilizing their “own data” as the primary source for AI applications. This strong preference for proprietary data suggests that organizations recognize the strategic value of their existing information assets and the competitive advantages they may offer. External data sources play a secondary but notable role in AI data acquisition strategies. Search engines represent the second most common data source (15.6%, n=17), followed by synthetic data (11.0%, n=12). Few organizations reported utilizing purchased data (6.4%, n=7), while a small but significant portion (3.7%, n=4) indicated they could not obtain necessary data for their AI applications. Crowdsourcing emerged as the least commonly employed approach (2.8%, n=3), while 12.8% (n=14) of respondents reported using other unspecified data sources.

4.3.2 Data Preparation Challenges for AI Applications

Despite the prevalence of utilizing internal data, organizations face significant challenges in preparing this data for AI implementation. Data quality emerged as the most prevalent challenge, cited by 58.7% (n=64) of respondents, underscoring the fundamental importance of data integrity where algorithm performance depends on input quality. Structural data issues constitute the second most significant category, with 47.7% (n=52) reporting lack of structured data and 41.3% (n=45) facing normalization difficulties. Data privacy concerns affected 44.0% (n=48) of respondents, while technical challenges like data distortion impacted 34.9% (n=38) of organizations. Fundamental availability issues were cited by 29.4% (n=32) of respondents, data labeling difficulties by 17.4% (n=19), and other unspecified challenges by 5.5% (n=6).

4.4 Decision-making and Organizational Involvement in AI Projects

4.4.1 AI Budget Decision-making Authority

Data reveals a highly centralized decision-making structure for AI investments across the surveyed organizations. Executive leadership, including CEOs and CTOs, is most organizations' primary budget decision authority (81.7%). This pronounced centralization indicates that AI investments are considered strategic decisions requiring senior leadership approval and alignment with organizational objectives. Line managers represent the second most common budget decision-makers, though at a substantially lower rate (13.8%). This indicates limited financial autonomy for operational leaders in directing AI investments within their areas of responsibility. A small percentage of organizations (2.8%) reported having no dedicated budget for AI initiatives, while 1.8% cited other decision-making arrangements.

4.4.2 Current Stakeholder Involvement in AI Implementation

Analysis of current stakeholder involvement patterns reveals that AI implementation remains primarily technology-driven within Italian organizations. IT departments constitute the most frequently involved stakeholders (62.4%), leading AI implementation efforts in nearly two-thirds of the surveyed organizations. Business units represent the second most involved stakeholder group (49.5%), though their participation remains substantially lower than IT departments. Dedicated AI teams participate in less than half of AI implementations (44.0%), reflecting the ongoing development of specialized AI capabilities within organizations. External consultants are involved in approximately one-quarter of AI projects (27.5%), indicating moderate reliance on external expertise for implementation support.

4.4.3 Gap Analysis: Current versus Ideal Stakeholder Involvement

The most revealing insights emerge from the comparative analysis between current stakeholder involvement and respondents' perspectives on ideal participation models.

Stakeholder	Current Involvement	Ideal Involvement	Gap
Business Units	49.5%	80.7%	+31.2%
IT Departments	62.4%	51.4%	-11.0%
AI Teams	44.0%	50.5%	+6.5%
External Consultants	27.5%	29.4%	+1.9%

Table 1. Gap Analysis - Current vs. Ideal Stakeholder Involvement.

The most substantial finding is the considerable gap in business unit involvement. This indicates strong recognition among respondents that successful AI implementation requires more significant business

input and ownership. Conversely, respondents indicated that IT departments' involvement should decrease, shifting the balance toward a more business-led approach. Respondents also indicated that dedicated AI teams should have moderately increased involvement.

4.5 Driving Factors, Objectives, and Integration Strategies for AI Implementation

4.5.1 Key Driving Factors for AI Adoption

Analysis of the primary factors driving AI adoption reveals that operational and innovation considerations significantly outweigh external market pressures. Efficiency improvement emerged as the predominant driver, cited by 66.1% (n=72) of respondents. This finding suggests that most organizations perceive AI primarily as a tool for optimizing existing processes and enhancing operational performance. Technological innovation constituted the second most significant driver (57.8%, n=63), indicating that many organizations view AI adoption as essential to their broader digital transformation initiatives. Service quality improvement represented another primary motivation (44.0%, n=48), highlighting the perceived relationship between AI implementation and enhanced service delivery capabilities. Cost reduction was cited by 34.9% (n=38) of respondents, demonstrating that while financial considerations play a substantial role, they are not the predominant driver of AI adoption for most organizations. External factors such as market or competitive pressure were identified by only 17.4% (n=19) of organizations, suggesting that AI adoption is primarily driven by internal strategic priorities rather than reactive responses to competitive threats. A small percentage (4.6%, n=5) reported other unspecified drivers.

4.5.2 Strategic Objectives for AI Implementation

AI implementation objectives center on internal process improvement and customer-facing enhancements. Internal operations improvement was the primary objective for 53.2% (n=58) of respondents, aligning with efficiency-driven motivations and indicating organizations primarily deploy AI to enhance core operational processes. Customer experience improvement ranked second at 47.7% (n=52), demonstrating significant emphasis on leveraging AI for client-facing capabilities and service delivery. Risk mitigation represented another substantial objective (28.4%, n=31), reflecting growing recognition of AI's utility in compliance, security, and risk management. Product recommendation capabilities were cited by 21.1% (n=23) of organizations, indicating moderate adoption for personalization and marketing optimization. Notably, 11.0% (n=12) reported no specific objective for their AI initiatives, potentially indicating exploratory approaches without defined strategic goals, while 4.6% (n=5) cited other unspecified objectives.

4.5.3 Integration Initiatives and Strategies

Organizations adopt diverse strategies to support AI integration, with human capital development—particularly training and upskilling—emerging as the most common approach. A significant portion of organizations have not yet initiated specific actions, reflecting the early stages of AI adoption. Other strategies include pilot projects, external support, and creating internal structures, though these remain less widespread (Table 2).

Initiatives	**Examples**	**Percentage**
Training & upskilling	"Training courses", "Specific training", "Training sessions"	29.4%
Pilot projects & exploration	"Pilot projects", "Exploratory phase", "Showcases"	16.5%
External support	"External consulting", "Collaboration with specialists"	13.8%
Internal teams/Task forces	"Dedicated team", "Taskforce", "Dedicated Group BU"	12.8%

None/Not yet implemented	"No strategy", "Not yet implemented", "Not integrated"	25.7%
Other	"HR chatbot", "Integrated modules", "Digitalization"	11.0%

Table 2. AI Integration Initiatives and Strategies.

5 Discussion

5.1 Theoretical Contributions

This study extends socio-technical systems theory by empirically demonstrating the critical interplay between technical and social dimensions in AI implementation. Our findings from Italian organizations reveal three key theoretical contributions. First, we validate Appelbaum's (1997) "joint optimization" principle, showing that successful AI adoption requires alignment between technological capabilities and social structures. The predominance of skills-related barriers (41.3% to 62.4% of respondents) substantiates Yu et al. (2023) identification of human capital as critical for effective AI adoption. The gap between current and ideal stakeholder involvement patterns illustrates how misalignment between technical implementation (IT-led in 62.4% of cases) and business domain expertise creates socio-technical fractures. Second, our findings on incremental integration approaches corroborate Shneiderman's (2020) human-centered AI framework while extending it to Italian organizations. The prevalence of small-scale implementations (44.0%) and exploratory approaches (38.5%) demonstrates gradual deployment effectiveness in traditional organizational cultures. This contributes to Chowdhury et al. (2022) integration of knowledge-based view with STS theory by showing how incremental approaches facilitate knowledge transfer and collaborative learning. Third, our decision-making process data extends Bankins et al. (2024) multilevel approach by revealing how governance structures impact implementation outcomes. The highly centralized budget authority (81.7% executive control) creates tensions with recognized needs for broader stakeholder involvement, particularly from business units (desired increase from 49.5% to 80.7%). This enriches socio-technical theory by demonstrating how governance mechanisms mediate the relationship between technical capabilities and organizational integration.

5.2 Managerial Implications

Our findings yield key implications for organizations implementing AI technologies. First, executives should address the skills gap through comprehensive capability development programs, investing in technical training while cultivating business domain expertise among specialists. Following Chowdhury et al. (2023) AI capability framework, this requires both specialized technical education and cross-functional knowledge integration. Second, organizations should adopt more inclusive governance approaches. The significant gap between current and ideal stakeholder involvement, particularly for business units, indicates that balanced participation across technical and business domains would improve outcomes. Implementation should include cross-functional committees and feedback mechanisms incorporating frontline perspectives. Third, organizations should embrace incremental implementation strategies. The prevalence of small-scale use among Italian organizations suggests that well-designed pilot initiatives yield better results than immediate enterprise-wide deployment. Fourth, data governance should be prioritized as an implementation foundation. With data quality emerging as the most prevalent challenge, companies must establish robust data management frameworks before pursuing advanced AI applications.

6 Conclusion

This study examined how Italian organizations navigate socio-technical barriers to AI implementation. Successful adoption requires balancing technical capabilities with organizational dynamics through incremental approaches. Three critical success factors emerge: addressing skills gaps, evolving from

centralized to inclusive governance, and establishing robust data management practices. Study limitations include our sample of Executive MBA graduates from one Italian business school, reliance on self-reported perceptions, and cross-sectional design.

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DIALOGICAL APPROACH IN ORGANIZATIONS: A NEW MANAGERIAL PERSPECTIVE TO FOSTER ORGANIZATIONAL CHANGE IN THE PUBLIC SECTOR

Short Paper

Lorenzo Mercurio, University of Naples Federico II - Department of Public Health, Naples, Italy, lorenzo.mercurio@unina.it

Lucio Todisco, University of Naples Federico II - Department of Economics, Management, Institutions, Naples, Italy, lucio.todisco@unina.it

Abstract

Public organizations encounter significant challenges brought on by social and cultural changes transforming organizational dynamics. Therefore, they must be more inclusive and reflective, promoting dialogue in the workplace. To achieve this, it is necessary to reflect on a new way of understanding work in public administrations, from a relational perspective, based on dialogical approaches and spaces for sharing ideas. The dialogical approach is considered one of the most effective tools for organizational improvement, and its dissemination addresses the training challenges of aligning public employees' dialogical and behavioral skills, providing them with new skills through a group-oriented dialogical method, which is often lacking in training programs. In this contribution, the authors present preliminary reflections on the use of the dialogical approach in the public sector. This article describes the work carried out as part of an Erasmus+ project involving 10 European partners, which defined guidelines for a dialogical approach in the public sector.

Keywords: Dialogical approach, Organizational change, Public sector

1. Introduction

Public administrations are called upon to respond to the challenges posed by contemporary society. They must act in an inclusive, innovative, and reflexive way in the context of unprecedented transformations and growing international interdependencies that require greater cooperation between different societal and within organizations (Hamouche, 2023; O'Flynn, 2021). Emerging evidence shows that, to address these challenges, it is necessary to place people with their ability to work in an integrated and multidisciplinary way at the center of change processes. The spread of new ways of working (i.e. smart working and hybrid working), has accelerated the change processes in the public sector. (Gratton, 2021; Petani & Mengis, 2021; Todisco et al., 2023).

These changes have required public employees to be more flexible and adaptable to needs, to improve their relationships with colleagues, and to achieve organizational goals by working in groups, especially in organizations where the levels of communication have differentiated and multiplied. Therefore, it is necessary to address these challenges through new ways of understanding work in organizations, conceiving moments of communication and training as relevant to increasing organizational change and well-being. This different vision of communication and training introduces a new way of understanding group work from a relational perspective. In this scenario, the dialogical approach proves to be one of the most effective approaches to addressing emerging needs for improving work in the public sector. The dialogical approach in public organizations responds to the training challenges related to aligning public employees' skills and the complex evolution of individual expectations of recognition and well-being in organizations. It provides public employees with new skills through a "method" of work-oriented dialogue, which is still absent in the training curriculum of public employees. The contribution is structured as follows: the next paragraph analyzes the theme of

dialogue as a managerial tool to improve the management of work groups; paragraph three defines the dialogical approach and how it can represent a managerial lever to improve internal communication in public organizations and promote the achievement of organizational and individual objectives; the fourth paragraph outlines the figure of the "dialogical tutor" in public organizations, a central role for the diffusion of the dialogical approach. The fifth paragraph focuses on the process developed by the authors and the European partners during the project to create different deliverables to accompany public employees in the path of awareness, learning, implementation, and development of dialogical skills. Finally, the last paragraph outlines the first conclusions based on the work carried out by the authors in the research project regarding the dialogical approach in public organizations and some ideas for future research.

2. The role of dialogue in supporting public management in the workplace

Empathetic, effective, and inclusive communication can generate virtuous processes within organizational contexts. Empathetic communication starts from the assumption that interlocutors must first consider themselves part of an ecosystem and that relational exchange can increase one's vision, develop organizational objectives more effectively, and improve the dimension of organizational well-being (Jämsen et al., 2022; Todisco & Russo, 2024).

Being part of a "communication ecosystem" allows management to use levers of action that facilitate communication itself to overcome organizational complexities. Communication ecosystems work if the communication style within them is oriented towards an empathetic and inclusive perspective (Liu & Horsley, 2007; Sanders & Gutiérrez-García, 2020). To this end, those who are part of them must ask themselves some fundamental questions to make them work effectively. The first question is how to make what you are talking about or what you want the interlocutor to know understandable. Technical terminology is essential, but other, more direct communication tools can convey the message you want to get across to listeners. Therefore, the use of inclusive language, which allows us to address the complexity of technical language from the point of view of "revealing" the terms themselves, is a helpful lever to improve dialogue processes in organizations. Another question is how to ensure that the content we want to convey has an impact on listeners. This is one of the most underestimated aspects in organizational contexts because, most of the time, the content itself is considered essential. Those who do not effectively receive the content will stop listening to it, significantly affecting the achievement of organizational objectives. This is an even more relevant issue since digital technologies filter the effects of information content to a greater extent. A third question is how to foster inclusiveness in communication processes. One of the main aspects to consider is making listeners feel included in the communication process. Finally, the last question concerns effective time management in communication processes.

We often need to reflect on the premises underlying our communication with colleagues. More often than not, we want to expand our speeches with technical aspects irrelevant to the message we want to convey, losing that effectiveness and the empathetic function of communication. More often than not, this happens because of the need to demonstrate competence and confidence in one's content, but the risk is to obtain the opposite effect.

In current contexts in which the hybridization of organizations has made the transmission of communication on levels that intertwine between virtual and physical, practical, participatory, and inclusive communication represents the starting point for having effective organizations. For this reason, public management must be able to find ways and strategies to arrange meetings or moments of discussion in places to activate valid discussion paths to resolve complex problems and organize work.

3. The dialogical approach as a tool for managing organizational change

According to Bakhtin (1981), Buber (2013) and Markova (2003), the conceptual basis of the dialogical approach in the public sector can be found in Finnish organizational contexts, particularly at the local government level. The Finnish dialogical approach, pioneered over the last twenty years by Professor Arnkil's team at the National Institute for Welfare and Health, has been developed in other Scandinavian countries (Sweden, Denmark). The dialogical approach can be described as a "method" of working oriented towards network dialogue. It finds its first diffusion in the public health sector, particularly in work with minors, young people, and families. The basic assumption on which the theoretical framework of the dialogical approach is based concerns the need for a more excellent correspondence between working life and everyday life through a more significant fragmentation of complexity. Public administrations need internal support to hold together the complexity of the social life of those who work there, especially in increasingly dynamic and constantly changing contexts. The dialogical approach can be useful in reducing this gap by achieving methodological and cultural change in the organization. The dialogical approach seeks to overcome a static vision of dialogue as a tool used exclusively to present different points of view. In a conversation, participants express a point of view, provide perspectives on that topic, and discuss it (Arnkil, 2019).

Instead, dialogue is dynamic and generative, and it is enriched by participants' contributions to finding new solutions. In a dialogue, participants are willing to abandon their preconceived ideas and listen to the contributions of others. In this way, they are open to the ideas generated by this interaction that otherwise would not have been possible to develop. The dialogical approach promotes this generative aspect in the workplace. The opinion of those who participate in the work is not definitive but a step towards the result, offering participants a new vision and understanding of a topic or problem to be solved. Implementing the dialogical approach in the workplace represents an organizational cultural change that significantly impacts communication and internal relationships. Therefore, it becomes crucial that this process of change is regulated over time: in some cases, it may be appropriate to start using this tool in a process and then extend it to the entire organization; in other cases, it may be relevant to use this approach only for specific procedures. The scope of application of this approach varies depending on the organization's characteristics. First, when choosing the perimeter of the dialogical environment, it is necessary to pay attention to some aspects:

- *The multidisciplinarity of the activities covered by the dialogical approach.*

- *The fragmentation or otherwise of the activities.*

- *The types of language (administrative, technical, etc.)*

- *The motivations behind using the dialogical approach as a tool for organizational change.*

From the point of view of the diffusion of the dialogical approach in organizational contexts, it is relevant to create a group capable of influencing and rooting its implementation. This group is called the Governance Group (GG).

The GG must have the characteristics to control what happens in the organization, institutionalize and legitimize changes, and obtain the necessary commitment from internal stakeholders. Different paths can be followed in defining and building a GG. The organization's characteristics are essential since they allow for the choice of people to be involved in the GG. This is to obtain exemplary commitment and facilitate new practices that are not strictly technical or specialized, which the organization's top management may not immediately accept. It is clear, however, that training is also appropriate for the people who make up the GG. One of the main tasks of the GG is to identify different figures within the organization who must be trained as tutors and facilitators of the diffusion of the dialogical approach within work groups and offices.

The role of the tutor is fundamental because, if properly trained and with the necessary commitment of the GG, it can act as a facilitator of communication processes within organizations. Furthermore, the role of the tutor facilitates, within a specific public service, the possibility of understanding the management complexities and encouraging the choice of innovative solutions through dialogue,

promoting results that also impact the well-being of employees. In the dialogical approach, the tutor redefines the working methods in heterogeneous work groups regarding skills. Furthermore, the tutor must be able to read and improve the organizational conditions and the well-being of employees, thus trying to influence the performance of individuals and the organization itself. In this way, performance can be measured and become a communication tool for management, thus verifying the results of the dialogical work carried out.

4. The tutor's role in the dialogical approach

As anticipated in the previous paragraph, the dialogical tutor's role is relevant to facilitating the activity of work groups in public organizations and promoting the achievement of organizational goals through a dialogical approach. The role of the dialogical tutor is fundamental to identifying and organizing dialogical spaces carefully. Dialogical spaces are made up of 5 dimensions that the tutor must manage and organize: *i) the discursive space, ii) the physical space, iii) the space-time, iv) the social space, and v) the mental space.*

From the discursive space's perspective, the tutor must carefully plan work meetings effectively to mitigate conflicts and, above all, create the conditions for a generative dialogue. In defining the physical space, the dialogical tutor must identify or create places where communication is easy and relationships can function coherently with respect to the objectives of the workgroup or office.

Other relevant dimensions on which the tutor must work are those of social space and time. The tutor must carefully define the time and mark the moments of dialogue, discussion, and those for achieving the final objectives. Finally, the tutor must define the mental space, ensuring that the workgroup or office is prepared to work on dialogical assumptions to achieve the set objective.

Therefore, anyone who joins a workgroup or office can work on coherent and clear premises for everyone thanks to the contribution of the dialogical tutor, who is invested and trained to have a central role in organizations.

5. The dialogical work project: between theory and practice for disseminating "good practices"

It is through training that the dialogical approach can find space in public organizations. For this reason, as part of a European project, it was possible to activate and develop an orientation path on the dialogical approach that took place from January 2023 to February 2024 through different phases of active participation within the international project funded by the Erasmus+ Program of the European Union through the call KA220-VET - Partnership for cooperation in vocational education and training and in which the University of Naples Federico II played an active role.

Dialogical Work was a project led by the Emilia Romagna Region in Italy and which aimed to promote good practices of the dialogical approach in multi-professional group work in the European context, experimenting with innovative dialogic approaches oriented towards active participation.

As a project unit (one of 10 European units in this project), the University of Naples Federico II's participation focused on implementing the dialogic approach through two phases of work: the first phase proposed actions to develop the GG implementation process, seeking to understand its limitations and potential, and which professional figures with political/managerial responsibilities within organizations are most appropriate to involve in its development. The second phase involved defining the guidelines for the dialogic tutor, whose central role was described in the previous section. This tutor connects the various organizational levels and assists working groups in adapting dialogic working practices to ever-evolving, increasingly hybrid and digital contexts.

Furthermore, the European research project was documented in a book produced by the Unit of the Autonomous Province of Trento. This book aims to narrate and describe not only the project's journey but also to offer valuable tools and resources for implementing the dialogic approach within one's working contexts.

6. Conclusions and future points

The tasks carried out within this European project allows us to introduce some final reflections on the contribution of the topic of the dialogical approach. First, the activities of the GG in public organizations are central to the diffusion of the dialogic approach. To this end, the members of the GG must be trained or at least have a clear idea about the dialogic approach, both at a theoretical and methodological level.

The first activity of the GG must concern the implementation phase of the dialogic approach in the organization. The GG must commit to promoting training on the dialogic approach, identifying the areas or processes in which dialogical work can be implemented.

A second phase of the GG activity must concern the training and selection of tutors. The choice of people to be trained as tutors depends on the context, and the GG can choose people who are part of the operational activity (public employees) or individuals with typically transversal competencies (human resources management). Once the training phase of dialogical tutors has been managed, the GG will have to promote the implementation of dialogical work, support dialogical tutors in their role as facilitators in the use of dialogical work, and monitor the results obtained following the construction of dialogical environments. Secondly, dialogical approach tutors can support public employees by being facilitators in the dialogical environment and pushing individuals in work groups to think about how to solve problems and resolve conflicts, making internal communication more fluid.

The future implications of this contribution will develop following the dialogical training activities, which will allow us to understand how to promote the implementation in public organizations of this innovative approach that promotes dialogue, organizational well-being, and the effective achievement of organizational goals.

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"RESISTANCE AND RESILIENCE." QUEST FOR THE SURVIVAL OR PROSPERITY OF SMALL AND MEDIUM-SIZED SICILIAN WINE ENTERPRISES

Research Idea

Rodolfo Damiano, University of Palermo, Palermo, Italy, rodolfo.damiano@unipa.it
Benedetta Valeria Cannizzaro, University of Bergamo, Bergamo, Italy, benedettavaleria.cannizzaro@unibg.it
Marcantonio Ruisi, University of Palermo, Palermo, Italy, marcantonio.ruisi@unipa.it
Raimondo Ingrassia, University of Palermo, Palermo, Italy, raimondo.ingrassia@unipa.it

Abstract

Small and medium-sized enterprises (SMEs) in the wine sector are facing increasing pressures from various external factors, such as climate change, global competition and technological disruption. In this context, Business Model Innovation (BMI) represents a key lever for organisational resilience and antifragility. However, these SMEs might exhibit strong organisational resistance to BMI, rooted in tradition and leadership cognition. This study aims to propose an innovative methodological approach that integrates Business Model Canvas-based surveys with in-depth case studies of SMEs operating in Sicily (Italy) to develop a taxonomy of SMEs along two main axes: resistance to BMI and resilience/antifragility. Consequently, the objective of the current study is to understand how organisational cognition and leadership styles influence BMI activation, addressing the need to explore the human and behavioural aspects of BMI.

Keywords: Business Model Innovation, SME, Wine sector, Resilience, Leadership

1 Introduction

The wine sector, characterised by a strong presence of small and medium-sized enterprises (SMEs), is facing unprecedented challenges. Climate change is altering traditional production patterns (Gonen et al., 2024), while globalisation and digitalisation require rapid adaptations of long-established business models (Costa et al., 2023; Mariani et al., 2012). In this context of increasing complexity, Business Model Innovation (BMI) can emerge as a key strategic lever for businesses to survive and thrive (Clauss et al., 2022; Foss & Saebi, 2017; Ruisi et al., 2024).

BMI can be defined as the process through which an organisation rethinks and changes how it creates, distributes and captures value (Zott & Amit, 2010). Prior research points out that the success of such processes depends to a large extent on cognitive and behavioural factors, which are often underestimated in theoretical and practical models (Snihur & Zott, 2020). In particular, Doz and Kosonen (2010) identify three leadership capabilities essential for enabling BMI: strategic sensitivity, leadership unity and resource fluency. These capabilities, however, can be hindered by phenomena such as cognitive imprinting (Snihur & Zott, 2020) and behavioural resistance (Oreg, 2006), which might emerge in organisations strongly anchored to a traditional culture, such as wineries (Alonso et al., 2022; Moisello, 2025).

Despite growing interest in the topic, as Spieth et al. (2025) noted, much of the BMI research has traditionally focused on the decision-making processes of top managers, neglecting the cognitive behavioural aspects that characterise the entire organisation. This gap is particularly relevant in the context of SMEs, where organisational dynamics are profoundly influenced by cultural, relational, and cognitive factors that go beyond mere economic rationality. Understanding these aspects is essential to support processes of effective business model transformation.
In this context, the concept of organisational resilience, understood as the ability of an organisation to absorb tensions, adapt to change and recover from uncertain and adverse events (Lengnick-Hall & Beck, 2005), also gains relevance. Such an ability can be further extended through the concept of antifragility proposed by Taleb (2012), where some systems not only resist disruptions but actually benefit from them, improving their performance in the long term.
In light of these considerations, this study aims to address this gap through a multidimensional analysis that considers both strategic and behavioural aspects of BMI in Sicilian wine SMEs. The main objective is to understand how leadership skills, middle management behaviour, and organisational culture can act both as enablers and barriers to business model transformation, thus contributing to a more complete view of the dynamics of change in SMEs.

2 Proposed Methodology

This study consists of two main complementary phases. The first phase is represented by a survey of a large sample of managers and entrepreneurs from SMEs operating in the Sicilian wine sector. The survey questions are based on Osterwalder and Pigneur's (2010) business model canvas (BMC) proposition and are aimed at assessing two main dimensions of interest:

- Resistance to BMI, measured through indicators of adaptability, organisational learning and performance during crises;
- Resilience/antifragility, assessed through indicators of openness to change, speed of innovation, strategic flexibility and profitability.

Specifically, while part of the questions addresses the level of confidence of the entrepreneur/manager in BMI as a source to improve organisational performance in light of a turbulent environment, another part is proposed to investigate organisational factors that could lead to resistance towards BMI. Then, clustering the respondents' firms along these two dimensions allows us to provide a taxonomy consisting of four organisational archetypes: Open-Antifragile, Resistant-Antifragile, Open-Fragile, Resistant-Fragile, each characterised by specific cognitive and behavioural dynamics, as shown in Figure 1.

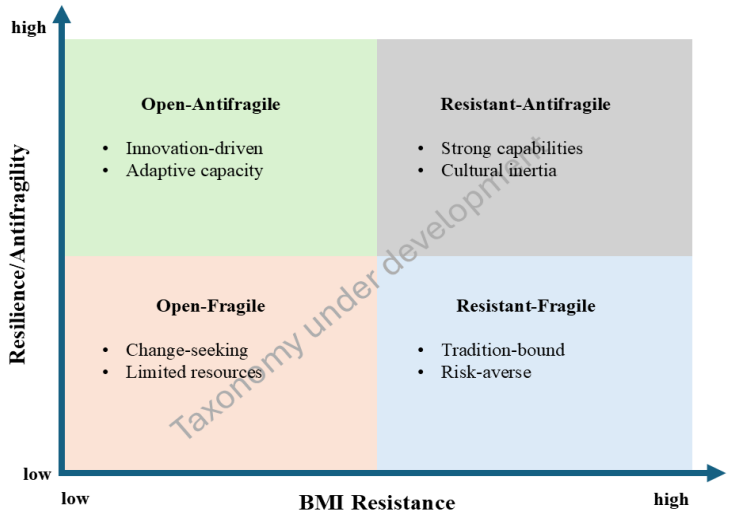


Figure 1. SME taxonomy: Resistance vs. Resilience. Authors' elaboration.

The second phase consists of a selection of multiple case studies through a theoretical sampling, including 6-8 SMEs, which represent different configurations along the two assessed dimensions. The multiple case studies are conducted on this set of respondents to shed light on the rationales of proactivity (e.g., improving business performance) and resistance (e.g., defending tradition and inertia) towards BMI.

3 Contribution and Implications

This study is currently ongoing. Through this contribution, we aim to advance the BMI literature following the future research directions proposed by Spieth et al. (2025). Notably, the study aims to explore the still under-investigated phenomenon of cognition underlying BMI beyond the executive level (Spieth et al., 2025). The work also aims to provide a holistic framework of the cognitive mechanisms that facilitate or hinder the enactment of effective BMI at different organisational levels. The investigation will cope with three main issues:

- Integrating cognitive-behavioural aspects into the traditional BMI framework;
- Developing an empirically grounded taxonomy that links the concepts of resistance and resilience to change;
- Extending the concept of organisational resilience through antifragility in the context of SMEs.

In doing so, the results of this study have managerial implications. Specifically, they can provide practical insights into the development of customised BMI strategies for various types of organisational archetypes, the identification of cognitive and behavioural levers to facilitate the adoption of BMI, and possibly the design of targeted training interventions for leadership within SMEs operating in the wine sector.

4 Acknowledgements

This research is produced within the Enterprise Europe Network thanks to co-funding by the European Union - Single Market Programme 2021-2027.
Rodolfo Damiano would like to acknowledge that this work has been (partially) financed by the European Union - Next Generation EU and the Italian Minister of University and Research (MUR) through the project “GRIS - Growing Resilient Italian SMEs” (No. 2022X9YPZJ) within the PRIN 2022 programme.

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DEVELOPING COLLECTIVE LEADERSHIP: THE ROLE OF COMPLEXITY

Short Paper

Laura Cortellazzo, Venice School of Management, Ca' Foscari University of Venice, Venice, Italy, laura.cortellazzo@unive.it

Andrea Montefusco, Luiss Business School, Rome, Italy, amontefusco@luiss.it

Abstract

Scholars increasingly argue that complex organizational environments require forms of leadership that depart from traditional heroic models, favoring collective leadership based on relational and processual dynamics. However, despite growing theoretical interest, empirical research on how collective leadership develops remains limited, especially regarding the role of context and complexity. This study explores how collective leadership unfolded within the board of CAUL, a company navigating rapid growth and heightened ambiguity. Based on a one-and-a-half-year study involving 47 interviews and 53 hours of observation, and adopting an abductive approach, we show how actors combined reification practices fostering shared commitment, with complexity management practices to generate a shared direction. Our findings highlight the importance of contextual influences and suggest that managing complexity is a key but underexplored component in the development of collective leadership in turbulent environments.

Keywords: collective leadership, leadership development, complexity, abductive approach

1 Introduction

Collective leadership scholars suggest that the complexity of many contemporary organizations requires new forms of leadership practice (Huxham & Vangen, 2005) that depart from traditional heroic models (Bloomfield et al., 2024). They investigated collective or 'plural' leadership in which multiple leadership actors are involved in the co-creation of leadership adopting a relational view of leadership (Empson et al., 2023). Although the theoretical discussion on collective leadership has experienced a surge in the last years, empirical work on the topic is still scarce. Specifically, many scholars advocate the need to understand how to develop collective leadership (Murphy et al., 2017), and to embrace issues of process in collective leadership research (Fairhurst et al. 2020). In doing so, Croft and colleagues (2022) argue the need to account for contextual influences that may explain how collective leadership develops in complex organizational environments. Indeed, collective leadership is commonly desired when addressing complex problems (Ospina, 2017), but so far complexity has not been accounted for in our understandings of collective leadership (Croft et al., 2022).

Previous studies analysing the development of collective leadership focused on strategic ambiguity and reification practices as ways to achieve three key characteristics of collective leadership, namely an agreed direction about what the collective is trying to achieve; alignment and coordination of activities; and commitment to the success of the collective (Cullen et al., 2012). While reification practices may represent a key component for shared commitment that moves actors towards a common feeling, it may not be enough to achieve a common direction (Croft et al., 2022) especially in turbulent and ambiguous contexts. Ambiguity is indeed considered a "double edge sword" (Abdallah & Langley, 2014), which may promote collective driving but also conflict depending on the context. To advance the current literature we deepen the analysis of this contextual inference trying to understand the role of complexity in the equation. We propose that besides reification practices to enhance shared commitment, to develop

collective leadership actors adopt complexity management practices focused on the reachability and observability of feedback that explain the creation of a shared direction.
Drawing on a one-and-a-half-year study, involving 47 interviews and 53 hours of observation, we explore how collective leadership developed in the board of directors of the company CAUL. CAUL faced a steep expansion during the COVID-19 pandemic and its aftermath but also increased competition and sudden contextual problems that intensified the ambiguity of the strategic directions to pursue. In this context, the president of the company decided to create a board of directors with the aim of establishing a collective leadership within the group. In this way the president articulated a narrative of collective leadership, which was however not yet enacted (Empson et al., 2023). Using an abductive approach, we analyse the way in which collective leadership unfolds in this complex environment, highlighting the role of reification and feedback.

2 Theoretical Background

2.1 Collective leadership

A growing body of theory, encompassing diverse streams of research, has explored leadership as a collective or 'plural' phenomenon (Denis et al., 2012). This body of work highlights the inherently relational nature of leadership and how multiple leadership actors are involved in its co-creation (Empson et al., 2023). However, studies present a certain variety in the conceptualization of leadership and collectiveness. In mapping the field, Ospina (2020) argues that collective leadership can be more or less embodied in relationships and roles, or in systemic properties. Moreover, the author proposes an onto-epistemological distinction between viewing collectively as a type of leadership or as a theorical lens through which understanding leadership. We position our work in the second field, aiming at understanding leadership in terms of relational realities and interactions (Crevani et al., 2010) , and thus focusing on context and relational interacts (Uhl-Bien & Ospina, 2012). This approach allows us to uncover better the process through which collective leadership develops in complexity (Denis et al., 2012; Eva et al., 2021).
The limited body of work exploring the process of collective leadership development is largely theoretical and over-romanticized (Croft et al., 2022). Critiques of collectivist leadership literature underline its insufficient attention to the influence of contextual issues (Collinson et al., 2018), and of the role of power, competition, and conflict in the development of collective leadership (Denis et al., 2012), especially in the face of complexity.
In this regard, Croft et al. (2022) and Denis et al. (2012) provide a relevant contribution in identifying strategic ambiguity and reification as building blocks in the development of collective leadership. Ambiguity refers to the multiple and competing interpretations of shared priorities (Abdallah & Langley, 2014; Denis et al., 2001). While some studies suggest that ambiguity should be reduced to facilitate collective leadership (Denis et al., 2011; Denis et al., 2001), others maintain that strategic ambiguity promotes collective working by enabling actors to generate their own interpretations about how to realize shared priorities (Jarzabkowski et al., 2010). Recently, Croft et al. (2022) proposed that although divergent strategic priorities complicate the realization of collective leadership (McGivern et al., 2018), and may sometimes be reduced to ensure stability, negotiating strategic ambiguity is a central condition for collective leadership. This negotiation process is strictly linked to reification practices encouraging individuals to develop emotional attachments to collective work. Reification practices aim at "attributing symbolic value, importance, and immutability to the collective project" (Denis et al., 2011, p. 236). Thus, they spur the creation of a common sense of commitment to the collective (Kaplan, 2008). Yet, while reification practices are linked to a shared commitment to the collective (Cullen et al., 2012; Eva et al., 2021), they do not necessarily imply a common strategy will be pursued. This means that reification practices may not fully explain how actors accommodate their different perspective into an agreed direction and alignment about strategic priorities in a complex context (Croft et al., 2022). To advance the literature, we propose that besides the use of reification practices that spur shared commitment, the much-needed shared understanding that drives collective leadership (Cullen et al.,

2012; Eva et al., 2021) depends on complexity management practices, and specifically on on the use of feedback and its reachability and observability.

2.2 Complexity in organizations and Collective leadership

Over the last twenty years, scholars have discussed whether complexity matters and how to move it forward in management studies and practices. Since the mid-twentieth century, scholars such as Von Bertalanffy have advocated novel approaches to investigating reality by emphasizing properties emerging from the interplay of multiple components. This perspective, rooted in General System Theory (GST), proposed a holistic outlook in contrast to the reductionist notion of viewing a system merely as the sum of its parts (Boulding, 1956; Von Bertalanffy, 1950). In recent conceptualizations, recognizing social phenomena' historical and temporal nature, complexity thinking pivots from a universal and timeless framework to one emphasizing context, contingency, and the ecological perspective (Tsoukas & Dooley, 2011). Recently, some contributions have conceived complexity as a construct to fuel a novel research focus and positively impact leadership practice (Gavalas, 2024; Riaz et al., 2024). Others have explored organization dimensions under complexity (Burke & Morley, 2023), and how people cope with it (Bergenholtz et al., 2023). In this regard, Montefusco and Angeli (2024) proposed a conceptual framework in which they underline the role of threshold concepts in dealing with complexity (Hawkins & Edwards, 2015; Wright & Hibbert, 2015). Threshold concepts are defined as troublesome concepts that may initially seem alien or counter-intuitive but which, once mastered, open up 'a new and previously inaccessible way of thinking about something […] a transformed way of understanding, or interpreting, or viewing something' (Irving et al., 2019). Feedback as a threshold concept and complex reasoning building block, fuels adaptation and evolution, informing the actors' sensemaking (as underlined by several scholars, e.g. Gavetti et al., 2017; Gavetti & Warglien, 2015). Despite the vast literature on feedback, studies have missed exploring two core concepts, observability, and reachability, which are the core concepts of canonical Kalman's system decomposition (Kalman, 1963). We argue that the ability to a) asses whether their feedback loop reaches and observes the relevant variables/phenomena/behaviours/[…] and b) find alternative feedback loops, influence the way in which collective leadership develops. Figure 1 exemplifies the concepts of reachability and observability in feedback. What is of paramount importance here is that the leadership, modifying either their representation, i.e., the way the leadership look at the feedback loops' path, or the system itself or both, can increase/decrease the possibility of making sense of the complexity.

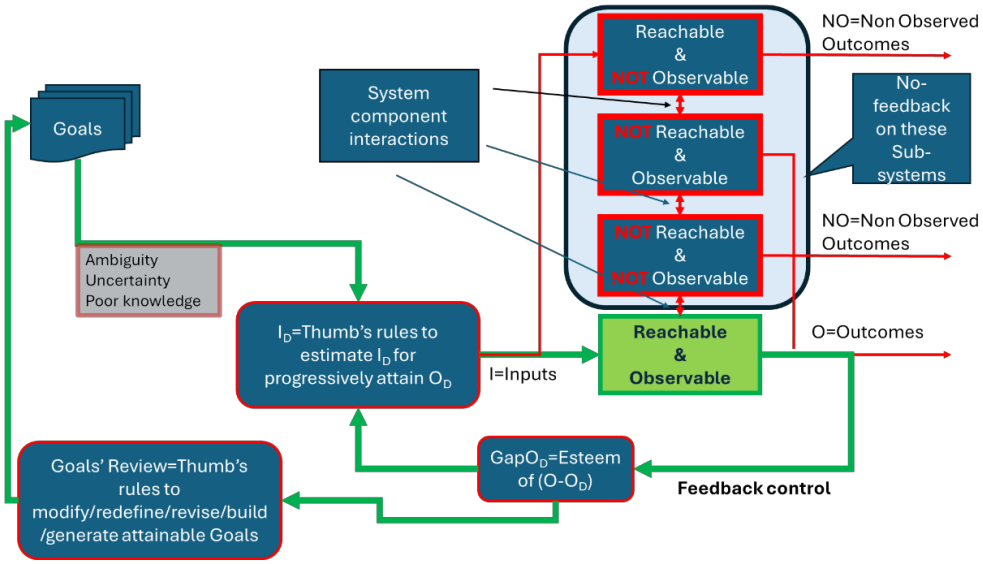


Figure 1. The feedback control operates only on the reachable and observable part of the system.

We argue that the ability to rearrange the feedback for reachability and observability as a way to deal with ambiguity, connect individual and collective leadership action, giving a complementary reading of the diverse step of reification (Croft et al., 2022), and help better explain the way leadership interacts with their contextual conditions, intervene on, and modify them. For the sake of textual clarity, we name the process of adapting feedback for reachability and observability with the acronym ROoF, i.e. Reachability and Observability of Feedback.

3 Data and methodology

3.1 Research context

Answering recent calls for empirical work in understanding collective leadership development (Eva et al., 2021; Fairhurst et al., 2020), we adopt an in-depth qualitative approach to unveil the role complexity in organizations have in the development of collective leadership. The research analyzed the development of collective leadership within the board of directors (BoD) of the medium company CAUL, which designs and manages technical communication for healthcare professionals. The company employs around one hundred people and is primarily a project-based organization. The president and three directors composed the BoD. The president is the major company shareholder (70%), while the other directors own a small percentage of the shares (10% for each). The CAUL governance structure does not have independent directors; at the same time, all members oversee one or more business units. CAUL faced a steep expansion during the COVID-19 pandemic and its aftermath. Since the pandemic, the growth has doubled unexpectedly, which challenged coordination and communication. After the observation started, the BoD experienced a vast market crisis and transformation, which hit CAUL hard. So, unexpectedly, the executive team and the observers found themselves in unchartered landscapes.

3.2 Method and analysis

Across a one and half year research, we carried out participant observation, and in-depth interviewing at individual and group level. In our analysis we have therefore looked at both interactions as we have seen them developing and interactions as recalled and accounted for by the people in the organizations (Crevani et al., 2010). We have interpreted these interactions as instances of situated practices (cf. Carroll et al., 2008). This allowed us to focus on the relational and processual nature of collective leadership. In total, we have conducted 15 observation moments (53 hours) encompassing board meetings, training workshops and development events. Moreover, we carried out 42 individual interviews and 5 small groups interviews. All observations and interviews were recorded and fully transcribed. Interviews included questions about the dynamics of collective leadership within the board. Questions related to the interpretation of ambiguity, the development of a sense of belonging, tensions between competing strategic priorities, and the influence of the external context.

We employed an abductive approach (Mantere & Ketokivi, 2013) by engaging in a fine-grained reading of the data to induce our first order codes, whilst reading and re-reading collective leadership and complexity literature (Strauss & Corbin, 1990). This implied interpreting data considering theory while also remaining open to being challenged by the data questioning our understanding (Alvesson & Karreman, 2007). To better question our own biases and preunderstanding, we relied on a relationship of mutual support with the participants (Raelin, 2019). Instead of just checking back with participants to confirm the data, we encouraged the participants to serve as a coach for a more subtle observation and understanding of the data. At the same time, we encourage the participants to engage in discovery and self-reflection during the interviews (Balogun et al., 2003).

Our first coding phase focused on revealing the different forms of collective work that developed over time. Previous studies focusing on the socio-relational understanding of collective leadership identified three interrelated characteristics: an agreed direction about what the collective is trying to achieve; alignment and coordination of activities; and commitment to the success of the collective (Cullen et al.,

2012; Eva et al., 2021). However, it is evident that the three elements may not be all present in the different development phases. The second coding phase was related to the different types of reification practices that spurred the commitment to the success of the collective and the acknowledgment or addressing of different points of view. The third coding phase focused on complexity practices. Specifically, we looked at how the BoD members were using feedback and ROoF to accommodate their multiple and competing perspectives, making sense of the complexity.

4 Research findings

Preliminary findings show the BoD faced various phases of development. In phase 1 shared objectives were not clear, personal agendas and goals were outdoing the common aim, and there was little alignment and coordination of activities. At the beginning the president tried to gather BoD efforts for strategic decision-making, taking every occasion to express comments, suggestions, and hints. At the same time, the president was the only one pursuing reification practices underlying the need of woring together for the future of the organization. Even though he/she continually pushed the other BoD members toward speaking up for their feedback on his/her thoughts, the president moved the relationship within the BoD progressively back to a leadership-followership dynamic. This contradiction exemplifies what Argyris (2002) described as single-loop reasoning: individuals react within the existing frame rather than challenging or reframing it. Leadership, here, unintentionally constrained dialogue rather than opening it. Feedback channels at this time were kept informal. Directors "bypassed" formal procedures and escalated micro-decisions to the president, making information reachable for the apex yet scarcely observable for the other BoD members.

In the second phase, market volatility and global-client pressure triggered a pronounced shift to top-down steering. As market signals of instability emerged, the president's insistence on alignment led to a subtle but deep organizational shift. Feedback reachability increased (more input flowed upward), but observability remained low as directors saw less of each other's reasoning, context, and constraints. The president was the one who had the big picture, fuelling his/her directive approach. This tension created a self-reinforcing feedback loop (Angeli & Montefusco, 2020), so that directors became progressively less resolute in meetings, avoiding difficult conversations (Stone et al., 2010) and failing to explore alternative frames or novel interpretations of data (Montefusco & Angeli, 2024).

While the Bod was still stuck in the evil loop, they sensed weak signs of what quickly would have emerged as a vast market crisis and transformation. The BoD began trying to turn complex interpretations into practice and to raise their collaboration in sensemaking. In phase 3 the BoD institutionalized weekly meetings and shared task lists, which dramatically raised both reachability and observability. The BoD members started engaging with their different perspectives, showing attention to others' interpretations and shared sense making. This favoured an alignment of direction and coordination of activities. At the same time, reification practices became more distributed, with BoD members referring to each other with family metaphors and perceiving the future of the organization as their own future.

From our interviews and observations of the BoD, the ROoF emerged as a key mediator in the development of collective leadership across the three stages. Initially, it revealed divergent perspectives, helping the directors articulate strategic differences. Over time, it supported both integration and contestation, enabling dynamic negotiations that reduced ambiguity while surfacing power tensions. Ultimately, collective leadership emerged through the continual integration of individual ROoFs, positioning ROoF as a crucial mechanism for engaging with complexity.

5 Conclusions

Scholars increasingly emphasize the need for leadership forms suited to complex environments, shifting from traditional heroic models to more relational and processual approaches. Yet, empirical insight into how collective leadership develops, particularly under conditions of ambiguity and contextual turbulence, remains scarce. This study explored the evolution of collective leadership within the board of directors (BoD) of CAUL, a company facing rapid growth and environmental instability. Drawing on

an abductive analysis of one year and a half interviews and observations, we examined how actors navigated leadership in complexity through evolving practices.

Our findings show that a key mechanism in this development was the Reachability and Observability of Feedback (ROoF), which mediated the BoD's collective sensemaking process over time. In the early phase, reasoning about ROoF helped surface and articulate divergent strategic perspectives, exposing the limits of alignment and coordination within the group. As contextual pressures intensified, ROoF made visible the growing imbalance between the president's access to information and the directors' limited ability to observe one another's reasoning. This imbalance reinforced a top-down dynamic, undermining shared leadership. However, in the later phase, through formalized routines and joint practices the BoD started enhancing both reachability and observability of feedback. This shift enabled members to better access each other's perspectives, fostering integration without suppressing divergence. Rather than eliminating complexity, ROoF allowed the group to navigate it more effectively, supporting the emergence of a dynamic and negotiated form of collective leadership.

In sum, this study advances the understanding of collective leadership by showing how it emerges through iterative, situated processes shaped by contextual pressures, evolving power dynamics, and sensemaking practices. Importantly, it highlights the value of ROoF as a concrete mechanism for accounting for and managing complexity in collective leadership development.

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TRANSFORMATIONAL LEADERSHIP IS NOT ENOUGH FOR EFFECTIVE STRATEGIC ORGANIZATIONAL CHANGE: RESULTS FROM EXPLORATORY RESEARCH IN ITALY

Short Paper

Stefano Armenia, IUL Università Telematica degli Studi, Florence, Italy, s.armenia@iuline.it
Francesca Castaldo, Sapienza University, Rome, Italy, francesca.castaldo@uniroma1.it
Marco Arcuri, University of Foggia, Foggia, Italy, m.arcuri@ampmconsulting.it
Primiano Di Nauta, University of Foggia, Foggia, Italy, primiano.dinauta@unifg.it

Abstract

The extreme mutability of environmental (global) contexts and of any human and social activity makes change an essential necessity for every organization. This research explores the role of visionary leadership in managing strategic change in turbulent environments. The study uses an exploratory research design with a sample of global aerospace companies. It examines the predictive ability of visionary leadership (at the CEO and C-suite levels) on the effective implementation of strategic change and the role of systems thinking as a necessary condition. The aim is to theoretically explore leadership and systemic competencies and their influence on organizational adaptability.

Keywords: Transformational leadership, Organizational change, Strategic change management, Systems thinking, C-Suite

1 Introduction

Managerial practice on the topic of effective change management and strategic change shows in ex-post analyses that companies led by visionary leaders have been able to grasp the opportunities and challenges of change, successfully managing the transition to a new order, e.g. post-critical.

Furthermore, the extant scientific literature and theoretical reflections have for many years emphasized the importance of dynamic capabilities (e.g. timeliness, flexibility, creative thinking, strategic reconfiguration) to successfully navigate companies in hyper-competitive arenas and turbulent contexts (Aaker & Mascarenhas, 1984; Genus, 1995; Helfat et al., 2009; Sanchez, 1997; Teece, Pisano, & Schuen, 1997).

Moreover, the extensive literature on leadership and its various styles underscores the efficacy of transformational leadership in change management, motivating team members to adhere to leaders' directives, surmounting fears and resistance, and indeed, embracing their enthusiasm (Avolio & Bass, 1995; Bass, 1985; Bass & Riggio, 2006). Consequently, if analyses of change (even post-traumatic or post-critical) agree that leaders' vision plays a significant role in strategic change (D'Egidio & Moller, 1992; Karaman et al., 2008), this study aims to turn the tables by examining whether the presence of visionary leadership at the top of companies and among top managers in the C-suite can predict an effective strategic change management.

The central questions guiding our exploratory research are the following:

1. "Could the presence of visionary leaders at the highest levels of the organization, such as at the CEO level, or within the C-suite, be a valid indicator of effective change and successful implementation of change management?".
2. "Is the possession of Systems Thinking skills a necessary condition for visionary leaders to grant effective transitions?".

The following hypotheses are hereby proposed for testing:

- ***Hp. 0****: The presence of visionary leaders at the highest levels of the organization, such as the CEO level or within the C-suite, serve as a predictor of future firm performance, specifically successful implementation of strategic change management.*
- ***Hp. 1****: The possession of Systems Thinking Skills among visionary leaders at the highest levels of the organization, such as the CEO level or within the C-suite, serves as a predictor of future firm performance, specifically successful implementation of strategic change management.*

2 Objectives

In consideration of the research questions that have been proposed, the primary theoretical objective of our research is to explore, first and foremost, the link, and its nature, between Transformational Leadership (TL), Systems Thinking (ST) and Strategic Change Management (SCM) variables.

On a more pragmatic level, the study aims to assist large companies in the management of strategic change by proposing targeted organizational and/or educational solutions (e.g. the reinforcement or creation of certain specific skills through ad hoc training interventions).

3 Theoretical Background

This study builds upon three primary streams of literature: leadership theory, with a specific focus on transformational leadership, strategic change management and systems thinking.

The first pillar, Leadership, is known to play a critical role in shaping organizational dynamics, particularly in periods of transition and uncertainty (Castaldo & Gatti, 2021; Zanda & Castaldo, 2023).

Among the various leadership paradigms, transformational leadership has been widely studied for its impact on motivating and guiding individuals and organizations through change (Avolio & Bass, 1995; Bass, 1985).

Transformational leaders inspire and stimulate followers by fostering a shared vision, encouraging innovation, and addressing individual needs (Bass & Riggio, 2006; Burns, 1978). Through idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration, transformational leaders create an environment conducive to adaptability and sustained growth (Podsakoff et al., 1990). Given the challenges associated with organizational change, transformational leadership is particularly relevant in facilitating employee commitment and reducing resistance to transformation initiatives (Yukl, 2013).

In his 1978 book entitled 'Leadership', James MacGregor Burns defined transformational leadership (which he initially termed 'transforming leadership') as follows: "Such leadership occurs when one or more people engage with others in such a way that leaders and followers rise to higher levels of motivation and morality" (Burns, 1978).

As Senge (1990) later noted, this alignment of values and goals is critical to creating a shared vision.

Burns distinguished this type of leadership from transactional leadership, which is based on an exchange of benefits between leader and followers (e.g. work for wages). Transformational leadership, on the other hand, focuses on changing the values, beliefs and aspirations of followers, rather than on an exchange of benefits (Burns, 1978).

Key points of Burns' definition include mutual involvement (leaders and followers are actively involved in the leadership process), elevation (both leaders and followers achieve higher levels of motivation and morality), values focus (transformational leadership touches on the deepest needs and values of followers), and change (the goal is to create meaningful change in followers and ultimately in society). In summary, Burns saw transformational leadership as a moral process that elevates both leaders and followers towards higher goals and shared values (*ibidem*).

Similarly, Senge's shared vision is not simply a goal imposed from above, but a "picture of the future" that emerges from the participation and commitment of all members of the organisation. Transformational leadership, with its emphasis on inspiration and motivation, facilitates the process of collective creation, which, as a transformative process of change, is closely related to organisational learning, the focus of Senge's "Fifth Discipline" (Senge, 1990; Senge & Sterman, 1992).

Thie seminal Burns' definition established the foundation for subsequent research by Bernard Bass, who theorized that “transformational leaders motivate followers to perform beyond initial expectations and frequently achieve beyond perceived capabilities” (Bass, 1985). The latter definition highlights the ability of transformational leaders to inspire and motivate their followers to exceed their own expectations and achieve extraordinary outcomes.

The second theoretical pillar of this study is rooted in the literature on strategic change management. Strategic change is defined as deliberate, long-term transformations aimed at enhancing an organisation's competitive advantage and aligning it with evolving market conditions (Johnson, Scholes, & Whittington, 2008; Pettigrew, 1987).

In his work entitled "Managing Strategic Change", Tichy (1983) proposes the notion that change assumes two possible forms: an "evolutionary" one, resulting from events largely beyond the control of organisational actors, and a "strategic" one, essentially discontinuous in nature, oriented and directed towards achieving a deep transformation of the organisation and individuals. Accordingly, Tichy asserts that change is initially driven by "natural" evolutionary processes of transformation and adaptation, akin to the functioning of any vital system. Secondly, strategic changes are substantially influenced by radical innovations, such as the evolution of processes and technologies, and the development of novel skills and competencies (Tichy, 1983).

Also, strategic change necessitates a fundamental shift in organizational structures, processes, and mindsets (Balogun & Hailey, 2004). Indeed, change can create tension in people, torn between the desire for improvement and development and the security of the *status quo ante*: the real risk is to remain too long in this limbo between "*stasis* and movement", failing to seize the opportunity to change (Senge & Sterman, 1990).

In day-to-day reality, organisations manage or introduce incremental change quite naturally, both in their internal structure and in their relationship with the outside world. The problem is that in today's world, this form of incremental adaptation is no longer sufficient to ensure the survival of organisations (*ibidem*). Global growth trends, new technologies and sudden disruptions within intricate and complex social and political structures, force organisations to operate in a dimension of absolute timeliness (Castaldo & Gatti, 2019). This enables them not only to actively respond to change, but also to anticipate it, putting organisations in an advantageous position to seize available opportunities.

The effective management of strategic change is not just a procedural process: it depends on leadership. Indeed, empirical evidence recognizes that companies with strong leadership are more likely to manage change effectively, maintain a competitive advantage and achieve long-term performance improvements (Nadler & Tushman, 1990). Moreover, several studies suggest that the presence of visionary leaders at the CEO and C-suite levels significantly influences a firm's ability to successfully implement strategic change (Hitt, Ireland & Hoskisson, 2017; Tushman & O'Reilly, 2006).

Successful strategic change management, therefore, involves not only defining a clear vision and aligning resources but also addressing cultural and behavioural dynamics that influence implementation success (Kotter, 1996). Organizations must in fact navigate resistance to change, develop agile strategies, and ensure stakeholder buy-in to drive sustainable transformation (Armenakis & Bedeian, 1999). Leadership plays a crucial role in orchestrating these changes, as leaders must balance strategic

foresight with the ability to engage and mobilize employees towards a common goal (Tushman & O'Reilly, 2006) and towards a general growth driven by learning (Armenia et al., 2024).

A learning organisation is one which intentionally uses knowledge processing to learn about itself and its potential (Castaldo & Gatti, 2020). This involves activating intra-organisational and extra-organisational dynamics of interaction suitable for organisational development, with learning serving as a lever for changing modes of operation with a view to continuous organisational development. This transformation is a gradual process that occurs as a result of learning (Argyris, 1957), or, to use Senge's (1990) words, “learning leads to development”. Senge's conceptualisation of "learning organisations" encompasses the notion of individuals augmenting their capacity to achieve desired outcomes, the stimulation of growth-oriented thinking, the empowerment of collective aspirations, and the facilitation of continuous learning through collaborative endeavours (Senge, 1990).

Considering all of the above, it is clear that people within the company must be educated about change, developing skills that enable them to face and, above all, anticipate the challenges that environmental transformations impose on organisations. This initiative must be guided by a clear purpose, underpinned by a sense of urgency, and informed by a strategic approach to navigating the uncertainty that characterises modern organisations (Copeland & Wiener, 1990; Volpe & Castaldo, 2021). However, it is important to note that the forms of resistance, as discussed by Senge, can often result in situations of passive acceptance or effective opposition, leading to sub-optimal outcomes. Through careful systemic analysis, these effects can be mitigated, and in some cases, avoided. This is achieved through the application of the five core disciplines for organizational change, with Systems Thinking, our third theoretical cornerstone, playing a pivotal role in strategic change management. By integrating the different disciplines into a unified vision and conceptual paradigm, Systems Thinking enables the effective deciphering of the complex situations that organizations face daily. While the systems approach is *de facto* reductive, it allows us to understand how systems interact and function, thus providing a solid foundation for driving strategic change.

4 Research Design

The research is exploratory in nature and employs a combination of qualitative and quantitative analysis techniques. These techniques include semi-structured interviews and questionnaires, which are administered to top executives and top managers of large companies. These companies are selected on the basis of high earnings performance.

To explore the links and nature of the variables of transformational leadership, systems thinking and strategic change management, and to determine whether one can predict the other, the research involved selecting large Italian companies that are S.p.A. global player firms, known for their high profitability and excellent performance.

The research focuses on the top levels of these companies, with the aim of investigating a particular leadership style of the top management (CEO and General Manager), of the CEOs of the subsidiaries, of the heads of divisions, of the top managers sitting in the C-Suite (CFO, COO, CTO, CCO, CMO) as well as their competences in terms of systems thinking.

The leadership style to be investigated is that of transformational leadership - in the terms aforementioned defined by James MacGregor Burns (1978) and then developed by B.M. Bass (1985), which will be explored by means of the Multifactor Leadership Questionnaire (MLQ), developed by B.M. Bass and B.J. Avolio (1990), in its Italian version drawn up by A. Di Fabio (2018).

Change management will be explored through semi-structured interviews based on managers' self-assessments and considerations, both based on their history and on self-analysis focused on the present and future. These will be complemented by a questionnaire investigating a set of competencies and the relative importance attributed by respondents to a set of 21 skills, preliminarily outlined by us. In the context of the cognitive abilities that have been identified, conceptual thinking, holistic thinking and systems thinking are of particular significance and prominence.

The exploratory research will be conducted on a sample of 21 top managers. These individuals will participate in semi-structured interviews that focus on strategic change management, a questionnaire on transformational leadership, and a self-assessment questionnaire on skills.

The evidence, thus gathered from 21 semi-structured interviews, 21 Multifactor Leadership Questionnaire and 21 questionnaires on competencies, and suitably analysed, will allow us to arrive at conclusions and hypothetical organizational solutions for the companies involved.

5 Methodology

We use both qualitative and quantitative techniques to carry out this mixed-methods exploratory research. These include 21 semi-structured interviews to top manager (focusing on strategic change management), 21 Leadership Style Questionnaire and 21 Self-assessment Questionnaires (exploring a range of competencies and the relative importance, on a scale of 1 to 5, that the respondent attaches to a set of 21 competencies that we have previously outlined).

6 Expected Results

Given the exploratory nature of the research and the fact that it is still in progress, the results are only tentative. The questionnaires completed so far, and the first round of interviews (9 out of 21) suggest that transformational leadership, while an important element, is not sufficient on its own to ensure the success of strategic change.

If the vision of individuals is not enough to manage change successfully, and the use of predictive tools does not seem to help much either, what does matter in strategic change is a certain set of skills. These include conceptual thinking, holistic thinking and, often underestimated, Systems Thinking (Barile et al., 2016).

Although transformational/visionary leadership and predictive intelligence tools are important elements, they are not sufficient on their own to ensure success in implementing strategic change (Castaldo, 2020). Strong analytical, problem-solving and Systems Thinking skills are also essential (Stroh, 2015). A robust set of these skills plays a crucial and often underestimated role (Puccio et al., 2013; Songini et al., 2024).

Consequently, organizations that develop leaders with these skills are better equipped to navigate complexity and uncertainty in strategic change.

7 Conclusions, Originality and Limitations

Given the exploratory nature of the research and the fact that it is still in progress, the results are only tentative. The questionnaires completed so far, and the first round of interviews (9 out of 21) suggest that transformational leadership, while an important element, is not sufficient on its own to ensure the success of strategic change.

Despite the study being in the preliminary stages of research, it aspires to make significant theoretical and practical contributions.

From a theoretical standpoint, the study's originality stems from its integration of visionary leadership, strategic change, and systemic approaches.

As this is exploratory research conducted in global aerospace and defence companies on Italian and European managers and top executives, the main limitation is the generalizability of the results. However, this limitation opens up avenues for future research that could entail the following: firstly, the execution of qualitative or quantitative studies utilizing larger data sets, encompassing, for instance, the

administration of questionnaires to Italian and European managers from diverse sectors; and secondly, the undertaking of analogous analyses in various regions of the world, with the objective of facilitating pertinent comparisons and/or extending the findings to a more extensive scale.

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INVESTIGATING CHANGE PROCESSES AND PRACTICES IN THE INTEGRATION OF ARTIFICIAL INTELLIGENCE: A NARRATIVE INQUIRY APPROACH

Short Paper

Cecilia Maltempo, University of Campania "Luigi Vanvitelli", Capua, Italy, cecilia.maltempo@unicampania.it
Francesca Loia, University of Campania "Luigi Vanvitelli", Capua, Italy, francesca.loia@unicampania.it
Stefania Mele, University of Campania "Luigi Vanvitelli", Capua, Italy, stefania.mele@unicampania.it
Marcello Martinez, University of Campania "Luigi Vanvitelli", Capua, Italy, marcello.martinez@unicampania.it
Mario Pezzillo Iacono, University of Campania "Luigi Vanvitelli", Capua, Italy, mario.pezzilloiacono@unicampania.it

Abstract

This article aims to analyze how organizational actors describe their subjective positioning within change processes triggered by the introduction of Artificial Intelligence. Using a narrative approach, we investigated how individuals construct their identity in relation to AI—whether aligning with or distancing themselves from pre-existing organizational models—and whether the change is perceived as accepted, negotiated, or imposed. The stories collected illustrate how people interpret and experience transformation, contributing to a deeper understanding of the situated and subjective dimension of change management. By examining different narrative trajectories, the study contributes to a deeper understanding of how change management practices are enacted and reinterpreted in AI-mediated environments, emphasizing the human dimension of technological transitions.

Keywords: Change Management; Artificial Intelligence, Human Resource Management; Digital Technologies; Narrative Analysis

1 Introduction and Aim

Technological evolution has long influenced organizational change, recently accelerated by exponential technologies like AI, IoT, robotics, and data analytics. AI, in particular, has gained prominence in HR management and data analysis, offering tools to process large volumes of employee-related data and uncover hidden trends. Its disruptive potential has drawn growing interest in organizational and managerial studies for its role in reshaping strategies, structures, and practices (Ambati et al., 2020; Floridi, 2021). Despite the growing interest in the technological and economic impacts of AI, relatively limited attention has been paid to how organizations manage the integration of this technology, particularly in terms of internal change dynamics and HR practices. In this regard, recent policy developments offer a regulatory backdrop that organizations must navigate when adopting AI. The AGID Guidelines (2025), aligned with the European framework (European Commission, 2020), outline a regulatory model for AI adoption in public administrations, ensuring legality, fairness, transparency, and rights protection. This approach, formalized in the AI Act and anticipated by the White Paper (European Commission, 2020), adds complexity to change processes, particularly in the public sector

(Buonocore, 2020). While some research has addressed automation and data-driven decision-making, limited attention has been paid to how individuals interpret and experience AI-related change—particularly in terms of resistance, emotional dynamics, leadership, and learning (Besson & Rowe, 2012). This study seeks to fill this gap by investigating the practices and narratives that accompany AI integration in organizations. In line with recent calls for more context-sensitive and human-centered approaches to technological transformation (Beer & Nohria, 2000; Floridi, 2021), we adopt a narrative inquiry approach (Josselson, 2006) to explore how actors position themselves within organizational change processes, navigating the tensions between innovation and continuity, automation and identity. More specifically, we ask:

1. What narratives emerge around resistance, adaptation, or enthusiasm in AI-driven transitions?
2. How are HR practices—such as training, performance management, and communication—reshaped in the context of AI?

The study contributes to the literature by offering a qualitative, narrative-based perspective on change management in the digital age, with a particular focus on the interplay between technology, people, and organizational culture.

2 Background and framework

This study lies at the intersection of organizational theory and human resource management, exploring the integration of CM and AI. CM supports transformation by enhancing adaptability and reducing resistance (Burnes, 2004), while AI improves decision-making and responsiveness in complex environments (Floridi, 2021). Their integration enables predictive CM, fostering anticipation and overcoming skill-related barriers (Hechler et al., 2020; Trunk et al., 2020). The relationship is bidirectional: AI accelerates change, but outcomes depend on managerial choices (Hung & Sun, 2020). Embedding AI requires reshaping workflows, structures, and governance (Ambati et al., 2020; Reddy & Sharma, 2025). AI-Watch Public Services 2020 (European Commission) highlights typologies such as Expert and Rule-Based Systems and Algorithmic Decision Making, with applications extending to public services. In HRM, AI enables large-scale employee data analysis, supporting workforce optimization and well-being (Rosa, 2023). Unsupervised learning enhances strategic decision-making, while tools like Process Mining facilitate “as-is” to “to-be” transitions. Predictive analytics and real-time monitoring help tackle resistance and disengagement (Westerman et al., 2014).

However, success depends on data quality, interoperability, and ethics (Trunk et al., 2020). Emerging CM paradigms promote human-centered, adaptive models (Hung & Sun, 2020), increasing resilience in uncertain contexts (Kitsios & Kamariotou, 2021). When well integrated, AI reshapes culture and supports data-informed leadership (Schein, 1985), yet barriers such as low organizational maturity persist (Prosci, 2023). As Magistretti et al. (2019) warn, many current roles are at risk of automation, making it essential to align AI adoption with inclusivity and long-term sustainability (Hung & Sun, 2020).

3 Research design: a narrative analysis

This study adopts the qualitative methodology of narrative inquiry, well-suited for investigating complex processes such as AI-driven organizational change. Narratives—conceived as “narrative study of lives” (Josselson, 2006) enable the exploration of subjective experiences and meanings attributed to organizational transitions (Czarniawska, 2004; Riessman, 2020). Grounded in the foundational work of Clandinin and Connelly (2004), this method captures how personal stories intersect with broader cultural and relational dynamics.

In organizational studies, narrative inquiry proves useful for understanding how individuals navigate technological transformations and redefine roles and competencies (Espedal & Synnes, 2022). While AI is often framed as a tool for efficiency and innovation (Hung & Sun, 2020), it also triggers emotional

responses and cultural adjustments (Floridi, 2021). Narratives gathered through semi-structured interviews offer insights into how AI affects professional identity, power relations, and HR practices (Polkinghorne, 1991; Bamberg, 2011; Savin-Baden & Van Niekerk, 2007). Within HR, narrative inquiry reveals the impact of change on engagement, turnover, and adaptation (Al-Suraihi et al., 2021; Allen et al., 2003).

Stories thus inform interventions that combine technological change with a human-centered approach (Westerman et al., 2014). Co-construction and reflexivity guided data collection and analysis (Czarniawska, 2004), while triangulation ensured methodological rigor (Clandinin & Connelly, 2004). In the context of digital transformation, narrative inquiry offers a powerful lens to capture how change is felt, resisted, and integrated (Kitsios & Kamariotou, 2021).

4 Methodology

The analysis investigated the organizational change processes triggered by the introduction of an HR Analytics system based on AI within a regional public transport company in Southern Italy, here referred to by the pseudonym *Alfa*. The project was developed in collaboration with a consulting firm specialized in digital transformation, also anonymized and referred to as *Omega*. The adoption of predictive technologies for strategic human resource management represents one of the most pressing challenges for contemporary organizations (Mussolino et al., 2019), and in this case offered the opportunity to closely observe a significant transition within a traditionally structured institutional and cultural context. The case is part of a broader HR modernization initiative that began in 2022, aimed at introducing analytical tools to support decision-making in workforce planning, performance evaluation, and training development. The complexity of the organizational environment—highly regulated and hierarchical—called for a qualitative and interpretive approach capable of capturing the subjective dimensions of change. For this reason, narrative inquiry was adopted as the primary methodological approach (Clandinin & Connelly, 2004; Riessman, 1993), in order to deeply explore the lived experiences of the individuals involved in the project.

4.1 Case Selection

The case was selected based on three criteria:

(a) the launch of a structured HR Analytics project with predictive and strategic goals;

(b) the involvement of two distinct yet interdependent actors—Alfa (a public organization with a strong institutional culture) and Omega (a private firm specialized in AI for managerial decisions);

(c) the presence of two key managers—one per organization—able to provide detailed, reflective insights, supported by their teams.

4.2 Participants and Data Collection Methods

A total of 10 interviews were conducted: 5 with members of Alfa's HR team and 5 with consultants from Omega. Among the participants, two key figures were identified:

- AA (pseudonym): With a background in industrial engineering and public sector reorganization, he led the project internally at Alfa.

- OO (pseudonym): Senior Manager at Omega with 15+ years in digital advisory and HR analytics design; he led the consulting team during implementation.

The interviews were conducted in summer 2024, both in-person and remotely, individually and in group settings. All sessions were audio-recorded, fully transcribed, and analyzed both textually and paratextually (e.g., tone, pauses, emotional cues), in accordance with established qualitative research practices (Czarniawska, 1997; Denzin, 2008).

To support the fieldwork, a document analysis of organizational materials from Alfa and Omega was conducted, following Mussolino et al. (2019). Source triangulation enhanced analytical validity and minimized interpretive bias (Natow, 2020; Turner et al., 2017), while researcher reflexivity ensured a balanced interpretation of narratives (Tobin & Begley, 2010). The goal was to explore how participants negotiated their roles and interpreted AI adoption within evolving HR processes.

4.3 Analysis Process

The analysis began with the full transcription and reflective listening of the interviews, from which coherent and recurring narrative themes were identified. The data were coded using a thematic analysis approach (Riessman, 1993), with a specific focus on participants' subjective positioning (Bamberg, 2011) that is, how each actor interpreted their role within the organizational transformation process.

Following the framework proposed by Hytti et al. (2016), the inquiry focused not only on the chronological sequence of events but also on how meaning was constructed around digital change: why and how individuals attributed value and significance to specific turning points in the process.

From this interpretive work, two cross-cutting analytical dimensions emerged:

1. **Approach to change** – distinguishing between incremental and transformative strategies, as outlined by Nadler & Tushman (1980);
2. **Data culture** – referring to the maturity level and organizational trust in data-driven decision-making, in line Heaton et al. (2004) and Shein (1985).

By combining these two dimensions, we identified two distinct narrative profiles (see Tab. 1):

Approach to change ↓ / Data Culture →	**Nascent**	**Mature**
Incremental	The adaptive designer (Omega)	Theoretical profile not observed
Transformative	The conscious transformer (Alfa)	Theoretical profile not observed

Table 1. Typology of Emerged Profile

-*The adaptive designer* represents a tech-savvy actor with a strong data culture, approaching change as incremental, modular, and co-designed—focused on scalable solutions and flexible system integration.

- *The conscious transformer* is a public organization with initially low data maturity but high change motivation, using HR Analytics to rethink decision-making and trigger a cultural shift.

This typology, though drawn from a single case, offers a valuable lens for understanding digital transformation paths in hybrid contexts, where challenges are as much organizational as technological.

5 Results – Stories of Change

Through the narrative approach, two co-constructed perspectives emerged that recount the organizational transformation experienced by Alfa and Omega during the implementation of the HR Analytics project. The interviews yielded rich and layered stories, in which the participants gave voice not only to the operational challenges but also to the emotional, identity-based, and relational aspects of the change process.

5.1 The narrative of Omega: "The adaptive designer"

For Omega's consultants, entering Alfa was a key opportunity to work in a low digital maturity environment where cultural and technical challenges overlapped. As Dr. OO recalled, data were fragmented and unusable: *"We had to build an infrastructure to give meaning to all this."* The team adopted an incremental approach—from labor cost dashboards to a predictive model—enabled by an ETL process and Power BI visualizations. Integration was central: of data, competencies, and perspectives. *"The real innovation,"* said OO, *"was building trust between data and people."* A turning point came with the generation of *"what-if"* scenarios for strategic planning, even supporting political decisions. Internal recognition followed: *"Top managers asking for features showed us that change had become embedded."*

5.2 The The narrative of Alfa: "The conscious transformer"

From Alfa's perspective, the account of Dr. A.A., internal project lead, reflects the effort and awareness of being part of a significant transformation. "*For the first time, we had access to data that showed us how to allocate resources, what personnel costs really were, and where inefficiencies lay."* Initial analysis revealed anomalies in overtime payments, leading to union negotiations and a revision of the shift system. Yet the most important shift was cultural: "*We learned to see data as an ally. Now HR, management, and administration speak the same language."* The project moved Alfa from a reactive to a proactive approach. "*There was fear of losing discretion*," A.A. recalls, "*but over time, we saw that data actually strengthened our decision-making."*

5.3 A Shared Culture Born from Dialogue

The narratives reveal a growing convergence between the two organizations. Omega adapted technology to context-specific needs, avoiding standardized solutions, while Alfa embraced change by reshaping processes, roles, and internal language. OO describes a cultural shift: "*Now HR, management, and administration speak the same language. Decisions are based on data, not just intuition."*

Initially met with skepticism, the system came to be seen as empowering. "*There was fear of losing discretion, but data strengthened our decision-making."* The use of analytics enhanced transparency, introduced new decision-making routines, and redistributed informational power: "*When you give someone else access to data, you lose some control—but you gain in efficiency."*

The result was greater autonomy, reduced internal conflict, and increased awareness. HR Analytics thus emerged as a catalyst for organizational learning, surfacing hidden dynamics, challenging routines, and fostering strategic reflection.

6 Analysis of the results

Following Mussolino et al. (2019), the analysis explored how Alfa and Omega interpreted and enacted the organizational change triggered by HR Analytics and AI, focusing on their framing of the transformation process and emerging patterns of adaptation and strategic positioning. Two distinctive change trajectories emerged: the adaptive designer and the conscious transformer *(see Tab. 2*). These trajectories reflect alternative ways of managing complexity, building data-driven cultures, and responding to the tensions between automation and organizational identity. In the ***adaptive designer*** *profile,* represented by the consulting firm Omega, change is framed as a modular and progressive process. The team embraces an engineering-like narrative, centered on problem-solving, system integration, and the incremental construction of value. Terms such as "ETL", "dashboards", "data harmonization", and "scenario simulation" emphasize a structured approach to transformation, grounded in technological reliability and flexibility. Change is seen as a gradual, co-designed process. Omega acts as both technical and cultural enabler, making data accessible and tailoring predictive tools to client needs and decision-making routines. In contrast, the ***conscious transformer*** *profile*—embodied by Alfa—reflects a more radical shift. Here, change is interpreted as a profound organizational turning

point, reshaping cultural assumptions, governance logics, and decision-making practices. The language used in interviews ("transparency", "shared understanding", "strategic vision", "data as ally") reveals a reframing of data from a mere analytical asset to a symbolic and political resource. The transition is not only about adopting tools but about reshaping mental models and routines. At Alfa, data fostered awareness, *accountability*, and *power renegotiation*. Change evolved as cultural learning, turning resistance into trust. The transformative (Alfa) and adaptive (Omega) cases show how AI-driven CM requires alignment between technology, values, and learning (Floridi, 2021; Kitsios & Kamariotou, 2021).

Narrative	**Change Strategy**	**Interpretative dimensions**
The adaptive designer	Modular, data-enabled change via technical integration	Incremental logic; tech-driven routines; facilitative role; data reliability.
The conscious transformer	Cultural shift toward data-driven decision-making	Transformative shift; identity realignment; transparency and learning; power renegotiation.

Table 2. Narrative Pathways and Change Strategies in AI-Driven Transformation

7 Discussion

The Alfa–Omega case highlights how AI-driven transformation involves not only technological implementation but also cultural negotiation and identity redefinition. While Omega frames change as a progressive and modular journey—focusing on data integration and technical efficiency—Alfa's narrative reflects a deeper shift in decision-making practices and internal power dynamics. Key challenges emerged around trust in data, resistance to transparency, and concerns over reduced managerial discretion—especially within a hierarchical and regulated public-sector environment (Buonocore, 2020; Moschera, 2000). These tensions reveal the need for reflective spaces where new meanings and roles can be negotiated. The findings also align with the growing research on AI-based optimization of HRM processes (Gu, 2022; Keegan & Meijerink, 2023). As shown by Rosa and Martinez (2022), unsupervised algorithmic systems can support the reorganization of HR routines, but their effectiveness depends on the organization's ability to embed them within adaptive and participatory change strategies. Successful transformation requires more than data infrastructures—it calls for a shared data culture, flexible governance, and leadership capable of balancing innovation with emotional and relational dynamics. The study confirms that AI integration is not a neutral process, but a complex journey of reinterpretation and alignment across technical, cultural, and symbolic domains.

8 Conclusion and limitations

Drawing on a narrative inquiry approach (Connelly & Clandinin, 1990; Riessman, 1993), the research shows that the introduction of data-driven tools is not merely a technical upgrade but a catalyst for deeper identity-based and relational transformation.

By giving voice to Omega and Alfa, the study highlights how expectations, resistance, and redefinition shape transitions toward algorithmic decision-making. The typology— "adaptive designer" and "conscious transformer"—offers a lens to interpret how actors respond to AI-driven CM. These evolving roles reflect tensions between technology, culture, and agency. Findings suggest that AI enhances performance by improving adaptability, reducing resistance, and supporting HR integration. Yet, success requires a strong data culture and attention to ethics and governance (Floridi, 2021; Benbya et al., 2020). The public-private convergence seen in Alfa and Omega further supports modernization and transparency in the public sector.

From a theoretical standpoint, the study extends CM literature by demonstrating how storytelling becomes a strategic resource for navigating complexity and uncertainty (Czarniawska, 1997). However, some limitations must be acknowledged. First, as in any narrative-based inquiry, the results are not generalizable, since the stories are situated and context-dependent. Second, the co-constructed nature of the interviews may introduce interpretive bias, even though reflective strategies were adopted (Tobin & Begley, 2010). Third, the study focused on a single project involving two organizations in a specific national and sectoral context. Future research could explore similar dynamics in different industries or adopt longitudinal approaches to assess the long-term impact of AI-driven change.

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ORGANIZATIONAL CHANGE AND DIGITAL HEALTH: THE ROLE OF INNOVATION ECOSYSTEMS

Short Paper

Alberto Zanutto, University of Macerata, Macerata, Italy, alberto.zanutto@unimc.it
Lorenzo Gios, Fondazione Bruno Kessler, Trento, Italy, lgios@fbk.eu
Diego Ponte, University of Trento, Trento, Italy, diego.ponte@unitn.it

Abstract

With the rise of digital health platforms, the digital wave has profoundly revolutionized health care. Platforms' complexity implies the implementation and management of digital innovation ecosystems. While the potential of the ecosystem for scalability and innovation is demonstrated in some settings, further comparative studies are needed to validate its replicability. The present paper describes the evolution of the healthcare innovation ecosystem nurtured by the Local Government of a Province in Italy through a two-decade strategy and a dedicated "Competence Centre on Digital Health".

Keywords: Organizational change, digital health, innovation ecosystems

1 Introduction

In recent decades, the study of organizational transformation in the healthcare sector has gained increasing relevance in both Italy and Europe. The growing complexity of healthcare systems, the pressure for digital modernization, and the need for more inclusive and participatory governance models have pushed scholars to explore how public institutions adapt and innovate. Furthermore, recent policy developments such as the Italian National Recovery and Resilience Plan (PNRR), particularly Mission 6 dedicated to health, have reinforced the urgency and legitimacy of digital innovation in the sector. Mission 6 allocates significant resources to modernizing infrastructure, promoting telemedicine, and ensuring equitable access to digital health services, positioning digital transformation as a cornerstone of systemic reform.

The World Health Organization (2021) and the European Commission (2022) have also set strategic frameworks for digital health, underlining the importance of shared infrastructures, data governance, and transnational cooperation, exemplified by initiatives like the European Health Data Space (EHDS). These policy agendas stress the technological dimension of transformation and the organizational and inter-organizational arrangements that enable sustainability, scalability, and equity.

In parallel, scholars such as Greenhalgh et al. (2017) and May et al. (2009) have argued that the success of digital health technologies depends less on isolated innovation and more on the embedding of these tools within existing organizational routines, infrastructures, and values (do Nascimento et al., 2023). Normalization Process Theory and the NASSS framework (Nonadopting, Abandonment, Scale-up, Spread, and Sustainability) underscore the need for long-term, system-oriented approaches to digital transformation.

At the same time, healthcare innovation is increasingly recognized as a cooperative process involving multiple stakeholders. Drawing on the Quadruple Helix model (Carayannis & Campbell, 2009; Edmondson, 2012), it becomes evident that the capacity to innovate is closely linked to inter-institutional trust, knowledge sharing, and the ability to co-design resilient and adaptive solutions.

Digital innovation ecosystems emerge within this landscape as strategic responses to uncertainty, technological disruption, and rising public expectations. This paper contributes to the ongoing debate by examining the long-term evolution of a Competence Centre (thereafter InnoDigi) in a northern Italian region. The case illustrates how locally governed digital ecosystems can act as enablers of organizational resilience, citizen-centred service delivery, and adaptive governance. By intersecting literature on innovation ecosystems (Nambisan et al., 2017), organizational change (Kotter, 1996), and participatory models of innovation (Carayannis & Campbell, 2009), the study offers insights into how digital health initiatives can reshape public health institutions in times of transformation.

2 Methodology and Case Study

This paper employs a qualitative, longitudinal case study approach, rooted in interpretive and process-oriented methodologies. The case study method was chosen to allow for an in-depth, contextualized understanding of how a digital health innovation ecosystem evolves, shaped by local dynamics, stakeholder interactions, and institutional constraints.

The research draws upon data collected over 15 years (2008–2023) in a northern Italian province. The InnoDigi Competence Centre was selected as the focal case because it offers a rich and complex example of an ecosystem led by public actors and embedded in a multi-stakeholder governance framework. The extended timeframe of analysis allows authors to observe the lifecycle of the ecosystem, including early experimentation, institutionalization, crisis response, and current efforts toward sustainability and scaling.

The data corpus consists of both primary and secondary sources. Primary data include 24 semi-structured interviews with key stakeholders—regional policymakers, health administrators, IT specialists, general practitioners, and patient representatives—conducted at three key moments in the project's evolution (2009–2010, 2016–2018, and 2022–2023). These interviews were complemented by ethnographic field observations at coordination meetings, public events, co-design workshops, informal conversations, and site visits.

Secondary data includes internal reports, evaluation documents, project presentations, regional policy papers, academic publications, and public communications. These sources were triangulated to reconstruct decision-making processes, track the evolution of governance structures, and assess technological developments. Special attention was given to evaluating institutional mechanisms such as the role of the local Research Foundation, the integration between clinical and IT domains, and the activation of participatory design processes involving citizens and health professionals.

The analytical strategy was guided by abductive reasoning, oscillating between theoretical concepts (e.g., digital ecosystems, living labs, cooperative governance) and empirical observations. Data were coded thematically using NVivo software, and emergent categories were iteratively refined in light of the theoretical framework. The analysis focused on identifying patterns of cooperation, leadership strategies, organizational change, and digital maturity.

This methodological design allowed for the exploration of not only "what happened" in the case of InnoDigi, but also "how" and "why" specific decisions and outcomes emerged, offering insights into both the process and the structure of innovation ecosystems in healthcare.

One of the most influential models in this area is the Quadruple Helix, which extends traditional university-industry-government collaboration to include civil society (Carayannis & Campbell, 2009). This model underlines the importance of mutual learning and co-production of knowledge in creating context-sensitive health innovation. Similarly, Edmondson (2012) argues that innovation in knowledge-intensive sectors like healthcare depends on "teaming" – dynamic collaboration across formal boundaries to explore, iterate, and institutionalize new solutions.

Recent EU-level initiatives such as the European Health Data Space (European Commission, 2022) further support the notion that distributed governance, collective stewardship of data, and long-term alliances are vital to unlocking the potential of digital infrastructures. These developments mirror

insights from Normalization Process Theory (May et al., 2009), highlighting the role of embedded work practices and actor alignment in successfully integrating technology.

These perspectives offer a theoretical lens through which to understand digital transformation not as a linear adoption process, but as a multidimensional, negotiated, and evolving practice shaped by both formal structures and informal dynamics. In this study, we build on these insights to investigate how cooperative mechanisms were activated, institutionalized, and challenged in the case of the InnoDigi Competence Centre, with particular attention to how they supported the long-term viability of digital innovation.

This paper analyzes the governance and development of a digital health innovation ecosystem led by public institutions and its role in managing uncertainty and organizational change. The study draws upon the conceptual framework of digital innovation ecosystems (Nambisan et al., 2017), the Quadruple Helix model (Carayannis & Campbell, 2009), and theories of organizational change management (Kotter, 1996; Weick & Quinn, 1999). This multi-theoretical approach allows for an in-depth analysis of how organizational routines, technological infrastructures, and stakeholder dynamics co-evolve in digitally transforming contexts. It also highlights the systemic complexity of public sector innovation, particularly in healthcare settings, where institutional logic, legal frameworks, and cultural patterns intersect with technological possibilities.

While digital transformation in healthcare has received increasing attention, few empirical studies focus on the longitudinal evolution of local digital ecosystems led by public governance. Existing literature often addresses large-scale national strategies or private sector innovations, leaving a gap in understanding how local governments can effectively orchestrate multi-stakeholder innovation over time (Carayannis & Campbell, 2009). Additionally, little attention has been paid to the organizational and cultural conditions required to embed these innovations sustainably. This study aims to fill that gap by providing a detailed account of how a locally governed digital health ecosystem has evolved over 15 years. It highlights the institutional mechanisms, leadership practices, and stakeholder dynamics that have enabled its sustainability and scalability.

3 Findings and Analysis

The InnoDigi Competence Centre evolved through a series of overlapping phases. Initially conceptualized in 2008 as a joint project between the local government, a university-affiliated research foundation, and the regional healthcare authority, it matured into a permanent institution by 2017. Its mission was to design, test, and implement digital health services across a provincial network of clinics, hospitals, and community-based providers.

The first primary deliverable was a modular, interoperable digital environment that integrated clinical records, telemedicine functions, and patient access tools. The platform achieved widespread acceptance through iterative design cycles and co-design workshops with clinicians and patients. One critical success factor was using living labs to pilot tools in real conditions before full deployment (Esashika et al., 2023).

Institutional dynamics played a key role. The local Research Foundation acted as a technical intermediary, translating policy priorities into system specifications and implementation strategies. The health authority provided legitimacy and ensured integration with existing workflows. The regional government supported continuity by offering policy guidance and maintaining funding streams despite political turnover.

A key outcome was the transformation of clinical workflows and organisational processes. Healthcare professionals involved in early testing became digital champions and helped train peers. Data analytics teams worked alongside clinicians to fine-tune algorithms and dashboards. Cross-functional governance boards balanced technological, ethical, and clinical perspectives.

The COVID-19 pandemic accelerated platform adoption, with telehealth usage increasing tenfold in two months. Emergency funds were redirected to the Competence Centre, allowing rapid scaling of

infrastructure and support services. By 2022, 68% of general practitioners and 72% of patients in the province had used at least one InnoDigi service. Importantly, these figures remained stable after the emergency phase, indicating systemic incorporation.

4 Discussion and Implications

Supporting digital transformation in health systems requires diverse cooperation between institutional, clinical, technological, and civic actors. While much attention has been given to adopting digital tools, recent frameworks stress the importance of sustained collaboration over time and across system levels. Greenhalgh et al. (2017) emphasize that scale-up and sustainability are conditioned not merely by technical performance but by the capacity of organizations to reconfigure their processes and relationships. This calls for an extended view of innovation as embedded in broader organizational ecologies and dependent on institutional integration.

Institutional integration refers to the capacity of multiple agencies—ministries, health authorities, municipalities, hospitals, and regulatory bodies—to align their objectives, timelines, and infrastructures. In the InnoDigi case, integration was achieved through formal agreements and the creation of inter-organizational routines, shared performance metrics, and hybrid governance structures (Zanutto & Frigotto, 2025). These forms of alignment facilitated not just interoperability at the technological level, but also coherence in service delivery and evaluation practices. As the literature on collaborative governance suggests (Sørensen & Torfing, 2011), integration is as much about building shared meaning and accountability as it is about designing processes and rules.

The case of InnoDigi offers a rich vantage point for theorizing digital transformation as a relational and institutional process. Rather than viewing innovation as a sequence of discrete technological adoptions, the findings suggest that systemic change in healthcare hinges on the configuration of what we might call a "cooperative architecture of transformation" — a constellation of actors, routines, and governance mechanisms that allow digital tools to become normalized, scaled, and sustained.

From an organizational perspective, InnoDigi exemplifies how public actors can serve as institutional entrepreneurs (Battilana et al., 2009), mobilizing cross-sectoral coalitions and framing digital innovation as a shared project. The gradual construction of legitimacy, enacted through inclusive steering committees and iterative evaluation processes, echoes insights from Weick and Quinn (1999) on the role of continuous change in loosely coupled systems.

The cooperative dynamics observed in InnoDigi align with the Quadruple Helix model, whilst extending it by demonstrating the importance of meso-level coordination: the role of boundary organizations (e.g., the research foundation), intermediaries, and participatory design platforms in stabilizing expectations and translating between epistemic communities (Carayannis & Campbell, 2009; Edmondson, 2012).

The institutionalization of a digital platform also raises critical questions about scalability. While the platform's modularity and user orientation facilitated uptake, these features alone were insufficient. What mattered most was the capacity to embed technological routines within professional identities and workflows. This reflects May et al.'s (2009) argument that normalization depends on alignment between symbolic and material dimensions of work.

Policy-wise, the InnoDigi experience provides empirical support for recent strategic directions such as the WHO's Digital Health Strategy (2021) and the European Health Data Space initiative. It also highlights the relevance of local adaptation: while high-level frameworks provide direction, local infrastructures and coalitions deliver impact.

5 Conclusions

This study contributes to the organizational literature on digital transformation by illustrating how health innovation ecosystems could be assembled, stabilized, and reconfigured over time. The case of InnoDigi

underscores the importance of viewing innovation not as episodic or purely technical, but as an ongoing organizational accomplishment requiring trust, coordination, and collective learning. This highlights the significance of intermediate structures — boundary organizations, multi-actor governance platforms, and knowledge intermediaries — facilitating encounter, translation, and negotiation between institutional layers. These hybrid spaces support the reconciliation of conflicting timelines, regulatory norms, and professional expectations, enabling digital transformation to proceed through consensus rather than imposition, underscoring the relevance of a systemic, integrative approach to organizational change in times of uncertainty. In line with the themes of the WOA 2025 call, it illustrates how successful transformation requires the orchestration of adaptive leadership, cross-sector collaboration, and robust governance mechanisms. It highlights the significance of intermediate structures — boundary organizations, multi-actor governance platforms, and knowledge intermediaries — facilitating encounter, translation, and negotiation between institutional logics. These hybrid spaces support the reconciliation of conflicting timelines, regulatory norms, and professional expectations, enabling digital transformation to proceed through consensus rather than imposition. Such capacities are particularly critical when navigating disruptive conditions, such as those brought about by global health emergencies or technological acceleration.

For scholars, the case offers an empirical basis for advancing theory on the conditions that enable the success of publicly led digital health ecosystems. It provides a model for policymakers and practitioners to balance central guidance with local experimentation. As health systems navigate post-pandemic recovery and digital transition, such models will likely grow in relevance.

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A PRELIMINARY INVESTIGATION OF DIGITAL LEADERS' ROLE IN THE ADOPTION OF EMERGING TECHNOLOGIES: A QUALITATIVE CASE STUDY

Short Paper

Rebecca Trivelli, University of Chieti-Pescara, Pescara, Italy, rebecca.trivelli@unich.it
Stefano Za, University of Chieti-Pescara, Pescara, Italy, stefano.za@unich.it

Abstract

This study aims to investigate the roles played by digital leaders during the adoption of emerging technologies. While prior research has primarily focused on digital leadership capabilities, the specific roles played by digital leaders remain underexplored. This study also addresses a significant gap by considering the temporality of the adoption process and examining these roles across its three phases: pre-adoption, adoption, and post-adoption. Through a qualitative case study of AgroGammaX, the study identifies some of the most recurrent roles played by digital leaders. Interviews with technical and managerial positions reveal that these roles are distributed among various actors within the organization, each contributing to the digital leadership phenomenon. Findings demonstrate that despite the distinct activities in each phase, some roles remain consistently relevant throughout the process, while others gain particular importance during the adoption and post-adoption phases. This preliminary analysis offers practical guidance and lays the foundation for future research.

Keywords: Digital leadership, Adoption, Emerging Technologies, Case study.

1 Introduction

In recent years, academics have examined the requirement for new leadership approaches in the digital age, as organizations have undergone significant transformations driven by emerging technologies (Majchrzak et al., 2016), leading to digital transformation (Vial, 2019). This reflects how leadership evolves with organizational changes brought by emerging technologies (Benitez et al., 2022). Leadership theories have shifted from emphasizing individual traits to exploring how leaders develop through their interactions within social and organisational contexts (Hensellek, 2020). The drive for change (Hensellek, 2020), catalyzed by emerging technologies (Benitez et al., 2022), has reshaped leadership requirements. In today's rapidly evolving and increasingly complex environment, organizations need leaders who can adopt adaptive leadership styles (Hensellek & Simon, 2020). This shift necessitates moving beyond "classic" leadership models to effectively capture opportunities and address challenges arising in the digital age (Hensellek, 2020; Renko et al., 2015). This has led to a growing need for leaders to develop new capabilities to manage this change, including the use of these technologies (Weritz et al., 2022). Digital leaders stand out for leveraging technologies, navigating digital landscapes, and using digital platforms and tools (Kane et al., 2019). Given the multifaceted nature of their role, digital leaders act as visionaries and strategists who communicate organizational direction and objectives (Gledson et al., 2024). They play a fundamental position in technology-driven organizational change, expanding their roles to include communication facilitator, support provider, and workflow orchestrator, with all roles oriented toward organizational goal achievement (Brunner et al., 2023). Furthermore, their diverse roles also include the "mediator", who attentively addresses stakeholder and employee needs, as well as a problem solver, responsible for overcoming emerging challenges (Brunner et al., 2023). Despite increasing academic focus on digital leadership, existing research has primarily examined its connection to digital transformation in terms of competencies and

capabilities (Benitez et al., 2022; Eberl & Drews, 2021), overlooking the roles leaders play in the technology adoption journey (Trivelli & Za, 2024). While Damanpour and Schneider (2006) and Rogers (1995) offer a valuable framework that conceptualizes innovation adoption as a multiphase process, this perspective has yet to be fully applied to the specific context of emerging technologies. This highlights a significant gap in the literature, as only a few studies have specifically addressed the temporal dimension of emerging technologies adoption (Chipidza et al., 2023; Polyviou et al., 2024). In particular, current research emphasizes enabling factors, challenges, barriers, and impacts of the adoption process, rather than analyzing the adoption journey in a comprehensive and integrated way (Trivelli & Za, 2024). To address this research gap, inspired by the work of Damanpour and Schneider (2006), we first delineate the specific boundaries of each phase in the emerging technology adoption process, based on the innovation phases these authors proposed. In addition to being multiphase, the adoption process of emerging technologies is also multidimensional, meaning it is influenced by factors spanning environmental, organizational, individual, and technological dimensions (Damanpour & Schneider, 2006; Trivelli & Za, 2024). Specifically, the pre-adoption phase encompasses activities such as recognizing existing needs, gathering information, searching for potential solutions, evaluating options, and proposing suitable emerging technologies (Damanpour & Schneider, 2006). The adoption phase involves evaluating proposed ideas from technical, financial, and strategic perspectives, subsequently allocating resources to the chosen technology and conducting a pilot test (Damanpour & Schneider, 2006; Trivelli & Za, 2024). The post adoption phase focuses on how the utilization of technology within the organization gradually evolves until it becomes fully incorporated into the organization's regular activities (Damanpour & Schneider, 2006; Rogers, 1995). Organizational transformations are driven by emerging technologies adoption (Bailey et al., 2019; Damanpour & Schneider, 2006; Vial, 2019), and leadership plays a crucial and foundational role (Kane et al., 2019) in having a significant influence during periods of change through sense-giving processes that frame and provide meaning to organizational initiatives (Gioia & Chittipeddi, 1991). Building upon this understanding, our research aims to examine the specific roles played by digital leaders across the various stages of the emerging technology adoption journey. Accordingly, the research questions are:

What roles does the digital leader play in the pre-adoption, adoption, and post-adoption phases of an emerging technology?

How does digital leadership influence, foster or hinder the adoption and usage of emerging technologies?

A preliminary qualitative case study was conducted to address our research questions, identifying the roles played by digital leaders across the phases of emerging technology adoption. This study is a starting point for developing an evidence-based framework with both theoretical and practical relevance. It also provides managers with insights to help organizations leverage digital leadership for competitive advantage and successful technology integration.

2 Methodology

To answer our research questions, we adopted a case study approach for its effectiveness in exploring and answering questions about “how” the phenomenon under investigation manifests (Yin, 2018). Moreover, this approach allows us to analyze and deeply understand a real phenomenon within its specific context (Yin, 2018). We carried out a case study on AgroGammaX[1], a leading multinational in the agricultural sector committed to sustainable farming through innovative technologies. Due to its significant market presence, AgroGammaX was selected as the sample for our preliminary analysis. A large company was chosen as the subject of study because new emerging technologies provide both opportunities and threats to businesses that have built their success on the pre-digital economy (Sebastian et al., 2017). Therefore, digital transformation (Sousa-Zomer et al., 2020) and the adoption of emerging technologies represent a complex process (Damanpour & Schneider, 2006; Sousa-Zomer

[1] The case is based on a real multinational company, which we refer to in this article as AgroGammaX to protect its anonymity.

et al., 2020). In light of this complexity, our case study aims to investigate the roles played by digital leaders in guiding organizations through the adoption of emerging technologies in a digital environment (Sawy et al., 2016). To capture broad insights, we selected individuals from technical and managerial positions. This strategy enabled us to explore the experiences of individuals at different hierarchical levels (Smacchia et al., 2024). These participants were not self-selected, instead, they were selected by the chosen organization after the interview invitation was extended, based on their roles and involvement in adoption initiatives, ensuring relevance to the phenomenon under investigation. We utilized grounded theory coding techniques, as outlined by Urquhart (2022), in the qualitative analysis of our data. The aim was exploratory and focused on identifying digital leadership roles and related activities across the phases of technology adoption, without pursuing theory development. Following the coding techniques suggested by Urquhart (2022), our analysis proceeded in three sequential phases: open coding, selective coding, and theoretical coding (Arenas & Trivelli, 2024; Urquhart, 2022). Throughout the process, we applied the constant comparison method. Specifically, the first phase of coding, open coding, allowed for a detailed analysis of the data, highlighting the main themes and characteristics discussed in the interviews. In the second phase, selective coding, open codes were grouped into higher-level categories that are significant for the research issue. The final phase, the theoretical coding, is considered the most critical. In this phase, the relationships between the previously selected categories must emerge (e.g., interview: "Once the need arises, you can then put forward different solutions and choose the most innovative, most pioneering one"; open code: envisioning the future, being pioneering; selective code: visionary role; theoretical coding: the role in the pre-adoption phase involves identifying pioneering solutions related to emerging technologies and in anticipating future scenarios that could generate strategic benefits for the organizations) (Arenas & Trivelli, 2024; Urquhart, 2022).

3 Preliminary findings

The preliminary findings of our interviews enabled us to identify the key roles played by digital leaders across the different phases of emerging technology adoption. In the pre-adoption phase, which includes activities such as recognizing existing needs, gathering information, searching for potential solutions, evaluating options, and proposing appropriate emerging technologies (Damanpour & Schneider, 2006), two key roles stand out. The "visionary" is crucial as it allows the leader to foresee the potential applications of technologies and translate them into concrete benefits for their sector, making them understandable to the business. As one interviewee noted, "Once the need arises, you can then put forward different solutions and choose the most innovative, most pioneering one", emphasizing the proactive role of the digital leader, future-oriented and capable of envisioning long-term benefits for the organization. The relevance of the digital leader in this phase also extends to analyzing the feasibility of the adoption itself and convincing top management to proceed. A critical aspect, given the context of a multinational organization, is the risk of resistance from top management, as well as the need to involve various stakeholders in the adoption process. Particularly from one interviewee, the aspect of the leader's decision-making independence within the organization in proposing which emerging technology is effective in the organizational context emerges; however, the presence of vertical hierarchies is underlined: "[…] from my experience, obviously when a need and a requirement arise after understanding it, there is an internal table among us to see what to propose, then from there and also hierarchically the word belongs to our managers… then the progress of the project remains in the hands of the person who is dealing with it at that moment, so to the digital leader". Despite open communication regarding the need to adopt emerging technologies that bring organizational improvements, the necessity of approval from top management is required. Alongside these roles, another role emerges for the digital leader who acts as a "sense giver," capable of attributing meaning to the change occurring within the organization, "A digital leader's ability must be to make others see the future". Digital leaders understand not only the adoption needs but also how to engage and coordinate people within work teams and guide the tasks to be performed through effective communication. Moreover, in the pre-adoption phase, the digital leader not only understands the technical aspects of the technologies and identifies which solutions best address business needs but also

plays a key role in aligning these technologies with the organization's strategic objectives. Additionally, they are also considered "responsible for controlling processes and people".

Considering the adoption phase, which includes the evaluation of proposals from technical, financial, and strategic perspectives, as well as the allocation of resources to the selected technology and pilot testing (Damanpour & Schneider, 2006; Trivelli & Za, 2024), interviewees highlight several key roles for the digital leader. A fundamental role is that of the "problem solver", which is relevant for the effective and rapid resolution of issues, the interviewee affirms: "[…] the presence of a problem solver is relevant, as critical issues must be promptly assessed and translated into effective solutions". Equally important is the role of the "planner", tasked with coordinating long-term initiatives. During the intermediate phase of adoption, training and communication with employees play a central role, emphasizing the digital leader's roles as "coach", "supporter", "motivator", and "communicator". The digital leader also facilitates the interaction between technology and business, further encouraging the involvement of end-users in testing the technology during the pilot phase, which serves to assess the appropriateness of the adoption process. While the technology is first introduced on a limited scale and may be scaled up upon success, actively engaging the individuals impacted by the change through adequate training, information and clear communication is required to minimize resistance. An interviewee emphasizes that "before reaching full stabilization, time is needed, and people must daily perceive the value of what has been achieved. This is generally true, and especially so for the technological infrastructure, if we can demonstrate the value that technology brings, no one will refuse it. By involving users from the beginning, even during the preparation phase for adoption, allowing them to understand the reasons for this choice and listening to their feedback. Active listening is essential not only for motivation and engagement but also for identifying and correcting structures that might otherwise cause problems that are not immediately apparent".

The last phase, post-adoption, is relevant as it focuses on the gradual evolution of technology use within the organization until it becomes fully integrated into everyday operations (Damanpour & Schneider, 2006). This phase is directly connected to the preceding one, which establishes the foundation for the technology's broad deployment. The interviewee highlights the delicacy of this phase, which requires continued effort to minimize the risk of rejection. Consequently, as technology adoption scales up, the digital leader must persist in supporting those involved in the change to prevent resistance "It is necessary to foster a comprehensive vision to ensure that the adoption does not lead to unintended consequences". At the same time, the digital leader also fulfils the roles of visionary and communicator. The findings show that the digital leader plays multiple and evolving roles throughout the adoption journey. However, interviewees emphasized that these roles are rarely embodied by a single individual but are distributed among various actors within the organization, each contributing to the digital leadership phenomenon. This distribution of roles further reflects the complexity of the adoption process. Despite the distinct activities characterizing each phase, the most consistently recurring roles across all three are those of the visionary and the communicator. In contrast, the roles of problem solver and supporter emerge as particularly relevant during the adoption and postadoption phases. Findings show that rather than the flat hierarchies often associated with digital leadership in the literature (Brunner et al., 2023), this multinational organization maintains defined vertical structures within which digital leadership is embedded and enacted.

4 Contributions and Conclusion

By focusing on both the specific roles of digital leaders and the temporal dimension (pre-adoption, adoption, and post-adoption), this study addresses two key gaps in the literature. It provides new insights into how these roles evolve across different phases. Furthermore, the findings reveal the distributed nature of these roles, which are not confined to a single figure but shared among multiple actors, reflecting the complexity of the process of adopting emerging technologies. This highlights the need to provide practical guidance for managers on how to leverage digital leadership to achieve competitive advantage and ensure the effective integration of these technologies. As an exploratory case study, this work lays the groundwork for future empirical research through multiple case studies involving diverse

organizations, including both SMEs and large firms, and serves as a starting point for theory development rooted in empirical evidence.

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ARTIFICIAL INTELLIGENCE AS A REMEDY FOR BURNOUT: INNOVATIVE STRATEGIES TO ENHANCE WELL-BEING IN HEALTHCARE

Research Idea

Floriana Pollio, University of Salento, Lecce, Italy, floriana.pollio@unisalento.it

Abstract

Burnout among healthcare workers is a becoming more common, and it is made worse by stress at work, organizational pressures and emotional overload. This study will look into how artificial intelligence (AI) can support communication and reduce burnout in clinical settings. The study intends to combine a systematic literature review and qualitative interviews, examining how AI influences work routines, emotional workload and communication dynamics. The outcomes that are intended to be highlighted will concern both opportunities, such as reduced administrative burden and greater support for emotional communication, and challenges, including risks of deskilling and ethical tensions. Based on socio-technical and organizational theories, the study intends to examine that AI can contribute to well-being only if integrated into empathetic and participatory healthcare cultures. This interdisciplinary approach intends to offer insights on how digital innovations can be aligned with the human needs of clinicians.

Keywords: Burnout, Artificial Intelligence, Communication, Healthcare Professionals, Organizational Well-being.

1 Introduction and Problem Statement

Burnout is an increasingly critical and current problem in healthcare systems. It compromises the well-being of professionals and has a direct impact on the quality and safety of care; it was defined by Maslach and Jackson (1986) as a syndrome characterized by emotional exhaustion, depersonalization and reduced personal accomplishment and has become a structural problem in high-pressure and highly regulated environments such as hospitals and clinics. The COVID-19 pandemic has highlighted the chronic systemic overload that healthcare professionals endure and underscored the need for innovative and interdisciplinary strategies to reduce the emotional, cognitive and relational costs of care work. In recent years, thanks to technological innovation and in particular to LLM systems, AI have emerged as potential transformative factors in the healthcare sector. AI is increasingly seen not only as a tool to automate repetitive or technical tasks, but also as a resource that could potentially transform communication processes, improve decision-making and alleviate some of the emotional burdens faced by clinicians.

2 Research Relevance and Objectives

Despite the growing literature on AI applications in medicine, there remains a significant gap in understanding how these technologies can be strategically employed to mitigate burnout by improving work environments, facilitating communication, and strengthening empathetic organizational cultures.

This research aims to explore the intersection of AI, communication, and burnout mitigation, through a combined methodology that integrates a systematic literature review (SLR) with an interpretative qualitative analysis of healthcare professionals' lived experiences.

3 Theoretical Background

The motivation behind this research stems from the observation that burnout, although often interpreted as an individual psychological problem, is deeply rooted in organizational and structural conditions. As noted by Shanafelt et al. (2017), burnout must be addressed through systemic, not simply personal, interventions. In healthcare settings, poor communication, lack of supportive leadership, administrative overload, and emotional isolation are among the main organizational factors that cause stress to physicians. AI, if implemented carefully, could serve as a socio-technical support system to rebalance cognitive load, improve coordination, and improve the psychological climate within clinical settings. However, the impact of AI on professional well-being is still largely unexplored in an integrated and evidence-based manner. Most existing studies focus on technical performance or patient outcomes, neglecting the subjective experience of physicians and the role of communication in managing stress. The originality of this research and its intent lies in the intention to adopt an integrated and interdisciplinary approach. Although existing literature addresses AI adoption and burnout separately, very few empirical or theoretical studies link these phenomena with a focus on communication. This project introduces a new framework that considers AI not only as a technological tool, but also as a potential socio-technical system capable of transforming the way healthcare professionals interact with information, patients and their organizational environment. Furthermore, burnout is often interpreted through an individualistic lens, focusing on resilience or coping strategies. This research intends to shift the perspective towards structural and relational dimensions, investigating how AI-mediated communication and organizational culture interact to influence emotional and cognitive well-being and therefore can act on the entire well-being of the organization. The project intends to explore how AI can act as a buffer against digital communication overload, support emotional triage and be integrated into a compassionate and supportive management style. As healthcare systems face increasing administrative burden, staff shortages, and pressures related to digitalization, this topic is of both academic and practical urgency, as demonstrated by Dyrbye et al. (2017) and Topol (2019).

4 Methodology

This project is structured in two main research phases. The first phase consists of a systematic literature review based on the PRISMA methodology (Moher et al., 2009), aimed at mapping and critically evaluating the existing academic production on IA, burnout and healthcare communication. This phase included peer-reviewed publications retrieved from the Scopus database, filtered through precise inclusion criteria such as relevance, language, peer-review status and conceptual alignment with the three main variables under investigation. After selection and filtering of the eligibility criteria, 36 articles were included in the final analysis. The review process allowed to identify three central thematic clusters recurring in the literature: cognitive and workflow overload; communication intensity and emotional tension; lack of empathic leadership and organizational misalignment. These domains represent both the main stressors contributing to burnout and potential entry points for IA-based interventions. The second phase of the project, currently under development, involves a qualitative empirical investigation based on semi-structured interviews with about twenty healthcare professionals, the number of interviews will depend on the achievement of the degree of saturation. The interviews will be addressed to doctors, psychologists and psychotherapists. This phase will adopt an approach based on Grounded Theory that is well suited to this type of research as it is used to develop theories directly from the data. Following the coding procedures and analytical steps described by Strauss and Corbin (1990), in order to generate theoretical insights directly from the field. The interviews will aim to understand how professionals perceive the integration of AI in their work routines, how it affects their communication practices, emotional workload and sense of autonomy, and whether these technologies are experienced as support systems or, as often happens if not followed by a proper implementation, additional stress factors. By triangulating the SLR findings with these narratives, the study will generate a multidimensional understanding of how AI is reshaping healthcare work and occupational well-being.

5 Preliminary Findings

One of the key findings of the literature review is the use of AI to reduce cognitive and administrative overload, which is widely recognized as a significant contributor to clinician burnout (Sinsky et al., 2016; Shanafelt & Noseworthy, 2017). Through the use of AI-based documentation tools that are primarily used for routine operations, such as digital medical scribes and natural language processing (NLP) systems, they are helping to reduce the time needed for data entry, allowing professionals to reallocate their cognitive and emotional resources towards patient care. This type of activity should not be underestimated, especially because the doctor-patient relationship is able to give the patient greater listening and consequently understanding of their problems. From a medical point of view, being able to have more time to dedicate to the patient translates into a reduction in the margin of error in diagnosis and less frustration. At the same time, literature reveals that AI technologies can reduce the burden of digital communication through message triage, draft response generation, or more efficient management of patient portals (Steitz et al., 2021; Cavalier et al., 2025). It turns out that one of the factors that contribute to medical stress is the amount of messages, emails, and written requests that are submitted to the medical sector and that, often, they feel pressured to comply with these requests in the shortest possible time. Through the use of these forms of "digital buffering" (Dahmen et al., 2023), doctors are protected from communication overload, allowing them to focus on higher-order tasks that require empathy and judgment.

Equally important is the role of AI in improving communication effectiveness and emotional resilience. Communication is not only a means of coordination, but also a relational and emotional experience, and persistent exposure to emotionally demanding conversations, particularly in oncology or palliative care, contributes to compassion fatigue and emotional exhaustion (Brotheridge and Grandey, 2002). The literature has shown that AI systems such as chatbots or video analytics-based empathy training tools are being explored as tools to support physicians in improving their communicative presence and relational ability (Kobayashi et al., 2023). Furthermore, tools such as personalized AI-based well-being dashboards can help leaders identify early signs of burnout and offer proactive support before the syndrome fully develops (Baek and Cha, 2025). This underlines the importance of leadership as an enabling factor: AI, in fact, alone cannot reduce burnout, but requires an integration supported and shared by leadership to be integrated into an organizational culture characterized by empathy, psychological safety and participatory governance (Edmondson, 1999; Marlicz et al., 2023).

6 Risk and Critical Consideration

However, there are some areas that require close attention. The review also reveals significant tensions and risks associated with the introduction of AI in healthcare. These include concerns about loss of autonomy, increased system complexity, deskilling, and ethical ambiguity; all of which may even contribute to stress. Some studies note that AI tools, if poorly integrated or not shared, may actually exacerbate stress by placing new demands, increasing transparency and surveillance, or disrupting the doctor-patient relationship (Khavandi et al., 2023; Chen et al., 2017). There is also widespread concern about “black box” decision-making, which undermines trust in both human and machine actors and raises serious questions about accountability, fairness, and patient safety (Rajkomar et al., 2018). From an epistemological perspective, the research intends to adopt a socio-technical and constructivist orientation, considering AI not as a neutral tool, but as a mediating actor within a complex network of human, technological and organizational relations. The analysis that we intend to carry out is based on the Job Demands Resources (JD R) model (Demerouti et al., 2001), on the Conservation of Resources Theory (Hobfoll, 1989) and on socio-material theories that highlight the co-production of working realities through human action and material artifacts. The objective that we intend to pursue is not only to evaluate whether AI reduces burnout, but to understand how it reshapes the conditions in which burnout emerges, persists or is mitigated. Through this work we intend to identify the tensions between positivist and interpretative paradigms, the role of qualitative methods in

technological evaluation and the importance of integrating end-users' voices in the design of digital health innovations.

7 Expected Contribution

In conclusion, this research aims to contribute to the scientific and practical understanding of how AI can be aligned with the goals of professional well-being and organizational sustainability in healthcare. The originality of the work lies in its integrative approach, which combines a rigorous literature review with the empirical exploration of subjective experiences. The study can have the potential to feed both academic debates and concrete policies on AI adoption, trying to offer insights into the socio-technical dynamics that enable or hinder digital innovations in high-risk, tense, stressful and human-centred environments. By addressing burnout not as a symptom of individual fragility, but as a systemic dysfunction that can be strategically transformed, this project aspires to place the question of care not only for patients, but also for caregivers, at the centre of digital health research.

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INNOVATION IN PUBLIC ADMINISTRATION: EVOLVING SOCIOMATERIAL PRACTICES THROUGH DESK SHARING IMPLEMENTATION

Research Idea

Giuseppe Garrubba, University of Milano-Bicocca, Milan, Italy
g.garrubba@campus.unimib.it

Abstract

This study investigates the implementation of desk sharing within a traditionally rigid public administration context. While commonly adopted in private organizations to enhance efficiency and collaboration, desk sharing remains rare and underexplored in the public sector. Through a sociomaterial lens, the research examines how spatial flexibility reshapes work routines, social dynamics, and perceptions of belonging. The case focuses on a distinctive setup where enclosed offices are shared daily by rotating employee groupings, diverging from typical open-plan models. An interpretive ethnographic methodology, combining field observations, informal interactions, photographs, and survey data, captures the lived experience of this transformation. The study aims to understand how physical environments co-construct organizational life, offering insights for future workplace innovations across public institutions.

Keywords: Desk sharing, Public administration, Innovation, Acceptance, Appropriation

1 Introduction

Public Administration (PA) is facing increasing pressure to modernize, driven by citizens' expectations of greater efficiency, transparency, and flexibility. In response, many institutions are experimenting with organizational and technological innovations, topics increasingly more important in organizational studies. While such transformations are common in the private sector, their implementation in the public sphere remains limited and understudied, often due to entrenched institutional logics, rigid hierarchies, and spatial norms that resist disruption. As a result, the successful integration of technological and organizational innovations presents both opportunities and challenges.

In particular, this project will examine the introduction of the desk sharing practice, exploring how this spatial and organizational shift reshapes everyday work routines, and affects perceptions of productivity, collaboration, and belonging within the workplace.

Consequently, the originality of this research lies in the implementation of these practices, which have not yet been widely adopted in the public sector. Additionally, the study will analyze how public employees perceive and adapt to innovation through the lens of sociomateriality in order to develop case studies that can aid the implementation of similar future innovations in other contexts linked to the public administration.

2 Desk Sharing in the context of Public Administration

Desk sharing refers to a flexible workplace arrangement where employees do not have assigned desks but use available workstations daily. In private organizations, desk sharing is typically introduced as a means to reduce costs associated with leased office space by maximizing the use of available infrastructure (van der Voordt, 2004), to foster collaboration and cohesion among colleagues (Zerella et al., 2007), to promote innovation (De Croon et al., 2005; Weinfurtner & Seidl, 2019), and to enhance performance (Gonsalves, 2003).

Despite these potential benefits, the application of desk sharing in public contexts remains underexplored, largely due to institutional inertia and deeply embedded spatial and organizational routines. The project aims to fill this gap by investigating the introduction of desk sharing in the PA. Traditionally, PAs are characterized by fixed workstations and a strong territoriality of office spaces. This is especially true in the case examined in this study, where employees have been assigned to private offices that housed one, two, or three of them. Furthermore, existing literature on desk sharing primarily examines transitions to open-plan environments, where boundaries between workers are minimized and physical layout is radically transformed. By contrast, this study examines a unique desk sharing arrangement in which enclosed offices are collectively used by rotating employees who form different groupings on a daily basis. These configurations shift based on attendance and spatial layout, allowing the investigation of how such flexible setups influence social relationships, workplace routines, and the sense of belonging in an environment

3 Theoretical framework

This study adopts a sociomaterial perspective (Orlikowski, 2007) combined with critical realism (Leonardi, 2013) to examine how material artifacts and social practices co-constitute each other. Sociomateriality posits that organizational practices emerge from the interplay between human agency and material elements, suggesting that both are inseparably intertwined in the enactment of organizational life. Critical realism perspective on sociomaterialism maintains that while material artifacts are socially constructed, they possess an ontological reality that exists independently of human perception (Leonardi, 2013). This approach allows for the analysis of how material elements influence and constrain action, while also being subject to human agency and reinterpretation.

One example of this vision is exemplified by the study of affordances: contingent opportunities for action determined by the characteristics of objects or environments that guide and constrain human behavior (Suchman, 1987; Norman, 2013). These affordances can only be fully understood through interaction with those who engage with the space or objects but they are still based on space and objects' characteristics such as layout, design, and functionality; e.g. a chair affords sitting because of it has a flat and elevated surface and a supportive structure, but that affordance only becomes relevant when a user recognizes and enacts it; at the same time, the same chair might afford different uses, such as standing on it to reach a shelf, depending on the user's intentions, experience, and the surrounding context.

The interaction between human action and materiality extends beyond direct use; objects can also suggest actions through cues that prime certain behaviors. A notable example is the "weapons effect" (Berkowitz & LePage, 1967), where the mere presence of a weapon in a given context increases the likelihood of aggressive behavior.

Lastly, Objects present in the workplace, such as furniture, plants, and photos, and the overall workspace layout carry symbolic values, aiding workers in constructing and expressing their identities and infer other's identities (Elsbach, 2003). Moreso, these physical markers serve not only as personal expressions tools but also as cues that others use to infer professional roles and hierarchies.

From the acknowledgement of the sociomaterial paradigm come the following research questions:

1) What sociomaterial configurations emerge as employees adapt to or resist the new desk sharing environment?

2) In what ways do changes in material workspace arrangements affect collaborative dynamics, informal interactions, and identity construction within the office?

4 Methodology

This study employs an interpretive ethnographic approach to examine how spatial and organizational change is experienced and enacted in everyday practices within a public administration undergoing the implementation of desk sharing. Ethnography allows for an in-depth exploration of how workers interact with and assign meaning to their material and social environments, emphasizing the situated nature of organizational life (Malinowski, 2013; Hammersley & Atkinson, 2019).

To capture the sociomaterial dynamics at play, the fieldwork was conducted over a three month period during the experimental introduction of desk sharing. The researcher participated directly in the daily routines of the office, including rotating across different desks each day, in the same manner as the employees. This embodied engagement allowed for a deeper understanding of how workers adapt to flexible spatial arrangements and how shared spaces are used and negotiated in practice. In addition to observing formal and informal interactions, the researcher took part in informal moments of worklife such as coffee and lunch breaks, which offer rich insights into socialization, belonging, and the informal appropriation of space (Orlikowski, 2007; Suchman, 1987).

To complement fieldnotes and enable a more systematic observation of how desks are personalized or depersonalized, photographs were taken at two key moments of the workday: midday, to document how workspaces are actively used; and at the end of the day, to observe how they are left after the workday ends. These visual records help trace patterns of spatial adaptation and resistance, through the material environment.

Finally, to strengthen the depth and reliability of the findings, the ethnographic data is integrated with survey responses collected from both treatment and control groups over time. This combination of immersive qualitative insights and longitudinal quantitative data provides a comprehensive view of how organizational change unfolds in practice, and how material and social dimensions co-evolve in response to new spatial configurations (Bryman, 2006; Creswell & Plano Clark, 2017).

5 Expected results

Although the analysis is still ongoing, preliminary findings reveal different behavioral patterns in employees' responses to the desk sharing initiative. Appropriation strategies vary widely: some workers actively explore new routines, by negotiating occupation of shared spaces with flexibility, while others display territorial habits, subtly or clearly reclaiming former desks. Furthermore, it is expected that employees will appropriate the practice through adaptations in work modalities, work material use, and emerging social routines. At the same time, the redistribution of space is anticipated to impact both interpersonal dynamics and task-related behaviors.

The study is expected to uncover how sociomaterial configurations emerge through everyday practices, revealing how individuals navigate shared environments via informal negotiations, strategic object placement, and collaborative interactions. Particular attention will be devoted to examining how spatial flexibility shapes expressions of identity and practices of privacy management.

From a theoretical standpoint, the research contributes to sociomateriality by evidencing how space and practice co-constitute each other in public administration contexts, offering grounded insight into the entanglement of human agency, material artifacts, and evolving cultural norms under organizational innovation.

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JOB CRAFTING INTERVENTION: EVALUATING THE EFFECTIVENESS OF AN ONLINE TRAINING PROGRAM

Research Idea

Eleonora Di Napoli, University of Naples "Suor Orsola Benincasa", Naples, Italy, eleonora.dinapoli@studenti.unisob.na.it

Filomena Buonocore, University of Naples "Parthenope", Naples, Italy, filomena.buonocore@uniparthenope.it

Davide De Gennaro, University of Naples "Parthenope", Naples, Italy, davide.degennaro@uniparthenope.it

Domenico Salvatore, University of Naples "Suor Orsola Benincasa", Naples, Italy, domenico.salvatore@unisob.na.it

Abstract

This pilot study investigates the effectiveness of an asynchronous online training intervention designed to promote Job Crafting behaviours among employed individuals. The intervention aims to foster proactive work attitudes and enhance employee engagement by encouraging a dynamic and personalized approach to job design through a flexible and scalable format.
The seven-week program consists of weekly email-based exercises, each focusing on a specific dimension of the Job Demands-Resources model (Bakker & Demerouti, 2007). The first two weeks are allocated to pre-test administration, while the final week is dedicated to post-test data collection. Results are expected to demonstrate significant improvements in Job Crafting and Work Engagement, providing evidence for a replicable approach to enhancing employee well-being and proactivity in structured work environments.

Keywords: Job Crafting, Job Crafting Intervention, Online Interventions, Work Engagement

1 Introduction

The transformations taking place in the world of work, characterized by increasing organizational complexity and continuous technological challenges, have made it increasingly important to promote the well-being of workers and their ability to adapt proactively (Bakker & Demerouti, 2017). In this context, job crafting, defined as the set of intentional changes that workers make to their role to better align it with their skills and motivations, has emerged as a promising strategy for increasing engagement and job satisfaction (Wrzesniewski & Dutton, 2001). The literature indicates that job crafting is positively associated with psychological and organizational resources, such as autonomy, social support, and variety of skills, and that it can contribute to improving work engagement, defined as a state of positive well-being characterized by vigor, dedication, and absorption (Schaufeli et al., 2006).
Based on these assumptions, this study aims to evaluate the effectiveness of an online job crafting intervention aimed at public administration workers. The objective is to explore the extent to which participants have changed their work practices in the different dimensions of job crafting and how these are associated with work engagement, also considering perceived organizational barriers.

2 Methodology

We designed this study as a pilot test, with the aim of assessing the feasibility of a digital job crafting intervention and collecting preliminary evidence on its effectiveness. We adopted a quantitative experimental pre–post design, focusing on intra-individual changes in job crafting behaviours and work engagement over time. The pilot nature of the study justified an emphasis on descriptive statistics and exploratory inferential analyses.

2.1 The online training intervention

The intervention was delivered asynchronously via a digital platform over a period of seven weeks. This design choice, consistent with the latest self-guided e-learning models, was adopted to ensure flexibility and adaptability to the needs of workers. Each participant received a personalised weekly email containing a link to the next module, scheduled in line with their individual progress. In line with the Job Demands–Resources (JD-R) framework (Bakker & Demerouti, 2007), the weekly modules targeted four areas: increasing structural resources, increasing social resources, increasing challenging demands, and decreasing hindering demands. We guided participants through reflection exercises, goal setting, and self-assessment activities, with an estimated weekly time commitment of approximately 5–10 minutes (Demerouti, 2023). We administered the pre-test questionnaires at the outset (job crafting) and in the second week (work engagement) to minimise cognitive burden and encourage participation with personalized email reminders every week (Short et al., 2015). At the end of the intervention, we administered the post-test questionnaires along with a socio-demographic survey.

2.2 Measures

We assessed job crafting using Tims et colleague's (2012) the 21-items scale. This scale, based on the Job Demands-Resources model (Bakker & Demerouti, 2007) which considers the four JD-R dimensions: increasing structural job resources (ISTRJR), increasing social job resources (ISOCJR), decreasing hindering job demands (DHINJD), increasing challenging job demands (ICHAJD). We measured work engagement with the UWES-9 (Schaufeli et al., 2006), using a 0-5 scale. Each week, we asked participants to complete a self-assessment, rating how often they had implemented their goals on a 1-5 Likert scale. We also collected open-text responses on the goals set and the barriers encountered.

3 Preliminary Results

Given the small sample size and the pilot nature of the study, we focused our analysis on descriptive statistics (means and standard deviations) to illustrate patterns in the data. To explore potential changes between pre- and post-intervention scores, we conducted paired-samples t-tests, while acknowledging the limited statistical power and the exploratory intent of these analyses. The initial sample consisted of 105 employees recruited on a voluntary basis through an email invitation. After providing informed consent, participants engaged in the program at their own pace. Of these, 92 completed the first week and today only 20 completed all seven weeks, reflecting a typical attrition pattern for self-guided digital interventions. The actual sample was 70% female and 30% male, with a mean age of 41.65 years.

	t_0		t_1			
Variable	**Mean**	**Sd**	**Mean**	**Sd**	***t***	***p***
ISTRJR	4.20	4.28	0.45	0.51	0.74	0.47
ISOCJR	3.07	3.12	0.61	0.62	0.36	0.72
DHINJD	2.49	2.68	0.70	0.81	1.40	0.18
ICHAJD	3.70	3.67	0.74	0.64	-0.23	0.82
UWES	3.73	3.49	0.54	0.59	-3.63	0.002**

Table 1. JCS and UWES means scores.

ISTRJR= increasing structural job resources; ISOCJR= increasing social job resources;
DHINJD= decreasing hindering job demands; ICHAJD= increasing challenging job demands
Note. N= 20. * p< 0.05, ** p< 0.01, *** p< 0.001

	ISTRJR	ISOCJR	DHNJD	ICHAJD
Mean	3.05	3.32	3.20	3.04

Table 2. Average weekly implementation of self-set goals by job crafting dimension

4 Discussion and conclusions

From a practical point of view, changes in working life, digitalisation and the shift from office work to remote working have increased the need for proactive and self-managed methods to encourage job crafting. Flexible hours and the nature of e-learning, which is independent of the physical context, have made it a very attractive option for implementing job crafting interventions, which have proven to be as effective as those based on face-to-face workshops (de Devotto & Wechsler, 2019; Oprea et al., 2019, Seppälä et al., 2023).

We found average increases in three dimensions of job crafting (increase in structural resources, increase in social resources, decrease in hindering demands) and a slight decrease in the dimension of increase in challenging demands. This trend may reflect an initial phase of adaptation, in which participants prefer to reduce challenges in order to deal with immediate difficulties. However, it is important to note that longitudinal studies have shown that demanding demands may initially decrease and then increase in later stages of the intervention (Knight, 2021). Even in their weekly goals, participants favoured strategies perceived as safer and more concrete, such as strengthening social relationships or reducing obstacles, while challenges and structural resources were the least adopted. For example, for the increase in challenging demands, some participants indicated goals such as: “to learn more about the web”, “to become in charge, but there are no things to bring me closer to this goal, meritocracy is unfortunately overtaken by other dynamics”. For the reduction of hindering demands, some goals included: “improve time management” and “organise weekly activities better to focus on what is important”. With respect to increasing structural resources, targets were reported as: “increase smart working management” and “training activities to implement soft skills”. Finally, for the increase of social resources, participants indicated strategies such as: “organise a meeting” and “share some activities”. Job crafting behaviours may vary depending on the professional context and role: for instance, in some contexts, participants may be more inclined to seek challenges when their tasks or responsibilities allow for greater autonomy. Conversely, in other contexts, where organisational difficulties or role rigidity are more pronounced, participants may prefer to focus on more manageable resources or social support activities (Gordon, 2018).

At the same time, we observed a significant decline in work engagement. Although job crafting is often associated with greater engagement (Bakker & Demerouti, 2017), greater awareness of one's limitations and a lack of real support may have caused frustration, reducing energy and dedication (Kuijpers et. al, 2020; Knight et al, 2021). Although there is evidence supporting the direct effects of JCIs on commitment, the role of job crafting as a mediating mechanism has not yet been fully clarified, requiring further longitudinal and processual investigations (Kuijpers et al., 2020; Seppälä et al., 2023). The high dropout rate reflects a typical limitation of self-managed and unsupervised digital interventions (Demerouti, 2023; Verelst et al., 2021).

In conclusion, these results should be interpreted with caution due to the small sample size and lack of a control group, which do not allow for generalisable conclusions. However, they offer useful insights for future studies, which should include larger samples and long-term follow-ups (Mukherjee & Dhar, 2023). A further development could be to personalise the intervention, allowing participants to choose the dimension of job crafting to focus on and reducing the overall duration to facilitate adherence and maximise impact.

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IDENTITY TRAITS AND RESISTANCE TO CHANGE IN ORGANISATIONS: A PSYCHOMETRIC FRAMEWORK

Short Paper

Filomena Pagnozzi, University of Chieti-Pescara, Pescara, Italy, filomena.pagnozzi@unich.it
Simone Di Plinio, University of Chieti-Pescara, Pescara, Italy, simone.diplinio@unich.it
Gilda Antonelli, University of Chieti-Pescara, Pescara, Italy, gilda.antonelli@unich.it

Abstract

This paper proposes a conceptual framework for understanding resistance to organisational change by shifting the focus from static behavioural styles to dynamic identity traits. Drawing on Social Exchange Theory, Socio-Technical Systems Theory, and Complexity Theory, the model explores how individual responses to change emerge from the interaction between identity-based orientations, organisational culture, and emerging technologies. We argue that behavioural labels such as givers, takers, and matchers (Grant, 2013) offer limited explanatory power in dynamic environments. Instead, traits linked to professional identity, prosocial motivation, and perceived agency provide a richer basis for interpreting resistance as a context-sensitive outcome. The framework highlights how participatory, flexible, and technology-enabled cultures can transform resistance into a constructive force for innovation. This approach offers theoretical advancements and practical implications for developing diagnostic tools and interventions that address hidden drivers of resistance, ultimately supporting more human-centred and adaptive change processes.

Keywords: organisational change; resistance to change; psychometric tool; identity traits

1 Introduction

Understanding the dynamics of organisational change has become increasingly critical for companies striving to remain competitive in a rapidly evolving environment (Torre et al., 2023). However, one of the most significant obstacles to successful organisational transformation is resistance to change, which occurs at individual, group, and organisational levels (Piderit, 2000; Dent & Goldberg, 1999). Resistance can be influenced by endogenous factors, such as individual behaviours and cultural dynamics, as well as exogenous factors, including external pressures and regulatory changes (Lewin, 1945; Consiglio & Cicellin, 2024). While research has extensively explored structural and strategic factors that drive change, the influence of individual behaviours, particularly in the context of help-seeking (requesting help) and help-giving (offering help), remains underexplored. Help-seeking behaviours are behaviours related to the ability to recognise one's difficulties at work and feel free to ask for help from colleagues or supervisors. Consequently, help-giving behaviours represent the act of providing help readily and willingly when requested (Lee, 1997). These behaviours enhance individual and group performance (Nadler et al., 2003) and foster a climate of trust and psychological safety—critical elements for navigating change (Edmondson, 1999). However, these behaviours are deeply influenced by the broader organisational context. Specifically, change-oriented cultures (Denison & Mishra, 1995; Pescatore et al., 2024; Schein, 2010) and the introduction of new technologies (Tarafdar et al., 2015; Venkatesh et al., 2012) serve as moderators that can either reinforce or disrupt behavioural styles. In this context, while behavioural style typologies such as, for example, those proposed by Grant (2013) -givers, takers, and matchers- offer an useful general classification, they may fall short in explaining how behaviours shift in response to identity-related and contextual dynamics. For this reason, it is necessary to introduce a conceptual shift from fixed behavioural types to fluid, identity- based traits that are more sensitive to context and meaning. Identity traits—such as one's professional self-concept (Ashforth & Mael, 1989), perceived agency (Bandura, 1997), and intrinsic prosocial motivation (Penner et al., 2005)—offer a deeper psychological foundation for understanding behaviour. This paper therefore proposes a new model that integrates identity traits as antecedents of individual behaviours, moderated by change-oriented organisational culture and technological context. The framework is theoretically grounded in Social Exchange Theory (Blau, 1964), which elucidates the relational logic of reciprocity; Socio-Technical Systems Theory (Emery & Trist, 1960), which links individual behaviour to broader technological infrastructures and Complexity Theory (Stacey, 1995; Burnes, 2005) which offers an innovative perspective on understanding organisations as dynamic and adaptive systems. Our aims are: (1) to provide a richer theoretical framework for interpreting individual behaviours during change processes, and (2) to build the foundation for new evaluation instruments capable of measuring these interactions in real- world settings.

2 Theoretical background

Resistance to change is a multifaceted concept that can involve emotional reactions, critical thinking, and opposing behaviours. Piderit (2000) identifies three dimensions: affective resistance, linked to emotions like fear and frustration; cognitive resistance, reflecting doubts about the fairness or feasibility of change; and behavioural resistance, expressed through actions such as non-compliance or overt opposition.

Grant (2013) describes help-seeking and help-giving styles as givers, takers, and matchers. Givers offer selfless support and promote collaboration, takers act out of self-interest and may hinder trust, while matchers engage based on fairness and reciprocity. However, this categorisation can be overly static and may not capture how individuals perceive and respond to dynamic organisational changes. For this reason, it is important to adopt a more flexible, identity-sensitive perspective that recognises how these behaviours evolve in relation to shifting roles, autonomy, and perceived identity threats during transformation (Di Plinio et al., 2024; Täuber & Zomeren, 2012).

A change-oriented organisational culture helps mitigate resistance by fostering participation, flexibility, transparent communication, and shared values (Denison & Mishra, 1995; Senge, 1990). The adoption of technology, including AI tools, further supports collaboration and autonomy, reducing uncertainty and strengthening adaptability (Stoeckli et al., 2020). In this environment, resistance can become a source of constructive dialogue and innovation.

3 Theoretical framework

This paper introduces a revised theoretical framework (Figure 1) where identity traits—rather than static behavioural styles—serve as primary drivers of individual behaviour in contexts of organisational change. While earlier models such as, for example, Grant's (2013) focused on categorising employees into givers, takers, and matchers, we argue that these categories lack explanatory power when it comes to dynamic responses to change. Instead, identity-based orientations—such as prosocial motivation (Batson, 1991), professional identity (Pratt et al., 2006), and perceived self-efficacy (Bandura, 1997)—offer a more robust foundation. We conceptualise resistance not as a stable personality trait, but as a context-sensitive behavioural outcome that arises when identity is threatened. These identity-based traits shape how individuals interpret and react to organisational change, especially when such change challenges their sense of professional purpose, relational norms, or perceived competence (Petriglieri, 2011; Ibarra & Barbulescu, 2010).

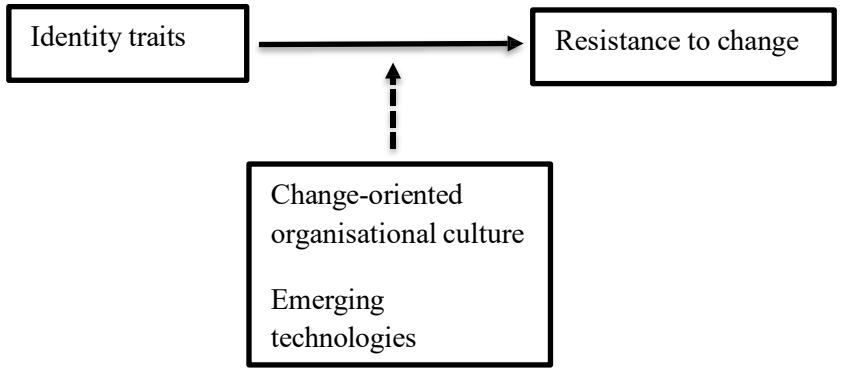


Figure 1. *Conceptual model*

4 Discussion, implication and conclusion

This paper proposes a new approach to understanding why individuals resist change within organisations, moving beyond rigid behavioural styles and focusing instead on identity traits. Drawing on Social Exchange Theory (Blau, 1964), Socio-Technical Systems Theory (Emery & Trist, 1960), and Complexity Theory (Stacey, 1995; Burnes, 2005), we present a model that explains how people's sense of self, their relational orientation, and their interaction with technology and organisational culture shape their responses to change. Theoretically, this work contributes to organisational studies by offering an innovative and integrative framework that builds upon and expands existing models. It shifts the focus from static categories to dynamic and contextual processes, helping us better understand the real psychological and social mechanisms that lead to cooperation, resistance, or adaptation in the workplace. This perspective enriches current theories by grounding behavioural outcomes in the interplay of identity, culture, and technological environments. On a practical level, the proposed model provides a foundation for the development of psychometric tools that can detect subtle, often hidden drivers of resistance. Instead of measuring only visible behaviours or generic attitudes, such tools could reveal whether resistance is rooted in identity threats, perceptions of injustice, or a lack of control. These insights would allow organisations to design more effective interventions. Ultimately, the model

encourages a more human-centred and context-sensitive approach to change management. It opens the door to future empirical research and applied diagnostic practices and should be validated across various organisational and technological contexts to assess its robustness and practical value.

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EFFECTS OF PSYCHIC DISTANCE ON CONTRACTUAL STRUCTURES: THE CASE OF AN INTERNATIONALISED SME

Short Paper

Luka Filipovic, University of Udine, Udine, Italy, luka.filipovic@uniud.it
Giancarlo Lauto, University of Udine, Udine, Italy, giancarlo.lauto@uniud.it

Abstract

This study explores how individual perceptions of cultural differences – termed "psychic distance" – influence the structure of international contracts. Drawing on theories of interfirm governance and cultural coordination, we analyze 15 commercial contracts between a medium-sized Italian firm and its foreign partners using fuzzy-set Qualitative Comparative Analysis (fsQCA) to uncover how combinations of conditions – e.g., the cultural experience of managers and legal advisors – affect whether contracts emphasize transactional or procedural clauses. The findings reveal multiple pathways to each contract type, highlighting the complex and context-dependent nature of international contracting in small and medium-sized enterprises (SMEs). In particular, the cultural perception of internal and external actors emerge as important determinants of contractual structure. This research introduces a configurational perspective to contract analysis and suggest that individual-level perceptions and experiences significantly shape how cross-border business relationships are formally governed. As such, the results offer insights for scholars and practitioners navigating international SME partnerships.

Keywords: Contracts, Culture, Psychic distance, Interfirm, QCA.

1 Introduction

The internationalisation patterns of SMEs are characterised by constraints associated with the limited resource endowment and opportunities linked to the flexibility and speed in the process, which attracted great scholarly interest throughout the years. While the literature has illuminated various dimensions of the internationalisation of SMEs – e.g., strategies, drivers, barriers, external networks, and internal resources – less is known about how the associated contractual solutions originate and how different institutional contexts influence their actual content and structure.

This study aims to ascertain whether the perceived distance from a foreign counterpart affects the contract structure in terms of the prevalence of different types of clauses. Furthermore, it examines whether this effect varies according to the nature of the contract, distinguishing between the regulation of operative and strategic interfirm relationships. Finally, it brings in the role of legal advisors by considering the effect of their familiarity with their counterparts in influencing business relationships.

While the influence of national cultures on legal content is hardly questionable, the increasing internationalisation of SMEs adds to the complexity and typologies of cross-cultural contracting practices. By examining a set of commercial contracts with foreign partners of an Italian SME, we develop a conceptualisation of the individual-level antecedents of contractual structure.

2 Theoretical Background

The conceptualisation of the governance of interorganisational relationships is informed by three main theoretical perspectives – transaction cost economics, relational exchange theory, and social exchange theory. Together, these frameworks offer explanations for the choice of relational vs. contractual governance modes, i.e., the choice between interfirm governance through social norms and relations, or through direct contracting on future contingencies (Cao & Lumineau, 2015). While studies of relational mechanisms have long stressed the importance of unspecified and reciprocal social obligations (Cropanzano & Mitchell, 2005; Macneil, 1978, 1980), contracts have often been analysed as tools for safeguarding and explicit coordination, though the relevance of adaptability considerations has also been gaining prominence (Schepker et al., 2014). While earlier contributions tended to advocate for a substitutive dynamic between the two (Abdi & Aulakh, 2017), the seminal paper by Poppo and Zenger (2002) challenged the established view that these two governance modes are mutually exclusive, suggesting that instead, they can be complementary. While this literature offers no consensus to this day, Cao and Lumineau's (2015) comprehensive meta-analysis provided strong evidence for the complementarity argument while stressing the likely relevance of contextual factors for unravelling the main inconsistencies characterising the debate.

In this context, Grandori's (2000) framing of culture and contract becomes relevant. In her view, both phenomena can be framed as symmetric normative coordination methods, either implicit or explicit. In other words, they can be seen as two faces of one and the same coordination mechanism, which is characterised by a layered structure ranging from deep normative abstraction to operative prescription. As such, there is reason to assume that the embeddedness of culture at the deepest cognitive levels influences contracting, especially in international settings, where different cultural systems come into contact. This perspective is further supported by a review of the literature on the culture-contract nexus, which suggests that culture can be observed affecting contractual structures and outcomes through two separable channels: the negotiation process preceding the formalisation of a contract (e.g., Giannetti & Yafeh, 2012) and the embedding of culture-bound perceptive elements (e.g., risk avoidance) into the agreement (e.g., Delerue & Sicotte, 2019). However, we must also consider individual-level antecedents such as personal values and attitudes, lest we provide an incomplete picture (Stefanidis et al., 2015). As such, we cannot use commonly accepted operationalisations of culture as "national culture" (Hofstede, 1980), the use of which at the individual level implies a relevant risk of incurring an ecological fallacy (Brewer & Venaik, 2014).

In light of the foregoing, we recognise four relevant elements impacting the features of a contract. First, psychic distance, defined by Sousa and Bradley (2008) as the individual's perception of the differences between the home country and a foreign one, which is affected by both cultural- and individual-level antecedents. Second, cultural experience, defined as a subject's work experience with respect to a foreign business environment (Sousa & Bradley, 2006; 2008). Third, the psychic distance of legal advisors of a focal firm from their counterpart; while often neglected, this factor can be of utmost importance, especially in under-resourced SMEs, due to the role of advisors in negotiating and drafting agreements (Nyarko, 2021). Finally, the scope of the contract: building on Petersen and

Østergaard's (2018) conceptualisation of joint value creation vs. value appropriation contractual goals, we distinguish between strategic and operational agreements.

By building on Furlotti's (2007) organisational approach to contracting, and integrating it with insights from the work of other law and management scholars (Scott & Triantis, 2005; Delerue & Sicotte, 2019), we characterise the structure of contracts by considering the dominance of transactional vs. procedural clauses; the former refer to core exchanges defining the relationship, while the latter to future needs for adaptation, integration, and meaning-sharing. This theory-driven categorisation allows us to conduct cross-contract analyses without requiring coherence in contractual typology, thus expanding the potential scope of contract analysis.

Lastly, we point out that the nature of both the phenomena of interest and the granularity of the analysis we propose would require an adequate metatheoretical perspective, allowing for the study of causal asymmetry and causal complexity in a way that both standard deductive and standard inductive approaches may fail to offer. We thus embrace the recently emerging neo-configurational perspective (Misangyi et al., 2017; Furnari et al., 2021), a set-theoretic rethinking of traditionally configurational approaches to organisational theorising that offers novel ways to interpret and connect phenomena likely characterised by causal complexity, i.e., any "situation in which a given outcome may follow from several different combinations of causal conditions" Ragin (2008, p. 124), through the lenses of conjunction, equifinality, and asymmetry (Ragin, 2008; Misangyi et al., 2021). Furthermore, neo-configurationalism promises to improve the intelligibility of theorisation with respect to other approaches to explaining complex scenarios: this, using "causal recipes" to bridge and balance between semantic and syntactic theoretical proposals (Furnari et al., 2021). As such, we propose that a contract structure results from how the four cultural antecedents combine rather than their effect in isolation.

3 Empirical Context and Methodology

The empirical context of the study consisted of an Italian, internationalized SME employing 38 people as of 2022. The firm is based in the north of the country, was established over 40 years ago, and operates in the businesses of nutraceuticals and wellness.

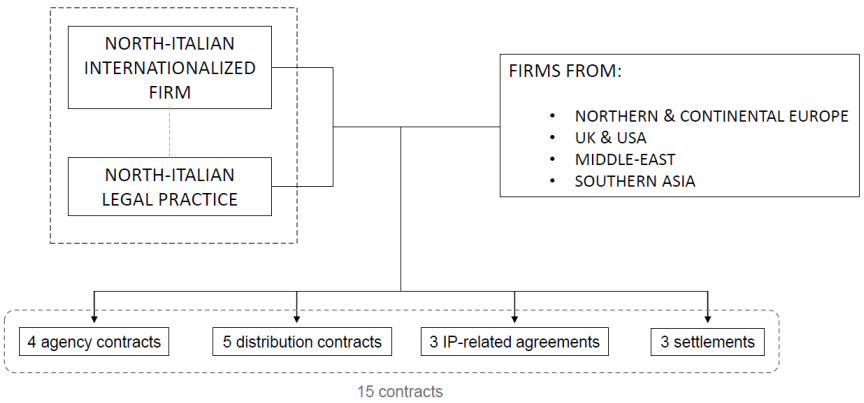


Figure 1. The contractual sample.

We analyzed a sample of fifteen contracts signed by the company with foreign counterparts. The contracts were identified with the assistance of the company's legal counsel by means of theoretical sampling and cataloged by typology and nationality of the counterpart. With the aid of the MAXQDA© software, we examined the content of each clause of the contracts and classified them into the categories "transactional" (TR) and "procedural" (PRO) based on the substantive knowledge of the authors and the collaborating lawyers. Following Delerue and Sicotte (2019), we did not follow the contract-given subdivision of clauses, opting instead to identify distinct provisions on both theoretical grounds and a criterion of information addition or, in negative terms, non-redundancy of each phrase with respect to the previously defined segment. We distinguished the scope of the contracts between strategic and operative. We relied on psychic distance as an individual-level construct of interparty perceptual distances and used a questionnaire to measure the construct (Sousa & Lages, 2011) as well as the cultural experience with foreign contexts of the firm's export manager and two legal advisors.

We conducted fuzzy-set Qualitative Comparative Analyses (fsQCA) to identify the combinations of factors that lead to the prevalence of transactional vs. procedural clauses in a contract. This methodological choice seems appropriate for studying complex phenomena as it allows for equifinality, causal complexity, asymmetry, and, through calibration, the recognition of relevant variations of the properties of cases (Ragin, 2008). Calibration was performed based on external benchmarking for psychic distance and cultural experience, while the impossibility of benchmarking contractual structure was bypassed, reframing it in terms of clause prevalence. The necessity of conditions was always assessed before any configurational attempt and informed the latter's interpretation. Iteration was performed multiple times to reassess the relevance of the included conditions of interest.

4 Discussion

The analysis results were both promising and thought-provoking, complementing extant claims of causal complexity (Delerue & Sicotte, 2019) and offering evidence for a causal relation between psychic distance and contractual structures. Moreover, divergent roles were evidenced for the firm's and legal counsel's perception of the counterparty.

		Prevalence of TR clauses		Prevalence of PRO clauses		
		1	2	1	2	3
PD:						
	Firm	⊗	⊗			⊗
	Legal counsel	●	●	⊗	●	●
Cultural experience:						
	Firm	⊗	●	⊗	⊗	•
Contractual scope		⊗	●	⊗	●	⊗
Iteration		#2			#2.5	
Raw coverage		0.304553	0.11146	0.271147	0.341831	0.0880649
Unique coverage		0.304553	0.11146	0.247972	0.341831	0.0648898
Consistency		0.869955	1	0.936	0.855072	1
Solution coverage		0.416013			0.677868	
Solution consistency		0.901361			0.898617	
Composite coverage				0.60804		

Note . While full circles represent the need for the condition to be present, barred circles indicate the opposite. The absence of any symbol means that a certain condition is not relevant for the specific configuration. Core and peripheral conditions are signaled by bigger and smaller symbols, respectively.

Figure 2. Configurational chart for the prevalence of either TR or PRO clauses.

Specifically, the fsQCA yielded two causal recipes explaining the prevalence of transactional clauses and three explaining the prevalence of procedural clauses. On the one hand, the analysis suggests that transactional clauses may prevail in both strategic and operative contracts. In the former case, they are driven by the export manager's confidence with respect to a culturally known and psychically close party, together with the legal counsel's will to detail commitments and remunerations to and from a psychically distant counterparty – a scenario characterised by "disjoint confidence". Instead, for operational contracts, the export manager appeared to be psychically close to the counterparty while being culturally inexperienced. Thus, we argue that the export manager compensated for this ignorance of foreign customs by expanding transactional detailing. As the role of the legal advisor

remained unchanged, this scenario could be defined by a need for "transactional safeguarding" of key operational exchanges.

On the other hand, two relevant configurations leading to procedural prevalence were identified. These causal recipes highlight the role of legal counsel's psychic distance, as the role of the export manager's cultural inexperience is the same for both causal pathways. For strategic contracts, legal counsel increases procedural coordination in strategically sensitive agreements with perceptually distant counterparties, thus answering a need for "strategic coordination". However, in operative contracts, this procedural prevalence is driven by the legal counsel's psychic closeness. This configuration is less straightforward than the others and can be tentatively framed as a tendency of legal counsel to reduce detail in a manner that, in the context of an operative contract, would disproportionately affect the transactional clauses that constitute the bulk of such an agreement. In other words, it may be read as "disproportionate simplification". A third outcome of the analysis was rejected as it failed to meet the required thresholds of coverage and consistency.

5 Conclusion

This research attempted to reframe the inquiry on the antecedents of contractual arrangements in an individual-level, configurational light, arguably more apt to capture their complexity. This study represents a step to enhance our understanding of the interrelationship between culture-bound phenomena, such as interparty perceptual distances and contracts, by developing an empirically grounded interpretative framework that considers firm-internal and firm-external factors as well as the nature of the deal. We find that multiple equifinal pathways can lead to a given structural feature of a contract and that the combination of conditions is paramount in producing a given outcome. Furthermore, we highlight the importance of external actors – such as legal advisors – for international contracting in SMEs.

The research design relies on a proprietary database of contracts categorised in terms of structure and content through the intervention of a series of experts rather than automated tools. We complemented the analysis with psychometric measures. The introduction of fsQCA to the study of contracts opens methodological opportunities to appreciate this ubiquitous yet understudied phenomenon; this is particularly relevant to the study of SMEs' international interfirm relationships, given the challenges of collecting and analysing primary business data.

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ORCHESTRATING THE NETWORK OF SOCIAL RELATIONSHIPS IN HYBRID WORKPLACES: AN EMPIRICAL STUDY OF LEADERS' BROKERING BEHAVIOURS

Short Paper

Sara Bonesso, Venice School of Management, Ca' Foscari University of Venice, Venice, Italy, bonesso@unive.it

Laura Cortellazzo, Venice School of Management, Ca' Foscari University of Venice, Venice, Italy, laura.cortellazzo@unive.it

Federica Bressan, Venice School of Management, Ca' Foscari University of Venice, Venice, Italy federica.bressan@unive.it

Abstract

The hybrid work model offers significant advantages, both from an organisational perspective and for individuals. However, this working arrangement also presents challenges, particularly when it comes to fostering strong interpersonal relationships and activating professional networks. Indeed, the shift to hybrid work risks reducing these spontaneous interactions, potentially leading to weaker relational ties and siloed communication. Drawing on studies on brokering behaviours, the present study aims to provide a better understanding of the way in which leaders intentionally undertake specific actions with the aim to orchestrate the network of social interactions in the workplace. The empirical analysis, conducted on a single-case study, sheds light on the relational impact of hybrid work and offers a detailed categorization of those leaders' behaviours that are intentionally oriented to cultivate the social connections.

keywords: Hybrid Work, Brokering, Leadership, Social Relationships.

This study was carried out within the project "Blending the physical and the virtual workplace: How different hybrid work's models disrupt the labor market and call for emergent configurations of organizational and human resource management practices" prot. nr.20224BJLC7 and received funding from the European Union Next-GenerationEU – National Recovery and Resilience Plan (NRRP) – MISSION 4 COMPONENT 2, INVESTIMENT 1.1 Fondo per il Programma Nazionale di Ricerca e Progetti di Rilevante Interesse Nazionale (PRIN) – CUP N. H53D23002160006. This manuscript reflects only the authors' views and opinions, neither the European Union nor the European Commission can be considered responsible for them.

1 Introduction

In recent years, the rise of digital technologies enabling new work arrangements, accelerated the dissolving of the boundaries between office-based and remote work (Bell et al., 2023). One prominent example of these evolving models is hybrid work, which differs from earlier approaches like telework and fully remote work (Lauring & Jonasson, 2025; Vartiainen & Vanharanta, 2024). Hybrid work entails "ongoing switches between traditional and non-traditional work modes in relation to how, where, and when to perform work activities" (Lauring & Jonasson, 2025: 1). This model implies dynamic switches across three interrelated dimensions: modality, space, and temporality of work.

Recent studies have shown that hybrid workplaces have a positive impact in terms of job performance, work engagement, efficiency and flexibility (Naqshbandi et al. 2024; Hanzis & Hallo, 2024). However, digitally mediated communication over a long time period can influence group cohesivity and team spirit negatively (Pyöriä, 2011). Space switches may also influence the integration of behaviour and people, as space sets boundaries in forming relations of accessibility and visibility (Wineman et al., 2009). In terms of time, recent studies underlined a raise in asynchronous communication in hybrid work environments (Yang et al. 2022), at the expenses of synchronous and informal encounters. This suggests hybrid work has somehow altered workplace social dynamics (Keppler et al., 2023). This may in part explain the current trend that shows how many companies are asking their employees to return back to the office (McKinsey, 2025).

Leading in a hybrid work environment posit unique challenges that require leaders to reconsider their role in cultivating and orienting social relationships that previously spontaneously occurred in traditional "in-office" work (McKinsey, 2025). Prior studies on virtual team leadership have highlighted the need to develop a different set of coordination and control mechanisms "through electronically mediated interactions across spatial, temporal, organisational, and cultural boundaries" (Pauleen, 2003: 230). However, the challenges leaders face in managing employees both in presence and in a virtual mode (Bula et al., 2024), are different from those of a full remote work environment. Indeed, because of the dynamic switches across modality (analog/face-to-face vs. digital/virtual), location (office/co-located vs. non-office/distributed), and temporality (constrained/synchronous vs. unconstrained/asynchronous) (Lauring & Jonasson, 2025), some people could not have better access to team management and to informal team interaction, leading to differences in the quality of communication across the team members. Thus, the paper aims to address this gap, answering the following: *How do leaders cultivate interpersonal relationships in the workplace considering the physical separation and technology-mediated communication that characterise hybrid work arrangements?* Using the lens of the brokering framework (Halevy et al., 2019; Obstfeld et al., 2014) and employing a qualitative methodological approach through the use of a single-case study, this research aims to provide a better understanding of how leaders intentionally undertake specific behaviours with the aim to orchestrate the network of social interactions.

2 Theoretical background

2.1 Hybrid work and social relationships

With advances in technology and increasing demand for flexibility, forms of virtual work have been gaining popularity in the last decades (Kumar et al., 2024). Recently, scholars have tried to clarify the terminological boundaries of hybrid work in contrast to the more popular forms of virtual work such as teleworking and remote working (Lauring & Jonasson, 2025; Vartiainen & Vanharanta, 2024). "Hybrid" refers to the combination of traditional and non-traditional modes of activities in the workplace (Lauring & Jonasson, 2025).

Studies on remote work contexts have acknowledged the role of technology in reshaping interorganisational collaboration networks, making them more rigid and compartmentalized (Yang et al., 2022). Moreover, remote work settings reduce the sense of community and belonging to an organisation (Moens et al., 2022). In this regard, employees reported weakening bonds with colleagues

and decreasing connections with their employers (Moens et al., 2022). More recent advancements underline that hybrid work environments also alter workplace social dynamics, reducing peer interaction and connections among colleagues (Keppler et al., 2023).

The increasing use of collaboration technology to interact showed mixed results in terms of perception of social connectedness. This is explained by a widespread higher quality perception in face-to-face communication (Braun et al., 2019), as well as evidence of a potential loss for spontaneous conversations (Mitchell, 2023). Similarly, Kantola et al (2024), recognizes non contingency, defined as the lack of chance encounters, as a key characteristic of hybrid work. This shortage of chance encounters challenges the creation of relationships and trust (Trevor & Holweg, 2023). Indeed, hybrid work tends to be characterized by discontinuity and (dis)rhythm (Kantola et al., 2024), which refer to the changed nature of collaboration where social interaction is often limited and preplanned (Waizenegger et al. 2020). This former evidence suggests that hybrid work challenges both the creation and the sustaining of quality social relations, by reshaping and breaking social interaction into a narrow and dispersed format.

Prior studies suggest that the introduction of information and communication technology in the workplace have consequences for leadership processes (Avolio et al., 2014; Bauwens & Cortellazzo, 2025), including the need for fostering deeper, more affective relationships with employees (Bauwens & Cortellazzo, 2025). Recently, scholars have started investigating the specific challenges leaders face in the hybrid workplace and the shift in leadership behaviours needed to manage both face-to-face and virtual environments (Teng-Calleja et al., 2024). Preliminary findings from Yuzi and Mbokota (2024) suggest a surge of relationship management skills needed by leadership working in hybrid work environments. Bula et al. (2024) show that in the face of perceiving difficulties in emotionally connecting with team members, leaders gave higher priority to guaranteeing presence (also virtual one), establishing connections outside work-related topics, and fostering connection among team members.

The present research aims to contribute to this debate, understanding how informal communication and networks in a hybrid work context are cultivated, focusing the attention on leaders and delineating the different facets of the role of orchestrators of such interpersonal relationships.

2.2 Orchestrating relationships through brokering

Brokering is defined as the social influence that people exert over others' relationships (Halevy et al., 2019). Prior studies mainly conceptualized brokerage as a positional property of individuals that facilitate relationships between disconnected actors, and highlighted the individual benefits of individuals occupying such strategic positions in the network (Ritala et al., 2022; Johnson et al 2023). Considerable research, for instance, has explored how occupying brokerage positions in social networks enhances individual performance (Clement et al., 2018).

While brokerage focuses on a particular structural position in a social network, brokering denotes the behaviours that individuals pursue when acting as brokers (Halevy et al., 2019). These behaviours may widely vary, ranging from promoting trust and cooperation to intensifying hostility and competition. Thus, different forms of brokering can be identified, which can be harmful or helpful to the relationship. Recently, scholars called for further research addressing brokering behaviours as a process rather than a structural property (Halevy et al., 2019; Kwon et al., 2020), given that the social influence processes are the active ingredients that modify alters' relationships (Obstfeld et al., 2014; Quintane & Carnabuci, 2016). Conceptualizations of brokerage and brokering also diverge with regard to the existing relationship with the alters. While brokerage commonly considers the absence of a pre-existing tie as a prerequisite to brokerage, thus focusing on brokerage between alters that do not know each other (Ozer & Zhang, 2019), brokering assumes it can occur both when alters have or do not have pre-existing relationships (Obstfeld et al., 2014). This implies brokering can take the form of intermediation, which entails connecting two disconnected alters in their network, as well as the form of modification, which means changing the nature of pre-existing relationships between alters (Halevy et al., 2019).

Different streams of research also diverge in the emphasis given to brokering outcomes. As previously mentioned, much is known about the broker's outcomes, which include more positive evaluations of their ideas, greater recognition, faster promotions and higher pay (Burt et al., 2013; Stovel & Shaw,

2012). Fewer contributions instead analyse the impact of brokers on the alters (Clement et al., 2018; Ritala et al., 2022). For instance, Johnson et al. (2023) proposes a model of bridgework through which leaders of employment agencies and job coaches facilitate relationships between stigmatized and non-stigmatized members of organisations. The authors refer to relational brokering as a way to facilitate the integration of work, the collaboration between actors, which may also include forging stronger existing ties (Obstfeld 2005). Ritala et al. (2023) overcome the broker-centric perspective, demonstrating that brokering interventions led by an orchestrator can foster virtuous cycles of social interaction and knowledge sharing, encompassing the alteration, intermediation, and preservation of actors' relational structures. These preliminary findings tend to suggest that through the process of brokering, people are taught new ways to evaluate and interact with one another (Ibarra et al., 2005). In this paper, we examine leaders' behaviour in the hybrid workplace through the lens of brokering, exploring how they respond to shifts in the nature of collaboration (Waizenegger et al., 2020) brought about by the discontinuities in modality, location, and temporality that define hybrid work.

3 Methods

3.1 Research design and research setting

In this study, we employed a qualitative methodological approach using a single-case study. The method was selected due to its appropriateness in areas where empirical research is scant (Yin, 2014), involving a deep dive into the case-specific context, namely GAMMA (a pseudonym), the Italian subsidiary of a global company operating in the design, construction, and maintenance of transportation systems with a tradition in the sector of over one hundred years. In 2025, the company presents nine sites located in the Italian territory with more than 4,000 employees. GAMMA was theoretically chosen for its suitability in addressing the research question. It is characterized by a strong commitment to fostering a supportive, inclusive and flexible workplace for its employees. These efforts contribute to GAMMA's reputation as a top employer, driven by initiatives that prioritize well-being, equality, and work-life balance. Coherently, GAMMA introduced the hybrid work in 2016 and further developed and formalised this new way of working after the COVID pandemic. The shift towards hybrid work was promoted by a bottom-up project led by a team of middle managers in 2015 and supported by the HR department. The case allows the in-depth analysis of the interventions implemented by the company in a ten-year period, deepening the understanding how leaders facilitate the social connections and the informal networks with collaborators, that prior the introduction of hybrid work was spontaneously activated by the employees.

3.2 Data collection, research protocol and data analysis

Following Yin's (1994) guidance for case study design, data was collected from various sources. Data was gathered primarily through semi-structured interviews with key informants and then triangulated with secondary data. This allowed reconstructing the process of implementation of the hybrid workplace from 2016 to 2025. Semi-structured interviews were conducted to 13 Directors and their direct reports via Zoom using a predefined set of questions to maintain uniformity, while allowing flexibility to refine these questions after each session to deepen the relevance and insight into the topics discussed. A total of 20 hours of interviews was recorded. Informed written consent to take part in the research was obtained from the participants. The protocol was designed for the members of the leadership team of the first organisational unit in GAMMA that in 2016 experimented with the pilot project of hybrid work that encompasses more than 1,000 employees. The questions investigated how leaders approached hybrid work and which behaviours they introduced or reinforced with the transition to hybrid work. All interviews were recorded with the consent of the research informants and subsequently transcribed.

The interview data was integrated with internal documents provided by the company (e.g., hybrid work policy, the company's presentations, materials related to the training programmes and the performance management system) and media archives (e.g., articles published in newspapers, the company website's documents) to further enhance the understanding of the company studied. This approach enabled the

triangulation of data collected from interviews ensuring the validity and reliability of our findings (Eisenhardt, 1989). The data were coded independently by each author using thematic analysis. The process began with coders reading each interview transcript and collecting documents, creating memos to outline emerging themes. Subsequently, the authors developed a concept-evidence table, listing all the leadership behaviours concepts identified during the analysis alongside supporting evidence from the data. The team convened to review the coding, engaging in debate and discussion to resolve any disagreements. Preliminary versions of the case study reports were shared with the company's members to confirm the accuracy of the information. This member-checking process helped to validate the analysis and enhance the credibility of the findings (Denzin & Lincoln, 2011).

4 Results

Leaders recognised that the implementation of the hybrid workplace required a stronger attention to the social dimension, to nurture not only a sense of belonging to the team and to the organisation, but also to promote the quality of interpersonal relationships and allow informal communication to occur. In the full presence workplace such relationships are expected to emerge spontaneously, whereas when employees combine remote and onsite work, the social context of work needs to be intentionally sustained, especially through leaders' interventions.

When hybrid working was implemented in GAMMA, managers inserted formal tools to facilitate in-person meetings, for example a shared excel was created where everyone had to declare their presence to allow colleagues to be able to find them in the office if necessary. Over time this tool has no longer been used, in favour of a more spontaneous organisation, simply going to the office and meeting who is there at that moment. This required leaders starting to manifest new behaviours and implementing dedicated practices aiming at intentionally fostering informal communication and building relationships both in the virtual and physical workplaces.

Table 1 illustrates how leaders implemented intentionally brokering behaviours to intervene as an intermediator when social relationships seem to be jeopardised.

Behaviours	Definition	Quotations
1. Acting as a hub for incidental conversations spreading	Leaders facilitate the sharing of informal information that is not equally delivered when Alters are not onsite	"*Meetings have certainly increased a lot, even one-to-one: obviously it was the only way to discuss. They replaced a bit the coffee machine time*" (Development Centre Director)
2. Promoting active participation in online communication	In online communication, leaders try to facilitate the active participation of all Alters who might be inhibited by the online context. They show how to carefully manage the interventions and capture the non-verbal expressions of Alters, so that everyone can participate.	"*In a remote meeting you also need to be careful about the timing for letting others speak because sometimes it is easier to cut people off."* (Development Centre Director)
3. Engaging with physical presence	Leaders ensure that Alters develop/maintain relational engagement to the team and the company by spending time in presence (e.g., facilitate integration of dispersed teams, induction of new hired)	*"There are moments where it is better to be there, if the team faces difficulties, or you have to deal with specific problems, or the induction of new hires. We do it in person where possible because at least the relationship with all company functional areas is also created."* (PM Leader)

4. Matching the contents of knowledge to the appropriate relational settings	Leaders improve the quality of communication among Alters deciding the most effective modes of organising meetings. In presence meetings are encouraged and perceived with more value when the themes involve informal and emotional information or when the topic is particularly complex.	*"Undoubtedly, we prefer to organise some team meetings in presence because non-verbal communication is much easier, i.e. human contact helps much more, it is clear that one does not do the team meeting every day and therefore maybe do it once every fortnight or once a month can make sense* (Director of the pilot business unit).
5. Collecting emotional clues for designing social interactions	As an empathic sentinel, leaders devote attention to the relational needs of Alters and introduce changes in the interactions modes to guarantees the quality of the relationships	After a period of online management meetings, the Leader proposed to do them in presence: "*Then I said: let's try to do the meeting - without forcing anyone - in person (..) And they thanked me because they said: yes, we needed to be together."* (Managing Director Italy)
6. Challenging mindsets to get new communication modes accepted	Leaders ensure the assimilation of new ways of working (specifically: hybrid work) into the Alters' mindset to overcome potential prejudice that create barriers on the use of specific online and in presence communication tools. In so doing leaders foster the adoption of a wide array of social interaction modes.	The Leader proposes an organisational change by working by unit rather than by site, also supported by the introduction of hybrid work that overcomes geographical barriers: *"The organisational change I brought with me was to shift the logic from site-centric to unit-centric."* (Managing Director Italy)
7. Building bonds among Alters to cultivate a sense of belonging to the team/company	Leaders favour social events with the aim to foster interpersonal ties in order to reinforce Alters' positive psychological feeling toward the teams and the overall company	*"We have done a lot more team building in the last few years than in the previous ten years and in some ways it was necessary to rethink the way we work, so it is true that we manage everything remotely, but then it is necessary that the managers meet in presence their collaborators working in the different sites."* (HR Director)

Table 1. Brokering behaviours of orchestrator leaders in hybrid workplaces.

5 Discussion and conclusion

The study analysed how in response to the changes in the social dynamics in a hybrid workplace, team leaders play the role of orchestrators of relationships. This means they are responsible for facilitating meaningful connections and fostering collaboration through both synchronous (real-time meetings) and asynchronous (written or recorded exchanges) communication methods. Additionally, leaders actively create opportunities for employees to interact in hybrid settings to prevent the erosion of social capital. In this regard, we found leadership promoting i) visibility, both on site and online leaders tended to give higher relevance to being visible to their team members; ii) reachability, by planning one-to-one meetings to exchange ideas in a direct and personal way; iii) spontaneity in the organisation of time and meetings. Moreover, we found that the switching between virtual and face-to-face working modes was mainly derived by the content and meaning of the activity at stake. The classification provided on leader's brokering behaviours enrich the debate on the new role leaders are expected to play in a hybrid setting, which is in line with recent studies pointing out a shift in leaders' role and competencies when they operate a in hybrid working environments (Yuzi & Mbokota, 2024; Weber et al., 2022).

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ORGANIZING IN MOTION. MOBILITY AS A DRIVER OF ORGANIZATIONAL INNOVATIONS

Research Idea

Francesca Chiara Serri, University of Cagliari, Cagliari, Italy, francescac.serri@unica.it

Abstract

Traditional ways of organizing are based on fixity, stability, and hierarchy; they are, therefore, unable to effectively represent new organizational realities in social environments characterized by unpredictability. This work examines how mobility, fluidity, and decentralization can lead to organizational innovations. Instead of relying on empirical evidence, I present a theoretical model that was developed through thinking with theory and conceptual synthesis. Based on two dimensions, the source of value generation (individual vs. collective) and reality orientation (realist vs. speculative), I distinguish and propose four ideal forms of organizational innovations. These include hypothetical ideas of flexible and collaborative organizational life, as well as transitional adjustments made within already-existing institutions. This work broadens the conceptual scope of organization theory by focusing on conditions of uncertainty rather than continuity. It challenges academics and professionals to reconsider organizing as an active, emerging process that is adaptable, grounded in movement, and receptive to different unpredictable scenarios.

Keywords: Mobility, Fluidity, Thinking with theory, Organizational innovations

1 Introduction

Mobility, dispersion, and managing unpredictability are becoming increasingly central to organizational life. While dominant modes of organizing have traditionally been grounded in assumptions of permanence, stability, and clearly defined boundaries (Rivkin & Siggelkow, 2003; Sydow et al., 2025), emerging work paradigms are now marked by greater temporal fluidity and decentralization (Green, 2020; Schlagwein & Jarrahi, 2020). As these shifts unfold, there is a growing need, and a noticeable move in the focus, toward understanding how organizing might take shape under such unpredictable and dynamic conditions (Coletta et al., 2020; Engebrigtsen, 2017; Kabachnik, 2012). While much has been written about traditional organizational forms rooted in hierarchy, permanence, and predictability, we know less about whether and how organizational innovations arise when these foundations are absent, blurred, or intentionally resisted (Damanpour, 2017; Santos & Eisenhardt, 2005; Sydow et al., 2025). More recently, across diverse fields, whereby flexible organizational designs are related to gig work, project-based collaborations, and decentralized platforms from pop-up enterprises to remote collectives, actors are engaging in organizational practices that challenge the fixity of place, structure, and temporality (Engebrigtsen, 2017; Merkel, 2022; Nash et al., 2021). These emerging practices raise important questions about how organizing occurs when coordination is improvised, boundaries are porous or not at all present, and values are co-created in a process (Frick & Marx, 2021; Lucas, 2014). Regrettably, researchers know less than we should about the impact of mobility and fluidity on the emergence of innovative organizational designs. In this paper, I investigate how alternative logics of organizing, characterized by movement, transformation, and impermanence, give rise to organizational innovations. In doing so, I ask: How do mobility and constant change influence the emergence and development of organizational innovations? To explore this research question, I develop a theoretical model grounded in thinking with theory and conceptual reasoning. Rather than seeking to identify

empirical evidence, I aim to offer a generative theoretical framework for thinking about how organizing can progress under different conditions. As findings, the proposed ideal modes to generate organizational innovations, ranging from transitional adaptations within existing institutions to speculative visions of fully fluid organizational life, I suggest a conceptual map for understanding organizing beyond the bounds of traditional theory. By theorizing from conditions of instability rather than stability, this contribution seeks to define and describe such organizational innovations in a prefigurative rather than prescriptive way. Not describing what organizing is, but in articulating what organizing could become (Deleuze & Guattari, 1986; Engebrigtsen, 2017; Peters, 2013). In doing so, I expand the imagination of organizational theory and provide conceptual tools for navigating a world in evolution.

2 Theoretical Background

2.1 Revisiting Movement and Fluidity in Social and Organizational Thought

For a very long time, the idea of being in motion has had a physical meaning. In its anthropological roots, this way of life referred to mobile communities that structured their livelihoods around movement, adaptability, and the strategic use of space. These traditional forms of living, studied among groups such as the Basseri, Inuit, Maasai, and Roma, emphasized relationality, flexibility, and non-permanence (James & Southern, 2019). Even though mobility defined their patterns of life, academic focus was often oriented toward their internal social organization rather than on movement itself (Dwyer & Istomin, 2008). More recently, the figure of the traveler or wanderer evolved into a powerful metaphor in philosophical and cultural discourse. As Peters (2013) notes, movement and fluidity are increasingly associated with values of resistance to rigidity and the refusal of territorial constraints. Philosophers such as Deleuze and Guattari (1986) reimagined mobile life as a symbol of becoming and transformation. Their work introduces a conceptual framework that challenges hierarchical, state-like structures through an alternative logic rooted in movement, multiplicity, and exteriority. Central to this philosophical stance is the contrast between the "*war machine*" and the "*state*". The state embodies control, classification, and institutional permanence. In contrast, the war machine operates through openness, decentralization, and a refusal of structure. Within this framework, the mobile actor is not merely one who physically travels, but one who metaphorically resists capture, continually transforming and escaping static definition. This conceptual theoretical framework presents an invitation to think beyond traditional, static categories (Engebrigtsen, 2017). While these ideas have been explored across disciplines like sociology and philosophy, their implications for organizing remain relatively overlooked. *How do mobility and constant change influence the emergence and development of organizational innovations?*

3 Methodology

3.1 Thinking with Theory

Given the novelty and underexplored nature of the research topic, conventional empirical approaches such as case studies, surveys, or observations were not feasible due to the absence of available data or real-life settings. To address this gap, a qualitative theoretical method known as thinking with theory was adopted. This approach allows for the co-constitution of theory and data, enabling the generation of new conceptual frameworks through dynamic interpretation and theoretical engagement. Developed by Jackson and Mazzei (2011), thinking with theory treats data, here, textual and conceptual, as material to be read through various theoretical lenses. Rather than following linear coding strategies, the method involves a continuous process of "*plugging in*" theoretical concepts to interrogate and reinterpret data, pushing beyond static interpretations to generate novel insights.

3.2 Conceptual Lens

To complement the post-qualitative methodology, the study draws on a theoretical perspective that privileges movement, multiplicity, and non-linear thinking (Cornelissen et al., 2021). This lens resists fixed categories and instead emphasizes fluidity, disruption, and the capacity to navigate across boundaries, geographic, conceptual, and organizational. Rather than seeking stable definitions or static models, this perspective encourages an exploration of how practices, identities, and structures shift across contexts and over time. It supports an analytical approach that traces connections, ruptures, and emergent forms, allowing for a more open-ended engagement with the data. By foregrounding complexity, adaptability, and the potential for alternative modes of organizing, this lens proves especially suited for examining phenomena that challenge conventional frameworks.

4 Findings

The conceptual exploration presented in this paper produced several early-stage insights into how principles of movement, fluidity, and transformation may offer alternative lenses through which to consider future organizational innovations. Early-stage insights of the ideal modes of organizing in uncertain conditions are: first, organizing might be imagined not as a fixed or centralized design but as a more adaptive, dynamic process shaped by shifting roles, contexts, and relationships. Second, temporality may no longer follow a linear or permanent model; instead, organizational innovations could emerge around specific purposes and dissolve once their goals are achieved. Third, coordination may be sustained not by formal hierarchy, but through shared purpose, mutual awareness, and flexible roles. These insights support a move toward conceptualizing organizing as a fluid and responsive activity, one shaped by interaction, movement, and ongoing negotiation. The findings remain speculative and exploratory by design, but they invite further reflection on how organizing might evolve in increasingly uncertain and mobile contexts. No attempt is made here to generalize or finalize these ideas. Rather, they are presented as conceptual thinking and experiments, as initial provocations to inspire continued theoretical development and future empirical exploration.

5 Discussion and Conclusion

This paper has proposed an early-stage conceptual exploration of how ideas related to fluidity, movement, and transformation might offer alternative ways of thinking about and theorizing on organizing. Rather than describing a new theoretical model, the goal has been to inspire reflection on assumptions that underpin conventional organizational theory, including hierarchy, permanence, and control. The main contribution is primarily the introduction of a set of guiding ideas that challenge rigid forms of organizing and suggest possible openings for imagining more adaptive and responsive configurations. These reflections are grounded in a conceptual synthesis that draws on philosophical reasoning and future-oriented thinking, rather than on empirical or prescriptive claims. From a theoretical standpoint, the paper encourages scholars to remain open to the evolving nature of organizing, especially in a context marked by uncertainty, technological change, and shifting social values. It aligns with emerging interest in speculative and future-oriented theorizing as a tool for embryonic possibilities that cannot yet be fully observed or measured. In practice, while no direct applications are proposed, the ideas presented may resonate with practitioners seeking to rethink coordination, participation, or temporality in flexible settings. Rather than offering definitive answers, this work provides conceptual tools to support deeper inquiry into organizational innovations.

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BRIGHT AND DARK SIDES OF HYBRID WORK MODELS IN THE PUBLIC SECTOR: A SOCIAL SYMBOLIC PERSPECTIVE FROM THE ITALIAN CONTEXT

Short Paper

Daniela Aliberti, Università Cattolica del Sacro Cuore, Milan, Italy, daniela.aliberti@unicatt.it

Lucio Todisco, Università degli Studi di Napoli Federico II, Naples, Italy, lucio.todisco@unina.it

Abstract

Ongoing academic debates explore how institutional theory can address the social changes and megatrends shaping our societies. One prominent trend is the rise of hybrid work models, especially after the pandemic, with studies examining their benefits and challenges. These studies highlight how public and private organizations, supported by technological and scientific advances, shape individuals' experiences and perceptions of work and society. Adopting a socio-symbolic perspective offers valuable insights into how institutions—and the public organizations within them—constitute a meaningful context for understanding the opportunities and challenges of hybrid work, along with its socio-symbolic implications. This perspective allows us to see how institutions influence the collective interpretation of hybrid work, mediating its effects on individuals and society. The aim of this study is to examine how the socio-symbolic perspective can support the role of institutions, particularly the public sector and policymakers, in navigating ongoing social changes in the context of hybrid working.

Keywords: hybrid working; socio-symbolic perspective; public sector.

1. Introduction and research question

Ongoing scholarly discussions explore how we should contextualize institutions to better understand the systemic mechanisms through which our societies, and the organizations embedded in them, function (e.g., Amis et al., 2018, 2020) to tackle the social changes, "megatrends" and "grand challenges" we are currently witnessing (e.g., Ferraro et al., 2015; Guston, 2014; Todisco et al., 2024).

One trend we are observing is the one of hybrid work models (e.g., Wheatley et al., 2024), with studies exploring bright and dark sides of them, especially after its implementation became critically necessary in 2020 and in the years that followed. These studies delve into how both public and private organizations—mostly due to technological and scientific innovations—increasingly influence people's experiences and perceptions of workplaces and societies. Some highlight the benefits that rethinking ways of working has brought to individuals as members of society (e.g., more time in a hybrid work model translates into more time to dedicate to oneself, one's family, and one's community outside the workplace) (Krajčík et al., 2023; Wheatley et al., 2024). The theme of hybrid work is outlined within the line of analysis of technological megatrends, i.e. those long-term influences that significantly influence social and organizational contexts through the use of technologies (D'Cruz et al., 2022; Ng et al., 2025).

Positioned within the broader analysis of technological megatrends, the study of hybrid work offers a valuable lens to examine how technology, organizational practices, and institutional structures intersect in shaping societal change. However, despite its relevance, there remains a need for

frameworks that can systematically analyze how hybrid work practices are constructed, maintained, and contested within institutional contexts.

To address this need, the present study will investigate hybrid work within the public sector through the social-symbolic work perspective (Lawrence & Phillips, 2019; Phillips et al., 2025), which focuses on how individuals, organizations, and institutions actively engage in creating, sustaining, and transforming social-symbolic worlds (Aliberti et al., 2024; Creary, 2025; Pradies et al., 2021). This perspective advances institutional theory by unpacking the *work* embedded in material, discursive, and relational practices through which institutional actors navigate social and technological changes (Wright et al., 2024). As argued by Amis and colleagues (2018, 2020), leveraging such perspectives is essential to understand the systemic mechanisms through which institutions simultaneously enable and constrain mechanisms of social inequality.

Applying the social-symbolic work perspective to hybrid work allows us to examine how technological transformations intersect with organizational and institutional practices, illuminating the micro-processes and agency of institutional actors in navigating these shifts. It further enables the exploration of reflexivity and positionality (Creed et al., 2022; Jacobson & Mustafa, 2019; Mandalaki, 2023) in shaping how individuals within public organizations interpret and act upon hybrid work arrangements, linking personal motivations and sensitivities to broader institutional dynamics (Tuominen, 2024).

In this way, this study positions hybrid work not merely as a technological or managerial phenomenon but as a social-symbolic practice where institutional actors negotiate meanings, identities, and boundaries within a rapidly evolving context. This approach provides a pathway to investigate how public sector institutions can critically engage with hybrid work to address broader societal challenges associated with digital transformation while considering the socio-symbolic implications for individuals, organizations and institutions.

Accordingly, we ask the following overarching research question:

> *How can the socio-symbolic perspective, when applied to digital transformation processes, illuminate the role of institutions (e.g., the public sector, policy makers) in navigating ongoing social changes?*

2. Theoretical background

Recent advances in institutional theory, particularly the social-symbolic perspective (Lawrence & Phillips, 2019), offer a valuable framework for analyzing how institutions construct, maintain, and transform social-symbolic worlds through individual, organizational, and institutional forms of work (Aliberti et al., 2024; Pradies et al., 2021; Wright et al., 2024; Phillips et al., 2025). This perspective enables researchers to examine material, discursive, and relational patterns within social systems, shedding light on how institutions simultaneously enable and constrain social inequality (Amis et al., 2018, 2020).

Institutions, often characterized by rigidity and a tendency to reproduce existing structures (DiMaggio & Powell, 1983), frequently resist critical and emancipatory change (Willmott, 2015). However, micro-dynamics of institutional work (Cardinale, 2018) can activate reflexivity, allowing key institutional actors—particularly within the public sector—to engage in practices that support institutional change (Tuominen, 2024; Karakulak & Lawrence, 2024). These micro-level processes are critical in contexts where technological change and organizational practices intersect, offering potential pathways for transformation despite institutional inertia.

Indeed, extant studies indicate that new ways of working, rather than fostering freedom, can intensify oppression and control within organizations (Ashikali et al., 2021; Charbonneau & Doberstein, 2020; Tomo, 2023). Rapid technological advancements have been linked to shifts in identity, emotional experiences, relational management, and perceptions of inequality within organizational and societal contexts (Bankins & Waterhouse, 2019; Todisco et al., 2021; Tomo, 2023). For instance, organizational rituals function as mechanisms of social control, shaping employee experiences through communicative signalling, relational coordination, and affective influence (Islam & Sferrazzo, 2022).

Among the most recent advancements in institutional theory, the social-symbolic work perspective (Lawrence & Phillips, 2019) has proven particularly useful for analyzing how new social-symbolic worlds are constructed. Studies employing this framework address social issues by examining the forms of "work" undertaken by individuals, organizations, and institutions, spanning self-work, organizational work, and institutional work (Aliberti et al., 2024; Barberá-Tomás et al., 2019; Creary, 2025; Pradies et al., 2021; Wright et al., 2024). These forms of work can be analyzed through patterns within social systems—material (e.g., artefacts), discursive (e.g., language and narratives), and relational (e.g., social interactions)—providing a toolkit to understand how individual, organizational, and institutional efforts are interconnected in driving, or resisting, social change (Amis et al., 2018, 2020).

Given that institutions often promote sameness and repetition across individuals, organizations, and societies (DiMaggio & Powell, 1983), they are not inherently designed to be critical or emancipatory forces (Willmott, 2015). This makes it particularly compelling to explore the world of work post-2020, as scholars begin to examine the transformations triggered by hybrid and remote working arrangements (Wheatley et al., 2024). However, a multi-level perspective emphasizing the micro-dynamics of institutions remains underexplored, yet it is crucial for understanding how change is activated, recognized, and sustained by key institutional actors (Cardinale, 2018).

Public sector employees are central actors in driving institutional change, and recent studies illustrate how they can activate reflexivity and facilitate transformation within institutional contexts. For example, Tuominen (2024) applied the institutional work lens to a Finnish city administration, identifying distinct reflexive patterns that enabled institutional change. Similarly, Karakulak and Lawrence (2024) examined partnerships between public administration and NGOs in Turkey, highlighting how gender discrimination was addressed through diverse forms of social-symbolic work emerging at the institutional level.

To fully grasp the transformations associated with hybrid working, it is essential to account for digital transformations and the ethical and cultural challenges posed by emerging workplace technologies, including concerns around surveillance, algorithmic bias, and inequality (Zuboff, 2022; De Vaujany et al., 2021; Lindebaum et al., 2023). These dynamics intersect with reflexivity (Mandalaki, 2023) and positionality (Jacobson & Mustafa, 2019), concepts that illuminate how individuals' motivations, perspectives, and sensitivities influence their engagement with institutional practices and shape possibilities for transformation (Creed et al., 2022; Aliberti et al., 2024). Creed and colleagues (2022) introduce the construct of "worlds of concern," capturing how reflexivity enables renewed sensitivities and vulnerabilities around social issues, thereby encouraging different forms of individual and collective action. This construct has recently been used to connect individual awareness and engagement with the potential for social intervention (Aliberti et al., 2024).

In this light, the social-symbolic work perspective offers a powerful lens to investigate hybrid work as a site of social and technological change, revealing how individuals within public organizations, as embedded institutional actors, navigate and shape the bright and dark sides of hybrid working arrangements.

This perspective enables the systematic analysis of how hybrid work is constructed, maintained, and contested within institutional contexts, providing critical insights into the interplay between digital transformation, inequality, and institutional agency in contemporary societies.

3. Methodological approach

To address the research question—how the socio-symbolic perspective can illuminate the role of institutions in navigating social changes through digital transformation processes—a qualitative methodological approach is recommended. This approach is well-suited to capture the complexity of socio-symbolic work enacted by institutional actors as they respond to technological transformations and hybrid work arrangements within the public sector.

Focus groups, semi-structured interviews, and ethnographic observations represent particularly effective methods for investigating these dynamics. Focus groups, typically involving small groups of 4–8 participants (Cassell & Symon, 2004; Morgan & Spanish, 1984), enable the exploration of

collective sensemaking, shared narratives, and reflexive dynamics around hybrid work practices, surfacing diverse perspectives on the perceived impacts of digital transformation within public organizations. Semi-structured interviews complement this by allowing deeper exploration of individual experiences, emotional reactions, and personal narratives (Creary, 2025), providing insights into how self-work connects with organizational and institutional forms of work (Lawrence & Phillips, 2019). Ethnographic observations, even in short-term or hybrid formats, can capture the material, discursive, and relational patterns that characterize organizational life, revealing how digital technologies and hybrid work structures are enacted in practice (Islam & Sferrazzo, 2022).

Reflexivity and positionality should be systematically integrated throughout the research process. Researchers are encouraged to engage in reflexive journaling and peer debriefing (Mandalaki, 2023) to surface their assumptions, positionalities, and 'worlds of concern' (Creed et al., 2022), ensuring these factors inform data collection and analysis without overshadowing participants' voices. In focus groups, reflexivity can be fostered by using open-ended prompts and encouraging participants to articulate their values, concerns, and motivations regarding technological change and hybrid work (Jacobson & Mustafa, 2019). During interviews, positionality can be acknowledged through transparent researcher disclosures and by inviting participants to reflect on how their roles, identities, and institutional positions shape their experiences and viewpoints. Ethnographic observations should include reflexive fieldnotes documenting the researcher's evolving positionality, emotional reactions, and situated interpretations of observed practices and interactions (Ybema et al., 2009).

This combination of methods allows for a multi-level investigation consistent with the socio-symbolic perspective (Lawrence & Phillips, 2019), illuminating how individual, organizational, and institutional forms of work interact within the context of digital transformation. It supports an analysis of how hybrid work arrangements are constructed, maintained, and contested through material artefacts, discursive practices, and relational interactions (Amis et al., 2018, 2020; Aliberti et al., 2024).

In summary, a qualitative multi-method approach integrating focus groups, interviews, and ethnographic observations—underpinned by systematic reflexivity and positionality—provides a robust framework for empirically investigating how institutions navigate social change through digital transformation. This approach enables researchers to capture the bright and dark sides of hybrid working arrangements within institutional contexts, aligning with calls for nuanced, critical, and contextually grounded studies of socio-symbolic work in the contemporary world of work.

In Table 1, we provide summary of the feasible qualitative methods, how they could integrate notions of reflexivity and positionality, and expected outcomes in relation to our research question.

Method	**Focus**	**Integration of Reflexivity/ Positionality**	**Expected Outcomes**
Focus Groups	Collective sensemaking, shared narratives, and reflexive dynamics around hybrid work practices within public organizations.	- Use of open-ended prompts to encourage participants to reflect on values, concerns, and motivations. - Researcher positionality statements disclosed to participants. - Group debriefing to capture researcher assumptions and biases.	Insights into collective socio-symbolic work and shared interpretations of digital transformation impacts, capturing tensions and alignments among actors.

Method	Focus	Integration of Reflexivity/ Positionality	Expected Outcomes
Semi-Structured Interviews	Individual experiences, emotional reactions, and personal narratives regarding technological change and hybrid work.	- Reflexive journaling before and after interviews to surface researcher's assumptions and worlds of concern. - Encouraging participants to reflect on how their roles and identities shape their experiences.	Deepened understanding of individual-level self-work and its connections with organizational and institutional dynamics.
Ethnographic Observations	Material, discursive, and relational patterns in the enactment of hybrid work and digital technologies within organizations.	- Maintaining reflexive fieldnotes documenting researcher's positionality, emotional reactions, and situated interpretations. - Peer debriefing to discuss observed practices and potential biases.	Rich, contextualized insights into day-to-day practices, revealing how hybrid work arrangements are constructed, maintained, or contested in practice.

Table 1: Overview of feasible methodological approaches for addressing the research question

4. Discussion and future points

In this paper, we ask how the socio-symbolic perspective, when applied to digital transformation processes, can illuminate the role of institutions—such as the public sector and policymakers—in navigating ongoing social changes. To do so, we focus on institutional actors within the public sector who hold organizational positions within local and decentralized central administrations, as they are central to enacting and shaping institutional responses to technological change and hybrid work arrangements.

Research on the agency of public sector actors (e.g., Zietsma & Lawrence, 2010; Tuominen, 2024; Lawrence et al., 2013, 2019, 2024) emphasizes the need to analyze specific socio-symbolic objects—such as organizational practices and boundaries (Lawrence & Phillips, 2019)—to understand institutional change processes. In the domain of hybrid work arrangements, practices and boundaries related to the management of time and space are particularly relevant, often revealing underlying conflicts and negotiations (Beyes et al., 2022; Hughes et al., 2020).

To address these dynamics, a qualitative methodological approach based on focus groups, semi-structured interviews, and ethnographic observations is the best choice for developing future research and analyzing material, discursive, and relational patterns within the workplace (Lawrence & Phillips, 2019). Indeed, this approach allows for a deeper understanding of how hybrid work arrangements are interpreted, managed, and implemented, both collectively and individually, by the institutional actors involved, highlighting how technological change intersects with organizational practices, power structures, and socio-symbolic worlds.

Focus groups facilitate the exploration of collective sensemaking and reflexive dynamics, revealing shared interpretations and tensions surrounding hybrid work. Semi-structured interviews allow a deeper investigation into personal narratives, emotional responses, and individual reflexivity tied to hybrid work experiences. Ethnographic observations provide contextualized insights into the day-to-day enactment of hybrid work and digital technologies, making visible the material and relational aspects of technologization as a socio-symbolic practice tied to control (Zuboff, 2022) and how these practices are negotiated by institutional actors within the public sector.

Incorporating reflexivity (Mandalaki, 2023) and positionality (Jacobson & Mustafa, 2019), our methodological approach attends to how researchers and participants co-construct knowledge throughout the inquiry process. We consider how participants' worlds of concern, sensitivities, and situated experiences shape the construction of socio-symbolic work (Aliberti et al., 2024; Creed et al., 2022), and how researcher positionality influences the interpretation and representation of the phenomena under study.

With the theoretical assumptions set out and through this approach, we aim to identify and analyze meaningful practices and boundaries tied to hybrid work post-2020, examining how institutional actors engage with, resist, or reconfigure digital transformation processes within the constraints and possibilities of their institutional environments. This enables us to critically examine how managerial dynamics emerging in hybrid work contexts impact organizational functioning, individual well-being, and broader institutional trajectories within the public sector.

In this way, in perspective, we contribute to the discussion on the critical role of institutions in navigating technological and social change by providing empirically grounded insights on how institutional actors interpret and engage with hybrid work and digital transformation processes. This investigation foregrounds situatedness (Lawrence & Phillips, 2019) and positionality as critical lenses for understanding the complex, layered dynamics through which institutions simultaneously enable, constrain, and transform in response to societal shifts.

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ENHANCING DECISION-MAKING PROCESSES THROUGH MANAGERIAL TRAINING AND BEHAVIOURAL COMPETENCIES: AN ANTICIPATORY GOVERNANCE PERSPECTIVE

Short Paper

Lucio Todisco, University of Naples Federico II - Department of Economics, Management, Institutions, Naples, Italy, lucio.todisco@unina.it

Andrea Tomo, University of Naples Federico II - Department of Economics, Management, Institutions, Naples, Italy, andrea.tomo@unina.it

Gianluigi Mangia, University of Naples Federico II - Department of Economics, Management, Institutions, Naples, Italy, gianluigi.mangia@unina.it

Paolo Canonico, University of Naples Federico II - Department of Economics, Management, Institutions, Naples, Italy, paolo.canonico@unina.it

Federica Langella, University of Naples Federico II - Department of Economics, Management, Institutions, Naples, Italy, federica.langella2@unina.it

Abstract

In an era of rapid economic, technological, and social changes, traditional governance models are experiencing a deep crisis. This has become one of the main topics of academic debate on how public administrations can be more proactive. Existing managerial approaches and tools to deal with these phenomena of uncertainty are lacking, which is why the Anticipatory Governance (AG) approach finds strength in public administrations. AG fosters a proactive dimension of public action, integrating decision-making, forecasting, innovation, and learning processes. In this contribution, based on empirical work, we will focus on how AG is perceived in Italian public administrations and how it can be successfully implemented, paying particular attention to its relationship with managerial training and behavioural skills.

Keywords: Anticipatory Governance, public sector, managerial training

1. Introduction

In an era characterized by rapid economic, technological, and social changes, traditional governance models are experiencing a profound crisis. This becomes one of the main themes of reflection on how public administrations can be proactive concerning these increasingly pervasive societal changes. Already, Bauman (2013), introducing the concept of "liquid society," has focused on how technological, economic, and social changes have eroded the security and predictability that defined individuals' working and family lives. This has determined instability in work, organizational, relational, and social well-being dynamics. A process that, over time, has eroded the individual's

identity and blurred the boundaries of his actions. In addition to a dimension more closely linked to the individual aspect of the person in the organization and society, these phenomena have also had consequences on the speed of decision-making processes, influencing changes in how and in what way public administrations can respond to the challenges of change, to try to anticipate the potential impacts of these changes with innovative actions. (Ansell & Boin, 2019). The approaches and tools that still exist to deal with these phenomena of uncertainty are of little support, and this is why the approach defined as Anticipatory Governance (AG) finds strength in this scenario. AG translates into specific tools and methodologies to integrate foresight into decision-making processes. These aim to answer continuous uncertainty situations within increasingly connected and complex systems. AG promotes a proactive dimension of public action, integrating decision-making, foresight, innovation, and learning processes. Although the AG has interesting and valuable tools to intervene in complexity and find roots in public organizations, thinking about innovative managerial practices becomes necessary. These training processes are "tailor-made" and have new relational dynamics in highly bureaucratized contexts. In this contribution, we will focus on how to successfully implement AG in public administrations, with particular attention to its relationship with managerial training and behavioral skills, and how it can find an important place in rethinking public organizations and promoting a greater centrality of individuals in public contexts.

The paper is based on an online survey of 42 Italian public employees regarding their perceptions of AG. The paper is structured as follows: Section two focuses on the contrast between the logic of urgency and public sector response processes. Section three explores the concept of AG from a theoretical perspective, examining how it can serve as a tool to support change processes in the public sector. Section four focuses on the research methodology and context, and finally, Section five discusses preliminary findings, initial conclusions, and future perspectives.

2. Beyond the logic of urgency: public administration between complexity and management of uncertainty

The topic of how to address the challenges dictated by megatrends is important to understand how public administrations can play a central role within complex and uncertain social contexts (Ferraro et al., 2015; Gümüsay & Reinecke, 2021).

To achieve this, public administrations must first undergo a paradigm shift, focusing on providing answers to complex issues by directing their decision-making processes toward achieving quality goals, citizen satisfaction, and organizational well-being. (Linthrsot & de Waal, 2020; Pollitt, 2016). However, the idea that it is possible to map all possible scenarios of uncertainty and propose rapid actions to prevent future crises cannot be contemplated (Bordia et al.,2004). Accepting, instead, that uncertainty is a normal phenomenon in complex organizational contexts represents the starting point for going against that "logic of urgency" that often characterizes decision-making processes in public administration and defines the scale of priorities for intervention within offices, thus being able to reflect, in a systematic way, on which managerial actions can be undertaken to make public organizations proactive and attentive to changes (Ansell et al., 2021; Todisco et al., 2024).

In public contexts, responses to uncertainty must be able to move on two dimensions: one that we can define as operational and one as strategic. In the operational dimension, those interested are all those who work on the front line in public organizations: they are those professional figures, those officials, who can intercept the challenges coming from the closest territorial and social contexts and who can, in a bottom-up logic, support the intervention phase and the decision-making phase. In the strategic dimension, we find public management and political decision-makers responsible for responding to uncertainty. The issue, therefore, becomes what approaches we can imagine helpful in building public organizations that are more ready for increasingly uncertain and complex scenarios and that move away from the logic of urgency, favoring more functional and more "thought-out" decision-making processes.

3. Anticipatory Governance: between theory and managerial practice

Anticipatory Governance (AG) can be considered an evolution of theoretical studies on forecasting processes in public organizations. It represents an exciting approach to responding to contemporary social and economic challenges to give sense and meaning to the challenges of uncertainty and complexity. The concept of complexity, in particular, is part of AG.

Fuerth (2009) states that traditional systems of public policy formulation are based on the assumption of linearity. For this reason, due to this influence, the thought prevails that there is a single solution for every problem. Therefore, the belief that an "unpacking" of complex problems is possible has evolved so that, through this "unpacking" of the problems, it is still possible to maintain the overall coherence of thought that leads from the decision-making process to the resolution of a given problem. (Koskimaa & Raunio, 2024; Poli, 2019). However, this fragmentation entails the risk of losing sight of the unity of the process and the fact that complexity must be read in its unity, starting from evident and structured premises. For this reason, the AG represents a valuable approach in public administration to promote a strategic and unitary vision of reading contexts and public interventions. Its success is crucial to the relationship between individuals, organizations, and complexity. In the relationship between individuals and organizations, it is possible to effectively address complexity challenges through participation, decision-making flexibility, and the diffusion of knowledge (Poli, 2021).

AG is based on solid theoretical dimensions and is valuable for motivating the foresight of political choices and the involvement and integrity of public decision-makers in action. However, some critical elements of AG must also be considered. In order for the AG to be functional, it cannot ignore two further aspects. One concern is the ability of public administrations to analyze the enormous amount of data generated thanks to enabling technologies (for example, artificial intelligence, predictive models, and big data). Another critical element concerns the active participation and involvement of multiple internal and external actors in decision-making. It is widely recognized that the complexity of current challenges requires more effective collaboration both within offices and externally with different stakeholders, including citizens, firms, and NGOs. Public administrations implementing these dynamics of relationships and collaborative approaches can improve the effectiveness of anticipatory governance (Campion et al., 2022; Muiderman et al., 2022). Flexibility is another critical element of anticipatory governance, attributable to organizational adaptability. Public organizations must be ready to adapt their managerial practices and strategies in response to new information or changes in the reference contexts to ensure timely and effective responses. It is possible to identify different fields of application of AG in the context of future studies. One is healthcare and public health. The pandemic has highlighted how AG can help manage public health. Countries with pre-existing pandemic plans and well-directed economic and human resources can address and respond more effectively to the scenario generated by the emergency (Boyd & Wilson, 2021; Gonzalez-Aquines & Kowalska-Bobko, 2022).

Another field of application concerns climate change. Public decision-makers who adopt AG approaches in this field can take actions based on advanced climate models, thus trying to prevent or mitigate the negative impacts of climate phenomena in the long term. AG also intervenes in the field of technology. The advent of new technologies is radically changing how people live and work, affecting organizational well-being, relational dynamics, and new forms of work. For example, the effective use of artificial intelligence, robotics, or other workplace innovations can encourage the development of new ways of working in which technologies play a crucial role or spread increasingly innovative services to citizens. The challenges that arise from new forms of work fall squarely within the scope of the AG. New ways of working represent a disruptive change for public administrations, modifying, on the one hand, the relationships between employees and the relationship with citizens and, on the other hand, the skills and knowledge to be acquired to work in innovative workplaces. (Fuerth, 2009; Ramos, 2014).

Furthermore, in light of the theoretical framework described in the previous paragraph, AG is a valuable approach to in-depth thinking about how it can improve organizational well-being within public organizations. The topic of organizational well-being is increasingly central to the organizational debate aimed at understanding the functioning mechanisms of public administrations in uncertain contexts. Organizational well-being should not be framed only in terms of rethinking the role of the individual and relational dynamics within public organizations, but also in terms of a different way of framing work in the public sector.

AG is a helpful approach to support some of the challenges that concern public administration. First of all, a public organization that adopts an anticipatory governance approach may be able, within complex systems, to identify potential stress factors and risks arising from internal and external changes. Just think, as previously written, about how technologies disrupt people's work and their relational dynamics. Implementing preventive actions can mitigate the impact, promote "tailor-made" training, and rethink work organization. AG can also promote engagement and create more resilient workplaces. Two dimensions must be considered regarding the involvement of public employees.

On the one hand, their involvement in scenario identification processes can foster greater awareness of organizational challenges, thus reducing uncertainty-related anxiety and stress. On the other hand, the introduction of AG approaches implies the creation of spaces for dialogue and collaboration by public management. These spaces reflect on the initiatives to be undertaken. In this way, creating a more resilient organizational context translates into public organizations that are better prepared to face crisis scenarios.

4. Research method: how to promote the diffusion of AG

This paper aims to frame the concept of Anticipatory Governance within an organizational context. The objective is to understand the perception of its diffusion and awareness within Italian public administrations, particularly local ones, which represent a key hub for addressing social challenges. The research was conducted within the Italian public administration, as part of an Italian PRIN project: "Towards an Anticipatory Governance System" (TAGS). The primary goals of the research were to understand public administration employees' perceptions of the usefulness of the AG as a model and tool for implementing new managerial practices.

The research was conducted by administering an online questionnaire to 42 public employees from various local public administrations and decentralized structures of central governments in two different rounds, April-May 2024 and November-December 2024. The concept of the Anticipatory Governance System was introduced to participants during training sessions on the topic. The choice of sample, consisting of public employees working in highly complex organizations, is consistent with the research objective. The questionnaire was structured in two parts for a total of 19 questions. The first, quantitative part, consisted of questions in which participants were asked to indicate their level of agreement or disagreement using a 1-5 Likert scale.

The qualitative part of the questionnaire was designed with open-ended questions to encourage participants to express their perceptions of AG, its potential applications, and the levers for promoting its diffusion. In the final section of the questionnaire, research participants were asked to indicate three keywords that could represent AG. This choice is based on the theoretical reflections of Moran (2021), who states that the use of keywords helps to activate an in-depth study of ongoing organizational and social changes, going beyond the semantic aspect and favoring the identification of defined themes. This paper analyzes some of the preliminary reflections that emerged from the analysis of qualitative data.

5. Preliminary findings, conclusions and future points

This contribution, part of a broader research work on AG, focused on how its adoption within public administrations can make them more proactive, with a significant impact on decision-making levels and the well-being of public employees. AG, which in a dimension linked to the logic of urgency can be seen as an approach far from the classic logic of public organizations, can instead find its roots if we reason on innovative managerial practices and "tailor-made" training processes. As highlighted in Table 1, the analysis of the responses of public employees participating in the research allowed us to identify some useful themes and to draw some conclusions regarding possible actions of conscious diffusion of AG in a scenario in which the theme is still not very widespread in the context of public administration.

Themes	**Aspects**
Training	Increase public employees' awareness of the relevance of the AG. Provide knowledge and skills to implement the AG. Encourages greater public employee involvement and improves behavioural competencies.
Managerial practices	Create spaces for dialogue and sharing to promote the implementation of the AG. Prepare public employees for the strategies to be implemented through involvement processes.
Technologies and new ways of working	Training that promotes a conscious use of technologies, reducing stress and uncertainty. Use technologies to support decision-making processes related to the AG.
Organizational well-being	AG-driven proactivity reduces organizational uncertainty Trained public employees are more aware of their role and the impact of the AG on decision-making processes

Table 1: Summary of the themes that emerged from the analysis of public employees' perception of AG

Training is perceived as a central lever in multiple ways. First, it is helpful for the greater involvement of public employees. This is because it is seen as capable of improving relational dynamics and as a support to counter resistance to an organizational culture oriented towards AG. Second, training is a helpful lever to increase public employees' awareness and skills on AG, providing practical knowledge to improve workplace dynamics and respond to organizational uncertainty. The other aspect that emerged in the research concerns implementing new managerial practices applicable to the diffusion of AG. The research participants perceived that public management is central to creating spaces for dialogue and involvement that can favor the implementation of AG. This is, therefore, linked to a different way of managing people within the organization. AG implies a change in public organizations concerning how people work and make decisions, which impacts how people are managed and the managerial practices that guide the involvement of public employees. Here, too, training is identified as a key factor in the processes of involving and preparing people for the required skills. Another aspect is linked to technologies and new ways of working. Training (technical and managerial) oriented towards an AG logic is perceived as promoting a conscious use of technologies, reducing stress and uncertainty, and encouraging a different way of working in organizations. In

general, the relationship between technologies and AG is perceived by the research participants in a dual role: on the one hand, as an opportunity to spread anticipatory governance, on the other, as a possibility to anticipate the difficulties connected to the new ways of working that new technologies encourage. This is again linked to the issue of training for public employees, which helps ensure, on the one hand, a reduction in the risks of uncertainty regarding the diffusion of technologies and, on the other, their conscious use. The AG, based on the analysis of the received answers, can promote the creation of training courses aimed at preparing for future changes. This way, people can effectively utilize new technologies, thereby addressing any gaps in their digital skills. Although not explicitly present in the questions posed, the connection between AG and organizational well-being emerges from the answers received. The proactive management of change processes (for example, technological) with competent public employee involvement (managerial practices) allows the creation of peaceful workspaces. In conclusion, a public administration that adopts an AG approach is better prepared to face the challenges of uncertainty and future changes, reduces the indeterminacy of the public employee's role, and reduces stress and uncertainty.

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IMPROVING TELEWORK SATISFACTION IN PUBLIC ORGANIZATION WITH A DUAL PERSPECTIVE: INSIGHTS FROM AN ITALIAN PUBLIC UNIVERSITY.

Short Paper

Costanza Baldrighi, University of Pavia, Pavia, Italy, costanza.baldrighi01@universitadipavia.it
Francesca Sanguineti, University of Pavia, Pavia, Italy, francesca.sanguineti@unipv.it
Pietro Previtali, University of Pavia, Pavia, Italy, pietro.previtali@unipv.it

Abstract

Telework (TW) is an increasingly popular work arrangement, even in public administration. While it offers benefits such as improved work-life balance and greater commitment, it also presents challenges that can negatively impact employees' experiences, including reduced communication with peers and supervisors and the blurring of boundaries between work and personal life. But what makes TW a positive experience? What factors facilitate or hinder its effectiveness for those who adopt it? Our study explores these questions by analyzing written feedback from employees and managers at an Italian public university; to strengthen our findings, we complement the qualitative analysis with sentiment analysis and interpret the results through the lens of JD-R theory. Our findings highlight autonomy as a key job resource, while lack of coordination emerges as the most frequently cited challenge. While contributing to the literature on TW satisfaction, we also emphasize the importance of feedback-driven policies in shaping more effective and sustainable TW arrangements.

Keywords: Telework, JD-R Theory, Employees' Feedback, Sentiment Analysis

1 Introduction

In recent years, telework (TW) has gained momentum in Public Administration (PA), particularly due to the COVID-19 pandemic, which forced many organizations to adopt remote work solutions rapidly (Edelmann & Millard, 2021). Today, despite variations in its implementation, TW remains a lasting work arrangement in many public institutions.

However, integrating TW into PA presents challenges: research has examined its effects on aspects like performance and employee retention (Carbonara, Pellegrino & Scozzi, 2022; De Vries, Tummers & Bekkers, 2019; Fleischer & Wanckel, 2024; Kim & Lee, 2020), yet the factors shaping a positive TW experience remain underexplored. Our study, conducted in an Italian public university, addresses this gap by asking: how can telework be improved?

We explore this question by analyzing the perspectives of employees and managers, identifying both shared concerns and differing priorities. Rather than proposing a universal solution, we aim to highlight key elements that influence TW satisfaction and provide insights for future organizational policies. To do so, we analyzed questionnaire responses from university staff, applying both manual *categorization* (Campion & Campion, 2025) and *R-based sentiment analysis* to ensure a rigorous interpretation of the data (*ibid*.). Our findings are framed using the *Job Demands-Resources (JD-R) theory* (Bakker & Demerouti, 2014), which distinguishes between job demands - factors that require effort and may cause strain - and job resources, which support employees and enhance well-being.

2 Theoretical Background

2.1 The Impact of Telework in Public Administration

Telework can be defined as a form of flexible work arrangement (De Vries et al., 2019) in which "employees perform all or a substantial part of their work physically separated from the location of their employer, using IT for operation and communication" (Baruch, 2001, p. 114). This way of working is usually carried out synchronously with on-site colleagues (Angelici & Profeta, 2024). The implementation of TW in public organizations has been the object of extensive scholarly investigation, yielding mixed results: on one hand, some studies have highlighted its positive effects on organizational outcomes, such as enhancing employee engagement (Mehta, 2021), increasing job satisfaction (Bae & Kim, 2016), and improving work-life balance (Metselaar et al., 2023). On the other hand, several studies suggest that these benefits are not always guaranteed: for instance, the positive relationship between TW and performance is not consistently observed (Metselaar et al., 2023), nor is its influence on work engagement and motivation, which may remain unaffected (De Vries et al., 2019; Caillier, 2013).

In essence, the impact of telework on organizational outcomes is highly context-dependent and influenced by numerous intervening factors. Elements such as trust-building management practices, and performance evaluation mechanisms (Kim, Mullins & Yoon, 2021) can play a crucial role in mitigating the potential downsides of increased workplace flexibility; indeed, negative outcomes may include feelings of isolation, detachment from colleagues and supervisors (Palumbo et al., 2023), reduced organizational commitment (De Vries et al., 2019) and the blurring of boundaries between work and personal life, leading to work intrusions into private time (Bonacci et al., 2024). However, to fully grasp the impact of TW, it is first necessary to understand TW itself. Therefore, further investigation is needed to identify the factors that shape workers' experiences, influence organizational outcomes, and reveal what can be done to improve them.

2.2 Collecting Feedback from Employees

Employees' feedback is a crucial tool for shaping organizational policies that enhance work experiences, prevent conflicts, and improve performance (Urbancová, Vrabcová & Pacáková, 2024). Effective communication - whether top-down, bottom-up, or among peers - plays a key role in organizational success, while its absence can cause misunderstandings, conflicts, and talent loss (Urbancová et al., 2024). This is particularly relevant during changes - like telework adoption - where success depends on employee and manager adaptation (Hood & Bartunek, 2022). Our study collects direct feedback from employees and managers to identify measures that could improve telework satisfaction, ultimately fostering a more effective and sustainable work environment.

2.3 Applying JD-R Theory to understand TW experience

The Job Demands-Resources (JD-R) theory classifies work characteristics into two categories: *job demands* and *job resources*. Job demands refer to aspects of work that require sustained effort and are associated with psychological costs. In contrast, job resources are factors that help employees achieve work goals, reduce job demands, and foster personal development (Bakker & Demerouti, 2014; Demerouti et al., 2001). A key advantage of the JD-R is its flexibility: allowing for the classification of any work characteristic into demands or resources. This adaptability makes it applicable across different job contexts (Bakker & Demerouti, 2014). Moreover, the model provides a comprehensive approach to analyzing work environments by emphasizing the balance between demands and resources, a particularly relevant aspect in remote work settings where new challenges (e.g. technological barriers) emerge (Capone et al., 2024). Due to these strengths, the JD-R model has already been applied to study TW. For instance, Bullini Orlandi et al. (2024) emphasized the role of participative leadership and resource adequacy in reducing stress and enhancing telework sustainability. Similarly, Capone et al. (2024) used JD-R to examine remote work's impact on university staff, reinforcing its applicability in this context. Building on these insights, we use JD-R to identify key job resources that facilitate a positive TW experience and job demands that create strain.

3 Methodology

3.1 Data Collection

In December 2024, we conducted an internal survey at the University of Pavia to assess job satisfaction among technical and administrative staff, with a focus on telework, a work arrangement that became widespread during COVID-19 and maintained for five years. The survey aimed to evaluate employees' sentiment toward telework, their perceptions of its current setup, and areas for improvement. Two distinct surveys were developed: one for all technical and administrative staff and another specifically for managers, capturing their unique perspectives on TW's impact on work dynamics. The questions were adapted from previous research and mirrored across the two surveys for comparability. For example, while the employees' version asked: *"Do you think you have all the necessary tools to telework?"*; the managers' version asked: *"Do you think the people you coordinate have the necessary tools to telework?".* Regarding potential improvements to telework at UNIPV, both managers and employees were asked the following open-ended question: *"In your opinion, what aspects related to Telework should be improved? Answer briefly (e.g., better coordination with colleagues in the office, more support from supervisors/bosses, more flexibility in working hours)".*

3.2 The Sample

Participation in the surveys was voluntary, and responses were collected anonymously. The surveys were administered between December 14, 2024, and January 17, 2025. A total of 911 employees were invited to participate in the survey, resulting in 572 responses and a response rate of 62.8%. The managers' survey was distributed to 70 individuals, with 56 responses received, yielding a response rate of 80%. *Table 1* below summarizes the characteristics of the sample.

	Employees			**Managers**		
		N°	**%**		**N°**	**%**
Gender	Female	402	70,3%	Female	40	71%
	Male	157	27,4%	Male	14	25%
	Other / not specified	13	2,3%	Other / not specified	2	4%
Age	Under 30:	24	4%	Under 30:	0	0%
	30 - 39:	105	18%	30 - 39:	4	7%
	40 - 49:	125	22%	40 - 49:	20	36%
	50 - 59:	208	36%	50 - 59:	21	38%
	60 and over	108	19%	60 and over	11	20%
	Average age: 48,8 years			*Average age (est): 52 years*		
Seniority (years working in UNIPV)	3 years or less	102	17,8%	3 years or less	1	1,8%
	from 4 to 5	47	8,2%	from 4 to 5	3	5,4%
	from 6 to 10	58	10,1%	from 6 to 10	5	8,9%
	from 11 to 20	100	17,5%	from 11 to 20	20	35,7%
	Over 20 years	265	46,3%	Over 20 years	27	48,2%
Telework	Out of 572 respondents, 373 (65,3%) regularly engage in TW.			Of the 56 interviewees, 55 coordinate a team in which at least one person regularly engages in TW. 35 Managers (62.5%) coordinate a team in which more than half of the people regularly use TW.		

Table 1. Characteristics of the sample, source: own elaboration.

3.3 Categorization

For the purpose of this paper, we adopted a hand-coded content analysis**,** following one of the approaches described by Campion and Campion (2025). In HR research, categorization through content analysis is widely used due to its simplicity, accessibility, and effectiveness in summarizing small datasets; specifically, hand-coded content analysis, which we conducted without automation, is ideal for smaller datasets where key concepts are either known a priori or can be easily identified after an initial review (*ibid*.). However, as the authors themselves suggest, while this method is valuable, researchers should consider complementing it with more advanced tools, such as dictionaries and Natural Language Processing (NLP) techniques, to enhance the depth of analysis.

3.4 Sentiment Analysis

To complement our categorization, we integrated NLP techniques, specifically *sentiment analysis*, to determine the overall emotional tone of the text - whether positive, negative, or neutral - and to extract additional meaning (Banks et al., 2018). Sentiment analysis aims to capture the *"overall attitude, emotion, or opinion of a text"* (Banks et al., 2018, p. 449).

For this analysis, we used R and the *Syuzhet* package, which leverages the NRC Sentiment Lexicon, available for several languages, including Italian. This lexicon associates words with basic emotions (e.g., joy, sadness, fear) and sentiment. The model compares the words in the text with those in the NRC dictionary for Italian, returning an overall sentiment score: *< 0 = Negative; 0 = Neutral; < 0 = Positive*.

Additionally, we implemented a custom rule to enhance accuracy: responses such as *"nothing to change"* were considered positive, as they imply satisfaction with the current telework arrangement, while responses like *"no comments on TW", "nothing",* and *"I don't know"* have been assigned a neutral score; finally, blank responses - 13 from employees and 1 from managers - were omitted to avoid potential misinterpretations. To provide additional visual support to our findings, we identified and listed the most frequently used terms in employees' and managers' responses.

4 Findings

As mentioned in the previous paragraphs, we conducted the text analysis and coding manually, without automation, in this initial phase. This choice was motivated by the brevity of the responses - that in several cases consisted of just a few words - and the limited number of total answers. Specifically, 56 from managers and 373 from employees. After carefully reviewing the responses, we identified key concepts in each, paying particular attention to recurring themes. In total, we identified 11 concepts among managers and 13 among employees, with 7 concepts overlapping between the two groups. To ensure consistency, no concept was attributed to blank responses (13 from employees and 1 from managers). These findings suggest a considerable alignment between management and employees regarding their perceptions of telework and the improvements they deem necessary. The tables (*Tables 2 & 3*) summarize the results of our analysis, listing the key concepts and providing examples of responses to illustrate how the text was coded:

Hand Coding - Managers			
	Concept	**Examples (direct quote, translated in English)**	**% on responses (56)**
1	Telework may lead to work intrusion into private time	*[…]the right to disconnect, clear and simple rules on the "presence" of work*	8,9%
2	An excess of flexibility can harm work organization	*Improve coordination between those who are in person and those who are remote, […]*	1,8%
3	Share TW data to ensure that its impact is explained	*Update verification and control systems; […]*	1,8%

4	It is necessary to improve control systems for TW employees	*there is no system to verify whether the person is actually working… […]*	23,2%
5	Increasing flexibility in TW related choices	*Ensure greater flexibility in the management of days*	39,3%
6	Improving top-down support	*[…] I would suggest that those responsible for the service be made more aware*	1,8%
7	Necessity to improve the coordination between people working on site and remote	*Better coordination between colleagues in the office and remotely.*	16,1%
8	Necessity to teach people on how to safely use TW	*Train colleagues on safety issues during TW, […]*	10,7%
9	No improvement needed	*At the moment I do not see any aspects to improve*	10,7%
10	I don't know how to improve	*I don't know*	1,8%
11	Ensure that TW does not lead to a waste of resources	*The evaluation of the activities carried out in agile work and their impact needs to be improved. […]*	1,8%

Table 2. Hand coding of Managers' responses. Source: own elaboration.

Hand Coding - Employees			
	Concept Explanation	**Examples (direct quote, translated in English)**	**%on responses (373)**
1	More days in TW could improve TW experience and overall satisfaction	*[…]increasing the number of days in telework would be a good solution to better reconcile work life with family and personal problems.*	7,5%
2	TW requires ad hoc forms of evaluation	*The method of evaluating TW should be based on qualitative criteria or by objectives; […]*	0,3%
3	Improve the perception of TW	*[…]I often find that some colleagues are very wary of those who work remotely, and it would be good to be able to improve this type of consideration.*	2,1%
4	Telework may lead to work intrusion into private time	*The only problem I find in the TW is the "unlimited" availability […]*	2,1%
5	People in TW should have the same benefits / accommodations as on-site colleagues	*Provision for at least partial reimbursement of tickets on TW days […]*	5,6%
6	Need to improve verification and control systems for TW employees	*Oblige those who do teleworking to adopt all the tools to be available on the phone*	1,9%
7	Increasing flexibility in TW related choices	*Greater flexibility in the management of TW days […]*	30,5%
8	Improving top-down support	*I would request the non-demonization by the head of service of the working mode in TW*	3,7%
9	Need for better technical support to improve TW	*Technical assistance […] better technical equipment*	9,1%
10	Necessity to improve the coordination between people working on site and remote	*Improve coordination and communication between colleagues and/or managers […]*	13,9%
11	No improvement needed	*In my experience, the remote working mode is satisfying and has positively affected working life.*	26,5%

12	I don't know how to improve	*I don't know*	1,6%
13	When TW is revoked, dissatisfaction arises	*[…]I used the telework for three and a half years and it was taken away from me in March of this year. Without advance and without motivation.*	0,3%

Table 3. Hand coding of Employees' responses. Source: own elaboration.

4.1 Sentiment Analysis with RStudio

Following the recommendations of Campion and Campion (2025), we aimed to strengthen our analysis by applying NLP techniques, specifically *sentiment analysis*, to our textual data. Sentiment analysis, which we performed using RStudio (Version 2024.12.1+563), is a well-established approach in the literature to perform text analysis (Banks et al., 2018). The sentiment analysis was conducted on responses from both managers and employees, with the objective of identifying:

- Overall sentiment: whether the response was *positive*, *negative*, or *neutral*
- Emotions expressed in the text: such as *anger*, *anticipation*, *disgust*, *fear*, *joy*, *sadness*, *surprise*, and *trust*
- Polarity of words: comparing the total count of *positive* vs *negative* words in each response

The results are summarized in *Table 4,* which presents the mean values for sentiment and word count associated with each emotion. Additionally, a graphical representation is provided in *Figure 1*, illustrating the frequency of emotions present in the text.

		Feelings (Word Count Mean)								**N&P words Mean**	
	Sentiment	***Anger***	***Anticipation***	***Disgust***	***Fear***	***Joy***	***Sadness***	***Surprise***	***Trust***	**Negative**	**Positive**
Manag_	0,20	0,09	0,51	0,31	0,25	0,53	0,45	0,56	1,67	0,60	2,71
Empl_	0,22	0,02	0,40	0,28	0,16	0,39	0,13	0,54	1,05	0,27	2,08

Table 3. Sentiment Analysis, Employees and Managers. Source: own elaboration with RStudio

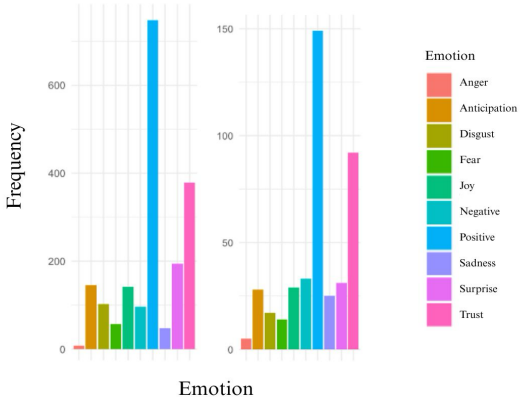


Figure 1. Frequency of Emotions in Sentiment Analysis. Source: own elaboration with RStudio.

Finally, we counted the most frequent words for each group. In both cases, excluding the term *"telework"*, the most common words were *"flexibility"* and *"increased"*. Specifically, *"flexibility"* appeared 94 times in employee responses and 16 times in manager responses, while *"increased"* appeared 98 times and 13 times, respectively. Although the frequency of these words does not provide direct insight into their significance or context, it further supports our claim that greater autonomy in deciding when and how to use telework is the most desired change in its current implementation at UNIPV.

5 Discussion

Overall, our findings highlight that TW is generally perceived positively, confirming its value as a work arrangement for employees and organizations (Bonacci et al., 2024). Notably, 26.5% of employees believe that no changes should be made to the current TW configuration. However, managers appear less satisfied with the current setup, with only 10.7% stating that no modifications are necessary.

By adopting the JD-R framework (Bekker & Demerouti, 2014), we can distinguish which aspects of TW serve as resources and which act as demands. Our findings indicate that autonomy, especially the flexibility to choose when to telework, is a key resource. Specifically, 39.3% of managers and 30.5% of employees call for more flexible, monthly scheduling of telework days, with 7.5% of employees even requesting additional TW days. This supports previous research (Capone et al., 2024; Metha, 2021), which shows that greater control over work arrangements can enhance motivation and reduce strain, reinforcing autonomy's role as a crucial job resource in the context of TW.

At the same time, several job demands that require sustained effort and may lead to strain were identified. Notably, 14% of employees and 16% of managers emphasized the need for better peer coordination, while 23.2% of managers called for improved control and verification systems to better manage remote staff. Both findings highlight challenges in aligning remote and on-site teams. As documented in the literature, remote work can worsen communication and collaboration, thereby reducing TW satisfaction (Bonacci et al., 2024). Without effective mechanisms to bridge the gap between remote and in-office teams, employees risk increased workload, inefficiencies, and disconnection. Some differences between managers and employees emerged, illustrating the interplay between job demands and resources. For example, 10.7% of managers stressed the need for enhanced IT security training to reduce *technostress* - a demand highlighted by Capone et al. (2024) - while 9.1% of employees requested better technological equipment and assistance, indicating that inadequate tools can hinder remote work (Bullini Orlandi et al., 2024). Conversely, providing reliable digital resources acts as a job resource by reducing daily friction (Bullini Orlandi et al., 2024). Finally, nearly 9% of managers indicated that TW may intrude into private time, compared to only 2% of employees, partially challenging concerns over blurred work-life boundaries (Bonacci et al., 2024; Capone et al., 2024).

6 Conclusions, limitations, and further developments

Although our study offers valuable insights into factors influencing TW satisfaction from both employees' and managers' perspectives, it has limitations. Replicability remains an issue, only partially addressed through sentiment analysis, and the data - sourced from a single organization - may affect the robustness of our conclusions. Our goal was not to define universal factors for TW satisfaction but to propose a method that emphasizes incorporating bottom-up suggestions into organizational policy, especially when employees and managers share similar improvement requests. We believe that combining context-specific factors with insights from the existing literature will enable future research to develop more comprehensive guidelines for a satisfying and effective TW experience.

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From Speculation to Implementation: A Systematic Review of Return-to-Office Research and Its Impact on Organizations

Short Paper

Alberto Varone, University of Cassino and Southern Lazio, Cassino, Italy, alberto.varone@unicas.it

Francesco Bolici, University of Cassino and Southern Lazio, Cassino, Italy, f.bolici@unicas.it

Abstract

The COVID-19 pandemic determined a massive shift to remote work, challenging traditional workplace norms. However, as restrictions eased, many organizations began mandating a "Return-to-Office" (RTO), requiring employees to resume working from physical workplaces. This reversal frequently prompted employee resistance and talent attrition, highlighting a significant tension between managerial objectives and shifting employee expectations. Despite its widespread organizational impact, research on RTO is limited and fragmented, as the phenomenon is still emerging. This systematic review addresses this critical gap by comprehensively analyzing the emerging RTO organizational trend. We identify three distinct phases—Anticipation & Adaptation (2020-2021), Transition & Contestation (2022-2023), and Evaluation & Inequality (2024-2025)—demonstrating a shift from speculative discussions to critical evaluations of RTO's varied and often unequal impacts. Our findings extend distributed work literature by establishing RTO as an emerging ramification of remote work studies and offer crucial, evidence-based guidance for practitioners to develop equitable and effective RTO strategies, emphasizing the need for nuanced, context-specific approaches.

Keywords: Return-to-Office, Remote Work, Distributed Work Models, Organizations, Digital Innovation.

1. Purpose and Background

Technological advancements and contextual changes frequently promote the emergence of innovative ways of working (Bolici et al., 2025). A notable example of this dynamic is the COVID-19 pandemic, which triggered the largest remote work experiment in history. This global disruption challenged long-standing assumptions about where, when, and how work should be conducted, leading to an unprecedented rise of interest in distributed work arrangements.

In the early stages of the pandemic, research indicated that distributed work might become a lasting feature of organizational life, with many studies showing that employees favored continuing remote work arrangements (Marzban et al., 2021; Thulin et al., 2023). However, as pandemic restrictions were lifted, a growing number of organizations began mandating a return to physical workplaces, partially defying widespread expectations about the future of work (Gibson et al., 2023). High-profile companies such as Apple, Microsoft, and SpaceX exemplified this shift by implementing partial or full return-to-office policies, reflecting a broader organizational trend (Bogosian & Byrd‐poller, 2023).

The widespread implementation of these practices has led to the emergence of the term "Return-to-Office" (RTO), signaling a notable reversal in the trajectory of remote work adoption (Mohapatra & Duggal, 2023). RTO policies have frequently triggered employee resistance, talent attrition, and public criticism, underscoring growing tensions between managerial objectives and employee preferences (Fan & Moen, 2025; Gintova, 2024a; Pandita et al., 2024). As a result, organizations face the complex task of designing flexible work arrangements that reconcile operational

demands with shifting employee expectations, while balancing the perceived benefits of distributed work with RTO mandates.

Despite its prominence in current discourse, RTO remains an emerging phenomenon, with research and organizational experiences still limited and fragmented. This gap motivates the present study, which aims to provide a comprehensive review of existing literature on RTO. Specifically, the review addresses two guiding research questions: (1) How has the concept of RTO evolved and gained prominence within the discourse on distributed work models? and (2) What organizationally relevant dimensions are emphasized in the shift from distributed work to physical office-based arrangements?

Our analysis identifies three distinct phases in the evolution of RTO research: Anticipation & Adaptation (2020-2021), Transition & Contestation (2022-2023), and Evaluation & Inequality (2024-2025). We found that over time, scholarly discourse has shifted from treating the return to physical workplaces as an inevitable outcome to critically questioning its necessity and examining its varied impacts across different demographic groups. Recent studies increasingly emphasize that effective RTO strategies require flexible, context-specific approaches rather than uniform mandates, with particular attention to the risk of exacerbating inequalities, especially among marginalized employee populations.

2. Methods

We implemented a systematic literature review following PRISMA guidelines to ensure high rigor and replicability. The literature search was conducted in April 2025 using Scopus as our database platform. Our search query targeted all works including within their title, abstract or keywords the string "return to office" or "returning to office" or "return to the office" or "back to office" OR "back to the office".

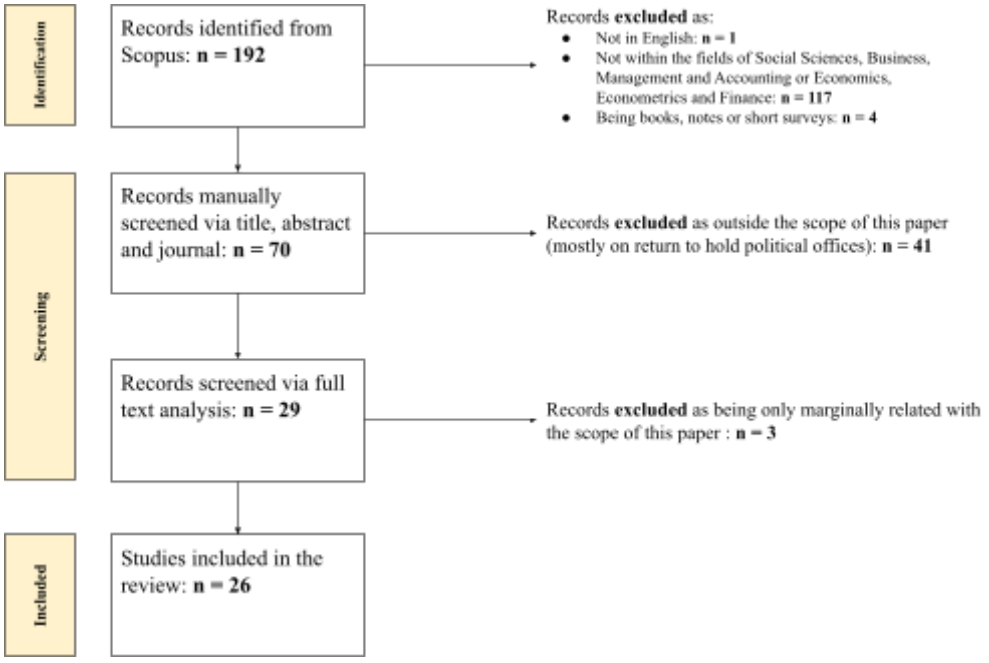


Figure 1. PRISMA protocol implementation.

The identification, selection and inclusion process is reported in Figure 1. Our final analysis incorporated 26 papers. The analysis revealed three distinct chronological phases in RTO research evolution:

- Phase 1: Anticipation & Adaptation (2020-2021) – 3 papers examining early remote work experiences while anticipating eventual returns, characterized by speculation about

post-pandemic work arrangements and documentation of both benefits and challenges of remote work.

- Phase 2: Transition & Contestation (2022-2023) – 9 papers analyzing early implementation experiences and emerging impacts, marked by competing framings of RTO and increasing critical examination of organizational rationales.
- Phase 3: Evaluation & Inequality (2024-2025) – 14 papers assessing implemented RTO policies with increasing focus on differential impacts across demographic groups.

3. Main Findings

This section outlines the three phases that characterize the evolution of the RTO concept: Anticipation & Adaptation, Transition & Contestation, and Evaluation & Inequality. Understanding these phases offers essential context for interpreting the current state of RTO research and organizational practice.

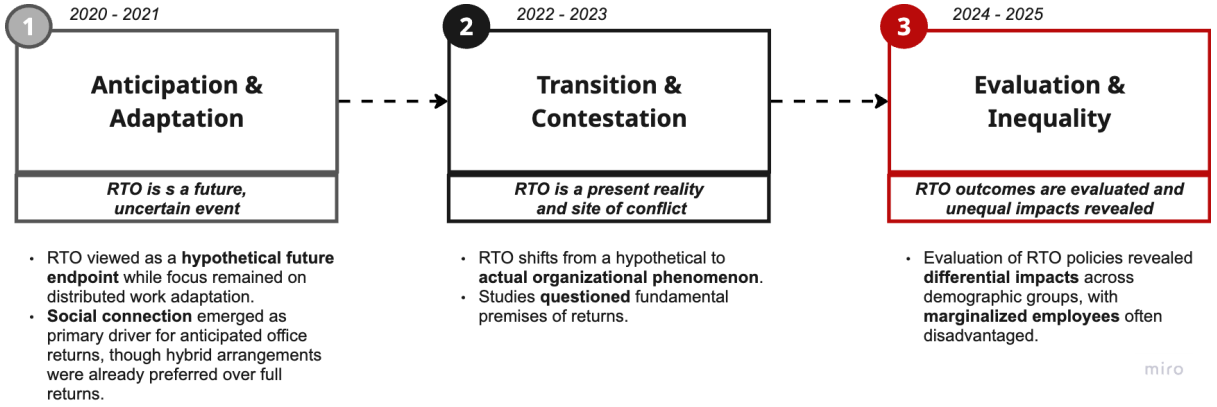


Figure 2. Summary of the three Phases of RTO evolution.

3.1 Phase 1 - Anticipation & Adaptation (2020-2021)

During the initial stages of the pandemic, scholarly attention primarily focused on the immediate crisis response and the rapid, forced adaptation to widespread remote work. Within this context, the concept of RTO remained largely an abstract endpoint rather than an imminent concern. Early research captured the raw experience of transitioning to work-from-home (WFH) arrangements, documenting the blurring of work–home boundaries and the coping strategies individuals employed to manage this shift (Lebert, 2020). RTO was often framed through the lens of uncertainty, with researchers speculating on how the intense WFH experience might reshape future work practices, even in anticipation of a potential return to the office (Lebert, 2020).

Studies from this period identified key drivers for a potential return to physical workplaces. Although self-reported productivity under remote conditions remained high, the desire for social interaction and face-to-face engagement emerged as primary motivators for resuming office work (Marzban et al., 2021). At the same time, researchers also documented the perceived benefits of remote work—such as increased flexibility, autonomy, and the elimination of commuting—which laid the groundwork for future tensions in post-pandemic work models (Lebert, 2020; Marzban et al., 2021),

By 2021, scholarly attention began shifting toward more concrete considerations regarding RTO. Marzban et al. (Marzban et al., 2021) reported that while 97% of Australian knowledge workers had adapted rapidly to remote work, the majority anticipated a hybrid model moving forward. Specifically, 69% expressed a preference for working from home two to three days per week in the post-pandemic period. Some studies also began addressing the practical preparations needed for RTO. For example, (Gaur et al., 2021) proposed training frameworks that included both telecommuting skills and

"back-to-office conduct," framing RTO as a planned transition rather than a return to pre-pandemic norms. They emphasized that "the transformation will be evident even after returning to the workplace," thus highlighting the enduring impact of the pandemic on organizational practices

3.2 Phase 2: Transition & Contestation (2022-2023)

In the immediate post-pandemic period, Return-to-Office (RTO) shifted from a hypothetical future scenario to a tangible and often contested organizational reality. Research during this phase moved beyond the relatively straightforward anticipatory framing of the earlier period, presenting multiple, and at times conflicting, interpretations of RTO. A key development in this stage was the emergence of studies that positioned RTO not as a peripheral aspect of remote work discourse but as a primary focus of scholarly inquiry. Among nine studies reviewed, three explicitly centered on RTO: a case study of RTO planning in an Indian IT firm (Mohapatra & Duggal, 2023), a critical examination of return mandates (Gibson et al., 2023), and an analysis of RTO decisions on firm performance (Bogosian & Byrd‐poller, 2023).

Gibson et al. (2023) challenged the foundational assumption that employees should be required to return to the office, framing RTO as a conscious organizational decision that demands evidence-based justification rather than being treated as an inevitable outcome. This perspective aligns with (Pass & Ridgway, 2022, p. 264) cautionary view: "Rather than hoping for a 'return to normal', there is a fear that the 'old normal' will return, and perhaps that is the worst thing that organizations can do. By defaulting to prior working practices, the hard-won trust will have reneged." Such arguments portray RTO as potentially regressive, undermining progress achieved during the remote work period.

In contrast, Mohapatra & Duggal (Mohapatra & Duggal, 2023) framed RTO as a necessary but complex transition, emphasizing the need for deliberate organizational strategy: "As companies plan a strategy to bring employees back to physical workspaces after working from the comfort of their homes, the transition is being referred to as the Return to Office (RTO) phase. Organizations need to take transformative action and smooth the execution in order that the situation is handled properly and there is no value leakage." This operational framing underscores managerial challenges, focusing on effective execution rather than questioning the desirability of RTO itself.

Bogosian & Byrd‐poller (Bogosian & Byrd‐poller, 2023) further extended the discussion by characterizing poorly executed RTO mandates as potentially retraumatizing events. They warned that leadership decisions in the post-COVID period could inadvertently cause further organizational harm, highlighting the psychological and emotional consequences of RTO beyond logistical or operational considerations.

While these studies examined RTO from critical and strategic angles, others focused on the underlying motivations behind partial returns. Thulin et al. (Thulin et al., 2023), though primarily concerned with telework adaptations, found that a key reason employees desired partial office returns was the lack of informal interactions and peer support, suggesting that social connection remains a persistent driver of workplace attendance.

The legal dimensions of RTO also began to surface more explicitly in this phase. Nath and Lockwood (Nath & Lockwood, 2022) for example, explored the implications of UK equality law for workplace returns. They highlighted potential discrimination risks affecting women with caregiving responsibilities, older workers, and individuals with disabilities—issues largely overlooked in earlier RTO debates. This framing positioned RTO not only as a managerial or cultural issue, but also as a legal compliance challenge, requiring organizations to account for differential impacts across protected characteristics.

Psychological dimensions also featured prominently in this phase. Kismono et al. (Kismono et al., 2023) examined how psychological acceptance shaped remote work experiences and attitudes toward returning to the office. While acceptance of negative emotions associated with WFH did not directly impact life satisfaction or job stress, it emerged as a psychological resource that contributed to

improved work-life balance. Similarly, Zdelar & MacMahon (Zdelar & MacMahon, 2023) found that remote work fostered new work identities among Millennials, which complicated their reintegration into office settings. As they noted, “people had changed, and to unchange them back would require ‘unfreezing’ their new state” (p. 5). Complementing this perspective, Wolor et al. (Wolor et al., 2022) investigated post-pandemic job performance, identifying compassion, communication, engagement, and satisfaction as critical variables influencing employee effectiveness during RTO transitions.

Altogether, this body of research highlights the contested, multi-dimensional nature of RTO during the transition phase. Far from being a simple reversion to pre-pandemic norms, RTO emerged as a complex site of negotiation involving operational, psychological, legal, and relational dimensions—each requiring deliberate, context-sensitive responses from organizations.

3.3 Phase 3: Evaluation & Inequality (2024-2025)

By 2024–2025, the research focus shifted from merely anticipating or contesting RTO policies to critically evaluating the implementation of these practices and their varying impacts across workforce segments. Of the fourteen studies reviewed in Phase 3, seven specifically focused on RTO phenomena. Increasingly, researchers began to challenge the fundamental assumptions underlying RTO mandates while documenting substantial differences in how workplace returns were experienced by various demographic groups.

During this period, perspectives on RTO policies underwent significant evolution. Researchers questioned the rationale provided by organizations for enforcing office returns. Gajendran et al. (Gajendran et al., 2024) demonstrated that remote work offered modest benefits with minimal drawbacks, even for employees who spent significant time working away from the office. These findings directly challenged organizational concerns underlying RTO mandates. Similarly, Williamson et al. (2024) argued that rigid mandates requiring employees to return to the office or limiting remote work opportunities were not only unnecessary but often led to negative outcomes for workforce well-being and productivity. Pandita et al. (Pandita et al., 2024) described RTO as "rewinding back into the old normal," emphasizing that such mandates caused employees increased stress as well as issues such as work-family conflicts, emotional exhaustion, and presenteeism.

A relevant theme across studies during this phase was the role of power dynamics in how RTO policies were implemented and experienced by employees. Gintova’s (Gintova, 2024b, 2024a) analysis of Canadian public servants revealed that they questioned whether transitioning to mandatory hybrid work meant going back to pre-pandemic practices, specifically to have people in the office to monitor their productivity and performance, emphasizing communication issues, equity impacts, and operational challenges. Lewis et al. (2024) showed that supervisory discretion in telework approvals disproportionately disadvantaged marginalized groups, including black, Latino, disabled, and younger employees. Fan and Moen (2025) argued that remote work had reduced psychological job demands for many in these groups – benefits that may be lost with RTO, given traditional office norms favoring white male workers. Lastly, Román-Calderón & Gentilin (Román-Calderón & Gentilin, 2025) challenged the idea that co-location builds trust, finding that mutual cognitive trust may be stronger in virtual settings.

Numerous studies documented how RTO policies disproportionately impacted employees from historically disadvantaged groups. While remote work was generally associated with consistent productivity and work-life balance gains (Lapshun & Madero Gómez, 2024), Araki (2025) found that, despite fewer opportunities, non-regular female workers in Japan experienced greater psychological benefits from telework between 2020 and 2023. Coherently, Rangaswamy et al. (Rangaswamy et al., 2024) found that women perceived remote work as significantly more effective than men, pointing to gendered preferences in RTO. Similarly, Fan & Moen (Fan & Moen, 2025) found that women of color experienced the greatest loss of autonomy when returning to offices. Family caregivers experienced limited benefits from remote work regardless of location, suggesting a need for broader societal

changes beyond work location flexibility. These findings suggest that organizations need to reconsider the broad impacts of their policies to better address systemic inequities.

Research has explored how to facilitate RTO and seize its opportunities. Lathabhavan & Mehendale (Lathabhavan & Mehendale, 2025) found that the transition from WFH to hybrid models increased psychological distress and reduced life and job satisfaction, but mindfulness mitigated these effects, providing a potential intervention strategy. Andrews (2024) emphasized the need for new office designs as "homey studios" or collaboration hubs. Hensher et al. (Hensher et al., 2024) observed that ideal WFH should stabilize at 1–2 days per week by 2022, warning organizations pushing for 4-5 days of office attendance were risking damage to organizational relationships.

4. Contribution

This paper makes three contributions. First, we extend distributed work literature by establishing RTO as an emerging ramification of remote work studies. This supports analytical and conceptual continuity in examining a phenomenon with substantial organizational impact, creating a foundation for future research. Second, our chronological analysis tracks RTO's evolution through three distinct phases – from Anticipation & Adaptation (2020-2021), through Transition & Contestation (2022-2023), to Evaluation & Inequality assessments (2024-2025). This developmental trajectory reveals how research focus has matured as the phenomenon itself has evolved. Third, by systematizing findings across these phases, we offer practitioners evidence-based insights for managing workplace transitions, highlighting how differential impacts across groups must be considered to develop equitable and effective RTO strategies.

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EMPOWERING INNOVATION: HOW EMPLOYEE CULTURE AND SKILLS DRIVE TECHNOLOGICAL INTEGRATION IN PUBLIC HEALTHCARE ORGANIZATIONS

Short Paper

Angelo Rosa, Università LUM "Giuseppe Degennaro",Casamassima (BA), Italy, rosa@lum.it
Marcello Martinez, Università degli studi della Campania Luigi Vanvitelli, Napoli, Italy, marcello.martinez@unicampania.it
Enrico Cori, Università Politecnica delle Marche, Ancona, Italy, e.cori@univpm.it

Abstract

This paper examines the role of healthcare staff culture and competencies in implementing technological innovations in public healthcare, particularly in response to systemic shocks. While technological advancements are widely studied, this research focuses on the workforce—doctors, nurses, and hospital staff—emphasizing how their skills and cultural alignment drive technology adoption and assimilation. By analyzing human capital, strategy, and organizational culture, this study provides a novel perspective on healthcare innovation. A PLS-SEM model evaluates the relationships between employee competencies, culture, and technology assimilation in a sample of 239 healthcare professionals. The findings show that organizational culture and staff competencies significantly enhance technology integration, improving patient outcomes and generating value. This study offers a framework for public healthcare organizations to incorporate cultural change and skill development as core pillars for sustainable technological innovation, reinforcing the need for human- centered approaches in digital transformation.

Keywords: e-health, absorbity capacity, PLS-SEM, healthcare, Electronic Health Record

1 Introduction

Digital transformation is radically reshaping healthcare, particularly through telemedicine and electronic health records (EHRs), which are revolutionizing both care processes and organizational structures (Schiavone et al., 2021). These digital tools aim to improve accessibility, ensure continuity of care, and enhance public health by leveraging information and communication technologies. While many countries have already implemented telemedicine and EHRs, their effectiveness depends on their successful assimilation within healthcare organizations (Lu et al., 2021; Tortorella et al., 2022).

Despite clear benefits, literature warns that implementation capacity is critical to achieving the expected improvements. Organizational weaknesses in strategic, technical, or operational readiness can hinder the effectiveness of these technologies (Dyb et al., 2021; Kateb et al., 2022). Based on the absorptive capacity framework, technology adoption must follow a structured process: acquisition, assimilation, transformation, and exploitation (Venkatesh et al., 2003; Orlikowski, 1992; Yoo et al., 2012). Particularly in Italian healthcare, interoperability, data security, and ease of use are essential in the acquisition phase, while assimilation requires overcoming resistance to change through training and change management strategies (Cresswell & Sheikh, 2013).

Although the role of absorptive capacity in digital transformation has been widely discussed, the relationship between acquisition and assimilation remains underexplored (Capolupo et al., 2023). This study, based on a collaboration between the Università Politecnica delle Marche, Università degli Studi della Campania "Luigi Vanvitelli" and Università LUM "Giuseppe Degennaro", collects the first results of a larger ongoing project and examines how e-Health culture and IT skills mediate this relationship. Data were collected from 239 healthcare professionals from 12 Italian public hospitals and analysed using Partial Least Squares Structural Equation Modeling (PLS-SEM) to provide insights into the promotion of effective e-Health integration.

2 Theoretical background and hypothesis development

In recent years, thanks in part to the opportunities provided by the PNRR (National Recovery and Resilience Plan), many regions and hospital facilities in Italy have embarked on a digital transformation journey. Among the most widely adopted tools are telemedicine and the electronic health record (EHR). However, what is observed today is not only a deep technological divide between different healthcare structures and regions but also that, even under identical technological conditions, organizations experience varying levels of effectiveness in utilizing these technologies. This phenomenon confirms that simply possessing digital tools is not sufficient to achieve their expected benefits.

It is therefore imperative that healthcare organizations develop the capacity to absorb new technologies, meaning the ability to recognize their value, integrate them into workflows, and systematically utilize them to improve both clinical and organizational outcomes (Ahsan & Siddique, 2022). The implementation of telemedicine and the electronic health record, for example, requires a structured process that goes beyond mere acquisition and focuses on assimilation and effective utilization of new technologies. In this regard, the absorptive capacity framework provides strong theoretical support for studying this issue. This framework explains how organizations identify, assimilate, and apply external knowledge to gain a competitive advantage (Cohen & Levinthal, 1990; Zahra & George, 2002).

Absorptive capacity plays a crucial role in the digital transformation of healthcare institutions, as it determines the extent to which innovative tools are successfully adopted and integrated into clinical and organizational processes. Acquisition is the first step, involving the selection and adoption of technologies based on strategic goals and operational needs (Fichman & Kemerer, 1999). This phase

requires a careful evaluation of available solutions, infrastructure investments, staff training, and the support of institutional policies that facilitate technology integration into existing healthcare systems (Cresswell & Sheikh, 2013). However, while adopting innovative digital systems can stimulate competency acquisition through daily practice, the mere purchase of technological tools does not automatically ensure their integration into healthcare processes or the full exploitation of their potential.

Assimilation follows the acquisition phase and refers to the effective utilization of digital technologies within healthcare organizations. This process involves the transformation of operational routines, adaptation of clinical protocols, and the acceptance of new technologies by healthcare professionals (Boonstra & van Offenbeek, 2010). However, the transition from acquisition to assimilation is often met with challenges. One of the primary barriers is resistance to change, which stems from low digital literacy, concerns about increased workload, and a lack of clear incentives for technology adoption (Greenhalgh et al., 2004). Additionally, many healthcare infrastructures struggle with interoperability issues, where IT systems fail to effectively communicate, thereby hindering the integration of electronic health records (EHRs) and telemedicine platforms. Organizational culture plays a pivotal role in this context, as an innovative-driven mindset and strong digital orientation facilitate a smoother transition. E-health culture reflects the organizations and its workforce's readiness to adopt digital technologies (Timmermans & Berg, 2003). A well-developed digital culture promotes continuous training, fosters innovation, and encourages collaboration among healthcare stakeholders. Such an environment facilitates the transition from acquisition to assimilation, reducing resistance and increasing healthcare staff's confidence in digital tools (Cresswell & Sheikh, 2013). Another critical factor influencing assimilation is technological proficiency (Agarwal et al., 2010). This refers to the technical and

operational skills of healthcare professionals in managing digital platforms effectively. Insufficient training and lack of technical support can obstruct assimilation, while targeted training programs and change management strategies can accelerate the integration process (Fichman, 2001).

To assess the degree of acquisition and assimilation of e-health technologies, various indicators must be considered. Acquisition can be measured through investments in digital health, infrastructure availability, and alignment with national and local healthcare strategies. Conversely, assimilation is not just about technology presence but also about its practical use within healthcare institutions. This study specifically examines assimilation in terms of the ability to leverage system functionalities and achieve benefits related to seamless integration with other healthcare providers, including doctors, nurses, technicians, and social healthcare operators.

Based on this discussion, the following hypotheses are formulated:

H1: Acquisition has a positive impact on the assimilation of e-health technology. Telemedicine and electronic health record (EHR) systems enhance the integration between healthcare providers and facilitate their work (Fichman, 2001).

H2 & H3: Acquisition has a positive impact on both the culture and the ability to use e-health technologies. Organizations that invest in selecting and implementing innovative technologies tend to develop a culture that supports change and improves the digital skills of healthcare personnel (Agarwal et al., 2010).

H4 & H5: Culture and the ability to use technology have a direct impact on the assimilation of e- health technology. An organizational environment that promotes digitalization and provides adequate training facilitates the effective adoption of telemedicine and EHR systems (Greenhalgh et al., 2017).

H6 & H7: Culture and technological proficiency mediate the relationship between acquisition and assimilation. The effectiveness of acquisition depends on creating an environment that supports the transformation of new technologies into operational tools used daily by healthcare professionals (Henderson et al., 2012).

3 Methodology

. This study was conducted among healthcare professionals working in public hospitals. These organizations were selected because they are among the most significantly affected by these technologies (Schiavone et al., 2020). To carry out the research, two questionnaires were developed and tested for content and face validity.

The first questionnaire, consisting of five questions, was administered to hospital management to evaluate the level of technology acquisition. The second questionnaire, composed of 18 questions and administered to hospital staff, assessed the ability to use telemedicine systems and electronic health records (EHRs), IT culture, and technology assimilation. Each item was rated on a 5-point Likert scale, accompanied by a description explaining the meaning of each value.

The Acquisition (ACQ) construct consists of four items related to EHR functionalities, telemedicine functionalities, intra-organizational integration of the two systems, and inter-organizational integration. The IT Skills (ITS) construct includes five items, while the employees' e-Health Culture (EHC) construct is measured through seven items. Finally, the Assimilation (ASS) construct is analyzed through five items. The question regarding the hospital of affiliation was included in both questionnaires.

Respondents to the second questionnaire included doctors, nurses, pharmacists, paramedics, and diagnostic technicians. Out of 841 questionnaires sent to 25 hospitals, 239 responses were collected from 12 hospitals across the Campania, Puglia, Calabria, Molise, and Emilia-Romagna regions, while 36 responses were received from hospital management.

For each hospital, the final acquisition value for each item was calculated as the average score from all managerial responses. Due to the low response rate and the number of follow-ups (sent three times over five months), non-response bias was assessed using a χ^2 test comparing the percentage of respondents

in each professional category with the proportion of total questionnaires sent. The test results showed no significant differences in response rates, confirming the validity of the collected data ($\chi^2 = 6.60$; d.f. = 4; P = 0.159).

Nurses represented the largest respondent group, with 67 responses (27.20% of the sample), followed by doctors (25.52%), pharmacists (18.41%), diagnostic technicians (15.19%), and paramedics (12.97%).

Hospital	Directorate	Doctor	Nurse	Technician	Pharmacists	Paramedic personnel	Total
Hosp.1	3	5	4	3	4	2	21
Hosp.2	3	4	6	2	5	3	23
Hosp.3	3	3	6	3	3	2	20
Hosp.4	3	2	5	3	3	2	18
Hosp.5	3	5	4	3	4	1	20
Hosp.6	3	3	6	3	5	3	23
Hosp.7	3	7	5	5	3	2	25
Hosp.8	3	8	8	3	4	3	29
Hosp.9	3	7	8	3	5	2	28
Hosp.10	3	5	4	4	3	3	22
Hosp.11	3	5	5	2	2	4	21
Hosp.12	3	7	4	4	3	4	25
[%]		25,52%	27,20%	15,19%	18,41%	12,97%	

Table 1: Sample distribution

The study employs Structural Equation Modeling (SEM) using Partial Least Squares (PLS-SEM) to examine relationships between variables and test the proposed hypotheses. PLS-SEM is particularly useful for exploratory studies, where the underlying theoretical model is not yet fully established or well-developed (Hair et al., 2011). Unlike Covariance-Based SEM (CB-SEM), which is used to validate models grounded in strong theoretical frameworks, PLS-SEM is more suited for predictive modeling and for testing new relationships. Moreover, PLS-SEM is highly effective in analyzing complex models that include multiple latent variables, pathways, and indicators (Hair et al., 2017). This approach can efficiently handle models incorporating moderators and mediators, without being constrained by the assumption of normal data distribution (Ringle et al., 2012). Additionally, PLS- SEM accounts for measurement errors, providing precise estimates of mediation effects (Hair et al., 2017). In this study, four key variables—acquisition, IT skills, IT culture, and assimilation—were analyzed to test the previously stated hypotheses.

4 Results

A Confirmatory Factor Analysis (CFA) was conducted using AMOS 25 to assess the validity of the hypothesized factors and to remove any non-significant items. The factor loadings were significant, ranging between 0.71 and 0.85. Internal consistency was evaluated using Cronbach's α, with all values exceeding 0.78, indicating strong reliability. Convergent validity (AVE) was also assessed, with all factors showing AVE values greater than 0.62. Following Hair et al. (1997), an AVE above 0.50 suggests that the variance explained by the items within each construct is greater than the error variance.

After confirming construct validity through CFA, the PLS-SEM technique was applied for model analysis. Composite reliability (CR) for all factors fell within a strong range (0.75–0.81), meeting the acceptability criteria proposed by Fornell and Larcker (1981), which suggest a threshold of 0.60 or higher. The model fit was assessed using several goodness-of-fit (GFI) indices, with results confirming a good model fit: GFI = 0.91, SRMR = 0.06, and CFI = 0.90 (Green & Yang, 2009).

The analysis followed recent research protocols (Kraus et al., 2020; Forliano et al., 2023). Additionally, the bias-corrected bootstrapping method was employed to test for the mediating effects of e-Health Culture (EHC) and IT Skills (ITS) in the relationship between Acquisition (ACQ) and Assimilation (ASS) (Hayes & Scharkow, 2013). A total of 5,000 bootstraps were generated, with a bias-corrected 95% confidence interval.

Table 2 presents the hypothesis testing results, displaying the relationships between model variables. Each row corresponds to a specific hypothesis, while the columns report the estimated coefficients (β-values and significance levels) for each tested relationship. Additionally, the lower limit confidence interval (LLCI) and upper limit confidence interval (ULCI) are provided.

Hyphotesys	Relationships	β coefficient	LLCI	ULCI
H1	ACQ ->ASS	0.06	-037	1.28
H2	ACQ->EHC	0.31**	1.65	2.94
H3	ACQ->ITS	0.22**	2.60	3.82
H4	EHC->ASS	0.28***	0.16	0.40
H5	ITS->ASS	0.37***	0.24	0.50
H6	ACQ->EHC->ASS	0.08***	0.03	0.17
H7	ACQ->ITS->ASS	0.07***	0.01	0.16

Table 2: PLS-SEM results

As shown in the direct relationship results, ACQ has a significant impact on both EHC and ITS but does not have a direct effect on ASS. Consistent with prior literature, these findings suggest that the mere adoption of EHRs does not automatically lead to the assimilation of these technologies into healthcare processes. On the other hand, the results confirm theoretical perspectives regarding the relationship between technological advancement, the development of an innovative-oriented culture, and improved IT competencies. Specifically, H2 and H3 are supported, whereas H1 is not confirmed. A particularly noteworthy finding is that the direct effects of ITS and EHC on ASS are very strong, reinforcing that organizational and cultural factor, as well as IT proficiency, are critical for the full integration of technology into healthcare workflows. This provides strong support for H4 and H5. The analysis of indirect relationships reveals a full mediation effect: while ACQ does not directly influence ASS, it does so indirectly through the mediating roles of ITS and EHC. Although the mediation effects are relatively weak, they remain statistically significant. Furthermore, neither mediator dominates, as the β coefficients for both indicators are very similar, confirming H6 and H7. These findings suggest that the acquisition of telemedicine and EHR tools influences technology assimilation only through IT culture and IT competencies. This highlights the critical role of organizational and cultural aspects in the successful integration of digital health technologies into healthcare processes..

5 Discussions and conclusions

Digital transformation in healthcare is not merely a technological process but a cultural and organizational shift that involves actors, processes, and infrastructures (Depp, 2023). The findings of this study highlight a critical aspect of digital innovation management: simply adopting telemedicine

and electronic health records is not sufficient to ensure effective technology assimilation. This implies that healthcare digitalization strategies must go beyond infrastructure investments, integrating cultural and competency development to foster long-term adoption (Tsai et al., 2020). From a managerial perspective, these results suggest that healthcare leaders must rethink how digital transformation projects are planned and implemented. The traditional approach, centered on technological and infrastructural investments, may be insufficient to guarantee seamless integration into healthcare workflows. Instead, a holistic implementation model, emphasizing continuous training and digital culture development, is likely to yield greater adoption and effectiveness (Brommeyer et al., 2024). For instance, a hospital that invests solely in telemedicine platforms without providing adequate training risks underutilization and ineffective implementation.

Overcoming resistance to change requires targeted training programs, workforce support, and engagement strategies to promote active participation in the digital transformation process. Leadership plays a pivotal role in facilitating digitalization, not only through strategic decision- making but also by driving cultural change that fosters an innovation-oriented mindset. Hospital managers should act as active promoters of technological integration, adopting communication and engagement strategies that directly involve healthcare professionals in the transformation (Gullo & Murabito, 2012). This includes creating collaborative spaces where doctors, nurses, and technicians can discuss implementation challenges and propose solutions for optimizing technology use. Additionally, interdisciplinary collaboration should be encouraged to ensure that digital integration extends beyond individual departments, becoming a systemic process across the organization. Another key finding emphasizes the need for a tailored approach in digital technology implementation. Not all healthcare organizations operate at the same level of digital maturity, making standardized transformation processes ineffective. This suggests that digitalization plans should be customized to each institution, considering resource availability, workforce training, and existing digital capabilities (Anzalone et al., 2025).

Beyond organizational implications, the study highlights the need to rethink public policies on digital healthcare. Funding should be allocated not only for technology acquisition but also for continuous training programs and change management initiatives. Additionally, public and private healthcare institutions should collaborate to establish common guidelines for the adoption and assimilation of digital technologies, reducing regional disparities and ensuring equitable access to digital health services. Developing a clear regulatory framework that enhances interoperability between healthcare systems could further facilitate digital integration and strengthen the overall efficiency of healthcare delivery.

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BUILDING A GREENER ORGANIZATION FROM THE BOTTOM: INSIGHTS INTO EMPLOYEE GREEN TRAINING AND COGNITIVE GREEN CRAFTING

Research Idea

Alice Carnovali, Università Cattolica del Sacro Cuore, Milan, Italy, alice.carnovali@unicatt.it
Rita Bissola, Università Cattolica del Sacro Cuore, Milan, Italy, rita.bissola@unicatt.it
Domenico Bodega, Università Cattolica del Sacro Cuore, Milan, Italy, domenico.bodega@unicatt.it
Barbara Imperatori, Università Cattolica del Sacro Cuore, Milan, Italy, barbara.imperatori@unicatt.it

Abstract

Through a randomized between-subjects experimental design, this research idea aims to compare the effectiveness of two kinds of Green Training programs. A first one aimed at generally raising awareness on environmental issues by leveraging employee emotional involvement, and a second one aimed at providing employees with specific instructions on green initiatives and behaviors at work. Drawing on Self Determination Theory, the research idea compares the role of these two kinds of Green Training programs, the most investigated ones within the bundle of Green Human Resource Management, in driving employee cognitive green crafting (i.e., the first step of the job crafting process). Additionally, drawing on Social Cognitive Theory, the role of employee green self-efficacy is also examined.

Keywords: Green Human Resource Management, Green Training, Cognitive Green Crafting, Green Self-efficacy, Experimental Design.

Research idea

This research aims to refine the understanding of green training (GT), the most implemented practice within the bundle of Green Human Resource Management (GHRM) (Ren et al., 2018). GT appeared as the first bridge between the literatures of human resource management and environmental management (Jabbour et al., 2008), and despite organizations increasingly resorting to it, to date it is not clear what kind of GT is most effective in achieving the intended outcomes, nor how it should be best designed (Jackson, 2022).

To address this gap, this study investigates the role of GT and green self-efficacy in promoting a green-oriented cognitive reframing of one's job. The contribution this research makes to GHRM literature is threefold. First, it compares the effectiveness of the two most commonly adopted kinds of GT in achieving the desired outcomes. Second, it leverages social cognitive theory (SCT) (Bandura, 1989) to provide insights into employee cognitive green crafting as a product of both personal and environmental determinants, thus enriching GHRM theoretical foundations. Third, it advances GHRM scholarship from a methodological point of view by employing a between-subject experimental design for the measurement of GT and the establishment of its causal influence on cognitive green crafting.

Such goals were achieved through a randomized between-subject experimental design to compare the effectiveness of two different kinds of GT programs, a first one aimed at generally raising awareness on environmental issues by leveraging employee emotional involvement, and a second one aimed at providing employees with specific instructions on green initiatives and behaviors at work. Results of an independent sample Mann Whitney U-test showed that the former kind of green training had a greater impact on employee cognitive green crafting as indicated by a statistically significant difference in mean scores ($p<0.015$). Moreover, results of a regression analysis supported the role of green-self efficacy in increasing employee likelihood to engage in cognitive green crafting ($\beta= 0.3637$; $p < .001$). Overall, these findings are aligned with SCT and self-determination theory. While the former supports the interplay of organizational and personal elements in shaping green attitudes and behaviors (Bandura, 1989), the latter emphasizes the need for employee self-determination and autonomy in leading to greater levels of employee commitment towards environmental conservation (Deci et al., 2017). Results are relevant to the managerial practice as well, providing managers with guidance on how to best design and implement GT programs aimed at promoting a shift in the employee cognitive reframing of their green tasks.

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SOCIAL SUSTAINABILITY AND WELL-BEING SATISFACTION: A MIXED-METHOD APPROACH

Short Paper

Francesca Mochi, Università degli Studi di Milano, Milano, Italy, francesca.mochi@unimi.it
Alessandra Lazazzara, Università degli Studi di Milano, Milano, Italy, alessandra.lazazzara@unimi.it
Franca Maino, Università degli Studi di Milano, Milano, Italy, franca.maino@unimi.it
Asia Guerreschi, Università degli Studi di Ferrara, Ferrara, Italy, asia.guerreschi@unife.it
Alessandro Margherita, Università del Salento, Lecce, Italy, alessandro.margherita@unisalento.it
Davide Antonioli, Università degli Studi di Ferrara, Ferrara, Italy, davide.antonioli@unife.it

Abstract

The growing focus on social sustainability underscores the need to promote human-centred cities, organizations, and lifestyles that foster well-being throughout the lifespan. Understanding what shapes individuals'— especially workers'—well-being is thus increasingly important. Although Corporate Social Responsibility (CSR) policies affect well-being at both organizational and societal levels, scholarly research often examines these streams of research in isolation, failing to acknowledge their interconnected nature. Our study addresses this gap by exploring how organizational socially sustainable practices affect workers' overall well-being. We adopt a mixed-methods approach: a quantitative survey investigates whether CSR practices impact well-being satisfaction, while qualitative open-ended responses offer insights into how workers perceive their own well-being. By including voices from diverse organizations, professions, and sectors, the study provides a broad and integrated understanding of CSR's role in shaping well-being, emphasizing the need to go beyond isolated perspectives and embrace the complex interplay between work-related and private life dimensions.

Keywords: Social sustainability, Well-being, CSR, Mixed-method.

1 Introduction

The growing interest in social sustainability across societal, political, and business domains reflects the overall attention on creating cities, organizations and lifestyles that are human-centered and promote well-being throughout individuals' lives (Acik Etike & Erdonmez Dincer, 2024; Manzi et al., 2010)

It is therefore increasingly essential to understand the dynamics that influence individuals' – and especially workers' - satisfaction with their overall state of well-being. These aspects, however, are not static; rather, they evolve and are influenced by organizational policies and practices.

Corporate Social Responsibility (CSR) policies and practices play a crucial role in shaping employees' well-being by influencing both internal and external stakeholders (Macassa et al., 2021). Internally, CSR initiatives contribute to creating a supportive and ethical work environment that prioritizes employees' health, safety, equity, and professional development. By implementing inclusive policies, offering opportunities for growth, promoting work–life balance, and recognizing employee contributions, organizations foster a sense of belonging, motivation, and job satisfaction—all of which are key determinants of well-being. Externally, CSR reinforces the organization's social legitimacy and ethical reputation, which can indirectly enhance employees' pride and identification with their workplace. (e.g.

Cornelius et al., 2008). When employees perceive their organization as socially responsible— engaging actively in community development, environmental preservation, and socially sustainable practices—they are more likely to experience a sense of purpose and alignment with organizational values. This dual influence—through internal practices and external commitments—positions CSR as a strategic mechanism for promoting employees' well-being satisfaction.

Thus, CSR exerts influence both internally—on employees' working lives—and externally—on society and individuals' non-working lives. However, existing research tends to address these two dimensions in isolation, focusing either on the organizational or the societal level. This separation neglects the intrinsic connection between professional and personal well-being, along with the intertwined impacts of CSR on internal and external stakeholders. Recognizing this interdependence, our study adopts a broader perspective by examining the experiences of both employees across a variety of organizations, professions, and sectors. This inclusive approach allows us to explore the multifaceted impact of socially sustainable policies and practices on workers' well-being, aiming to capture a more comprehensive understanding of CSR's role beyond the boundaries of a single organizational context. Thus, our overarching research question is: Which individual and organizational related factors influence well-being satisfaction?

To address our research question, we adopted a mixed-methods approach. The quantitative method, based on a survey, serves an exploratory purpose: to identify if sustainability practices implemented by organizations have an impact on well-being satisfaction. The qualitative component, which includes open-ended questions, aims to deepen our understanding of how workers perceive their well-being satisfaction and how individual and organizational factors impact their definition.

2 Theoretical framework

In the literature, sustainability is conceptualized through three distinct perspectives (Chiu, 2004). The first is the development-oriented approach, which regards social sustainability as an essential element of sustainable development, rooted in social norms, values, and structures, with an emphasis on preserving societal traditions and frameworks (Sachs, 1999). The second is the environment-oriented approach, which frames social sustainability as a mechanism for addressing environmental challenges, serving as a crucial link between human societies and ecological objectives (Ahman, 2013). Lastly, the human-oriented perspective prioritizes the protection and enhancement of both present and future generations' well-being. This perspective has gained increasing recognition in recent years, highlighting the significance of social factors in achieving sustainability (Acik Etike & Erdonmez Dincer, 2024; Manzi et al., 2010). Rashidfarokhi et al. (2018) define social sustainability as a process aimed at sustaining and enhancing the well-being of both present and future generations.

A widely recognized strategic management approach through which organizations integrate environmental and social sustainability into their core operations and engage collaboratively with relevant stakeholders is Corporate Social Responsibility (CSR). CSR initiatives are commonly grouped into four main categories: environmental, philanthropic, ethical, and economic responsibilities (Khuong et al., 2021). Environmental CSR focuses on actions aimed at environmental protection, including efforts to reduce pollution and carbon emissions (Xia et al., 2018; Fukuda & Ouchida, 2020). Ethical CSR involves adherence to moral principles and values in stakeholder interactions, encompassing issues such as gender equality, fair wages, and improved work–life balance (Lin et al., 2020). Philanthropic CSR pertains to corporate support for social causes that benefit communities, such as humanitarian assistance in conflict zones or poverty alleviation (Lin et al., 2020). Economic CSR, on the other hand, centres on the financial dimensions of sustainability, integrating economic considerations into environmental, social, and ethical initiatives (Yadav & Mankavil Kovil Veettil, 2022).

There is a growing body of evidence suggesting that CSR contributes positively to the development of sustainable organizational practices (Alketbi, & Ahmad, 2024). These practices, in turn, can have a significant impact on enhancing the well-being of both employees and broader stakeholder groups. An effective approach to improving employees' perceived well-being is the active promotion of social sustainability via CSR policies and practices (Barrington-Leigh, 2016). This would allow HR

departments to develop programs aimed at raising awareness around social sustainability, as well as implement protocols and processes designed to support more sustainable employees' behaviours.

CSR encompasses an organization's obligations towards a diverse range of stakeholders, both internal and external (Macassa et al., 2021). Externally, CSR involves addressing the needs and expectations of the wider society and environmental sustainability, while internally, it pertains to responsibilities directed towards the organization's workforce (Zwetsloot et al., 2008; Aguinis, 2011). Internal CSR focuses on organizational policies and practices aimed at enhancing employee well-being, encompassing aspects such as occupational health and safety (Macassa et al., 2021), the protection of human rights (Al-Bdour et al., 2010; Ellemers et al., 2011; Chun et al., 2013), access to training and skill development, equal opportunities in the workplace (Ayub et al., 2013; Wambui et al., 2013), and support for work–life balance (Özbilgin et al., 2011).

Empirical research suggests a direct relationship between internal CSR and employees' well-being, particularly through indicators of job satisfaction that reflect employees' expectations about their organisations (Al-Bdour et al., 2010; Yousaf et al., 2016). Employees increasingly expect socially responsible behaviour from their employers, which includes recognition, reward systems, opportunities for personal and professional development, work–life balance, empowerment, organisational participation, and adequate retirement provisions (Zanko & Dawson, 2012).

3 Methodology

We adopted a mix-method approach. Initially, we adopted a quantitative methodology to explore how the perception of social sustainability within one's organization may influence well-being satisfaction.

The survey was disseminated through articles, newsletters, and social media platforms (specifically LinkedIn) and yielded a total of 317 responses. The only eligibility criterion for participation was having an employment.

The sample is composed of 67% women, with an average respondent age of 52 years. The educational level of participants is generally high: 63% hold a master's degree or equivalent, while 16% possess a doctoral degree or other advanced specialization. The private sector is more represented than the public sector, with 64% of respondents currently or previously employed in private organizations. The professional backgrounds of respondents are diverse, ranging from blue-collars to executives and researchers.

Well-being satisfaction: This variable captures the individual's level of satisfaction with both work-related and personal well-being (Magee, Scerri, & James, 2012). Example items include: "How satisfied are you with being part of your community?" and "How satisfied are you with the balance between your work and social life?" (Cronbach's Alpha = 0.83)

Social sustainability: This variable assesses the degree to which social sustainability is promoted within the organizational context (Mani et al., 2016; Staniškienė & Stankevičiūtė, 2018). Example items include: "My workplace has formal policies or initiatives that promote social sustainability," "My organization has a person or department responsible for social sustainability promotion," and "My organization makes me feel connected to the local community." (Cronbach's Alpha = 0.91)

Control variables included in the survey are gender, age, education, number of cohabiting children, employment sector, and years of work experience.

The qualitative methodology was assessed through open questions to the same 317 participants and aimed at understanding the participants' idea and definition of well-being.

4 Results

Hereafter, we present the exploratory quantitative results and the qualitative ones.

4.1 Quantitative results

We first conducted a two-step linear regression analysis. In the first step, the independent variables included control variables —such as gender, age, education, number of cohabiting children, sector of employment, tenure—while the dependent variable was well-being satisfaction. This step aimed to identify which individual-related variables had the greatest influence on perceived well-being. In the second step, we introduced the variable of social sustainability into the regression model.

As shown in Table 1, the regressions are significant and in Model 1 education level, employment sector, and number of cohabiting children have a significant and positive effect on perceived well-being. Interestingly, the number of years worked within the current organization does not appear to have a significant influence. When the social sustainability variable is included in the model, as presented in Model 2, it emerges as a significant and positive predictor of well-being satisfaction, while the control variables lose their significance. This suggests that if organizations—as well as municipalities and society at large—wish to enhance individuals' well-being satisfaction, they should focus first and foremost on implementing and promoting social sustainability policies and practices.

	Model 1		**Model 2**	
Variables	**Beta**	**p-value**	**Beta**	**p-value**
Gender	.023	.743	.040	.524
Age	.004	.271	.003	.344
Education	.101	.030	.072	.080
N. of cohabiting children	.097	.012	.059	.086
Sector	.195	.015	.010	.889
Tenure	.010	.826	.009	.820
Social sustainability			.355	.000
F-statistic	3.071	.006	15.778	.000
R-square	.053		.254	
N = 317. Gender dummy variable male = 1, Age continous variable, Education multicategorical variable from 0 = middle school to 5 = Phd or other specialization, N. of cohabiting children continous variable from 0 to 4, Sector dummy variable private sector = 1, public sector = 0, Tenure continuous variable n. of years spent working in an organization				

Table 1. Regression analysis with control variables and social sustainability as independent variables and well-being satisfaction as the dependent variable.

4.2 Qualitative results

Concerning the qualitative methodology, all the 317 participants were asked to respond to the following open-ended question: "In your own words, how would you define social well-being?"

Well-being satisfaction is a multifaceted construct shaped by both organizational policies and individual and private life characteristics. To begin exploring the relationship between these two dimensions in promoting well-being, we examine how the perception of well-being may vary according to a specific private life factor—namely, the number of cohabiting children. We distinguish our sample according to this factor since it resulted significant in Model 1. We applied the Gioia methodology (Gioia, Corley & Hamilton, 2013) to analyze and structure the emerging concepts and themes.

166 respondents declared to have 0 cohabiting children, and their well-being perception is mainly based on the table below:

Aggregate dimensions	**Second-order themes**	**First-order concept examples**
New ways of working	Agile working and flexibility	The possibility to work more from home since I am more productive when I work from home
	Work-life balance	Having a balance between my working life and personal one
Working conditions	Equality in working conditions	Having a non-precarious contract, it's been years since my contract has been precarious; Having a compensation that is enough to live with dignity
	Stress and burnout	Having time for myself, that is every day less present in my life; Not feeling stressed by my workload
Active citizenship	Decisions participation	Participating in decisions about my territory
	Institutional distance	Institutions that have an interest in citizens' opinions (and currently do not)
	Institutional communication	Institutions that communicate services in my area (and currently they don't)
Urban livability	Environmental impact	Have more green area; Have more spaces for meeting people and other citizens
	Urban mobility	Having less traffic and more efficient public transportation
	Economic pressure	Having lower costs to live in the city that is too expensive

Table 2. Dimensions of well-being perceived by respondents who have 0 cohabiting children.

60 respondents declared to have 1 cohabiting children, 73 respondents declared to have 2 cohabiting children, 18 respondents declared to have 3 or 4 cohabiting children, for a total of 151 respondents, and their well-being perception is based on the table below.

Aggregate dimensions	**Second-order themes**	**First-order concept examples**
Systemic and integrated well-being	Multidimensionality of well-being	Widespread well-being of society, considering multiple aspects: work, environment, economy, health, relationships.
	Health and safety	Living in a healthy environment where respect among people and freedom of action prevail; Being in the various life contexts (home, work, city...) in a situation of safety and health; A harmonious and inclusive environment for collective progress
	Collective well-being	Everyone lives well together; Having the feeling that well-being is shared and that people can rely on effective responses in times of personal, family, or collective difficulty
Quality of life	Availability of quality time	Free time for self and family; Need for emotional space and time; Need for improved work-life balance
	Welfare and services accessibility	Access to public services, healthcare and cultural services (that needed to be improved)
	Dignity and self-fulfillment	Importance of the recognition of skills and talents (overall, not only related to work); Living without worries (of food, security, etc)

Social cohesion and sense of community	Civic participation and sense of responsibility	Thinking about the common good, not just personal gain; Respecting civil coexistence and fulfilling tax and contribution duties
	Proximity and local relationships	Proximity relationships, neighborhood life, associations (places for gathering and dialogue); Living in a place made of things and people connected by trust and collaboration; A fair, inclusive community that offers widespread and sustainable tools to all citizens
Stability and personal growth	Family and work serenity	Having the resources to maintain a fundamental sense of peace and balance in family and professional life; Non-toxic culture at work and home
	Personal and professional development	An environment that fosters personal growth and improvement; Workplaces that support sharing and teamwork, guided by trained and competent leaders
Identity and relationships	Social inclusion	Feeling part of a community; meaningful and peaceful relationships with family, co-workers and the neighborhood
	Mutual aid	Supportive networks; Solidarity
	Authenticity and personal freedom	Being oneself everywhere; Spontaneity; Shared vision without constraints
Ethics and equity	Universal values and rights	Peace, justice and fundamental values shared with the community; Equal opportunities; Fair resource distribution; Inclusiveness and attention to the vulnerable
	Environmental ethics	Environmental care; future generations support

Table 3. Dimensions of well-being perceived by respondents who have cohabiting children.

The two tables converge around work-life balance, inclusion, services, equity, and sustainability, showing these are core well-being concerns. However, there are some differences too. Table 2 is grounded in practical challenges (urban mobility, burnout, precarious contracts), Table 3 introduces a holistic and collective lens, seeing well-being as a shared societal condition and it introduces emotional, ethical, and identity dimensions, reflecting a value-based vision of well-being.

5 Conclusions

The findings of this study reveal significant variation in how individuals perceive their well-being. Both the quantitative and qualitative results highlight that these differences are influenced by a mix of personal characteristics (e.g., number of cohabiting children, sector) and organizational factors, most notably the perceived presence of social sustainability practices.

In the quantitative analysis, social sustainability emerges as a key predictor of well-being satisfaction, outweighing the influence of traditional demographic variables. This suggests that organizations can play a crucial role in shaping employees' well-being by fostering inclusive, fair, and socially engaged workplaces (Staniškienė & Stankevičiūtė, 2018; Pandita et al., 2023).

At the same time, the qualitative responses - especially when categorized by number of cohabiting children - point to nuanced differences in well-being priorities across participant groups. This suggests that well-being satisfaction could be perceived differently according to different life cycle stages of individuals' private and organizational lives. When considered through the lens of the human and organizational life cycle, the relationship between sustainability and well-being could reveal distinct nuances across different life stages. Heller, Watson, and Ilies (2006) emphasize the importance of examining intra-individual variation in life satisfaction, highlighting how such variation is systematically linked to fluctuations in both job and private variables. In summary, the relationship between the human and employee life cycles and well-being satisfaction is dynamic and

multidimensional, and it can be shaped by various personal and organizational determinants such as gender, health status, caregiving responsibilities, commuting distance, etc. (Kooij et al., 2013).

Consequently, further research is needed to fully understand the complexity of the interrelation of life cycle stages and well-being perception and to develop targeted interventions aimed at fostering higher levels of satisfaction and well-being for employees throughout all stages of life.

6 Acknowledgements

This study was funded by European Union-Next Generation EU, Mission 4, Component 1, CUP G53D23004760006.

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SUSTAINABILITY AND DISABILITY MANAGEMENT: A LITERATURE REVIEW ON BUILDING RESPONSIBLE AND INCLUSIVE ORGANIZATIONS

Research Idea

Giuseppe Perna, Telematic University "Pegaso", Naples, Italy, giuseppe.perna@unipegaso.it
Paolino Fierro, Telematic University "Pegaso", Naples, Italy, paolino.fierro@unipegaso.it
Luisa Varriale, University "Parthenope", Naples, Italy, luisa.varriale@uniparthenope.it

Abstract

The study addresses critical issues related to personal identity, social integration, and workplace inclusion of people with disability, highlighting how the topic of access to employment is still marginalized. The literature shows little interest in the potential of people with disability, often limiting itself to formal compliance with hiring requirements. This approach hinders true inclusion and fails to capitalize on the opportunities that disability can offer to the business world. The study proposes a paradigm shift through the adoption of disability management, a model that encourages companies to recognize disability as a resource, moving beyond the obsolete welfare-based approach. The goal is to foster effective and mutually beneficial integration for people with disability and businesses. The research aims to promote greater awareness of the benefits of inclusion, not only at economic and regulatory level, but also at social and cultural level.

Keywords: Disability Management, Sustainability, Inclusion, Diversity Management, Human Resource.

1 Introduction

The work environment is crucial for identity, social integration, belonging, economic independence, and a sense of purpose, making the issue of access to employment and its inclusive relevance central. However, when these reflections are applied to disability, critical issues emerge: the topic is still considered marginal, as if it concerns only a few individuals, and the literature continues to show little interest in the phenomenon, often limiting itself to formal compliance with hiring requirements without leveraging its potential. It is therefore necessary to move beyond traditional strategies and develop new approaches that make the "disability market" more attractive to companies, fostering true inclusion and enabling people with disabilities to effectively meet production needs.

Our study has the ambitious goal of promoting awareness, by companies, of the advantages associated with the inclusion of people with disabilities in the workplace, not only from a managerial, economic, and legislative perspective, which is of greatest interest to the business context, but also from a social and cultural perspective. In this regard, it focuses on the disability management model, which has as its main objective that of ensuring that the company, aware of the countless advantages associated with the principle of inclusion and driven by the recognition of disability as a resource to be enhanced, adapts to it, and not, as instead happens in the old welfare model that has now become unsustainable, passively suffers the obligations of hiring concerning this category. Specifically, with the description of the disability management model, we intend to propose a new method aimed at bridging that gap that still today, inevitably, separates people with disability from the labour market, without forgetting the economic needs of the business reality.

2 Managing diversity in the company: diversity management

Diversity management, according to the most advanced positions in literature, constitutes an innovative approach in the management of diversity, based, on the one hand, on a positive vision of diversity, as a resource to be exploited, and, on the other, on an absolute cultural approval of the principles of inclusion and social openness, a fundamental prerequisite for building effective social integration both internally (among different collaborators) and externally (with the "different" stakeholders) (Geisen, Harder, 2011). It is a shared opinion that diversity management, while certainly productive from an ethical and moral perspective, contributing to creating more just organizations and true places of social growth, represents a strategic approach capable of increasing the value potential of the company. The values of inclusion and openness, shared and accepted by the entire corporate structure (management and employees), creating an integrated and flexible relational environment, allow to: reduce costs related to discrimination lawsuits; reduce employee turnover and increase productivity; promote interpersonal communication and, therefore, the dissemination and sharing of knowledge; facilitate organizational transformation processes (Cuomo, Metallo, 2007).

The results to which the adoption of a cultural and managerial approach aimed at enhancing diversity can lead are not automatic, however. In some cases, the literature is even in disagreement on the possibility that certain advantages can be pursued. In particular, the major debates concern the possibility of achieving an increase in creativity and a stronger team attitude towards problem solving (Kreitner, Kinicki, 2008). The position against the possibility of achieving such advantages is supported by noting that the increase in the diversity of human resources would damage the cohesion of the group, which, ultimately, would translate into poor quality of solutions to problems, deterioration of business relations and competitiveness of the company (Cuomo, Mapelli, 2007).

3 Disability Management: A Model for Work Integration

Diversity management aims to teach business operators the methodologies with which to integrate the bearers of various forms of diversity, be they gender, race, religion, culture, age, or ability, transforming what might seem like a critical element into a competitive advantage (Cox, Blake, 1991). Following the same point of view, disability management can be defined as “a workplace prevention and remediation strategy that seeks to prevent disability from occurring or, lacking that, to intervene early following the onset of disability, using coordinated, cost-conscious, quality rehabilitation service that reflects an organizational commitment to continued employment of those experiencing functional work limitations. The remediation goal of disability management is successful job maintenance, or optimum timing for return to work” (Akabas et al., 1992).

The success of disability management depends on the presence of the following values in the corporate culture: inclusion; integration; the centrality of the person; equity; ethics; the protection of health and the person; equality and social justice; trust in the potential of the differently abled resource; equal opportunities; accessibility; collaboration; participation; social commitment; respect for human rights and differences; reciprocity; openness to pluralism and interculturality; the fight against discrimination; democracy; correctness; responsibility; transparency (Angeloni, Borgonovi, 2017). If there is a lack of convinced and participatory adherence to these values, disability management risks degenerating into an anti-economic procedure, which absorbs time and resources, without generating the expected benefits (Buemi et al., 2015).

The hypothesis that economic and financial objectives can assume a significant weight in the choice to dedicate adequate resources to disability management derives from the consideration that this approach allows, for example, to reduce accidents in the workplace and the related costs (for example, legal costs and compensation for damages), to strengthen industrial and trade union relations, reducing strikes and improving employee morale and related productivity, to reduce the risk of accidents and, therefore, the amount of insurance premiums (Minelli, 2016). As rightly observed, the events and costs just listed are not "costs of doing business" but costs of "not taking care of business" (Geisen, Harder, 2011).

4 Methodology

Our research proposes to operate a systematization of scientific contributions on disability management, paying particular attention to studies conducted in Italy, through a systematic review to identify the main lines of research and key determinants. In particular, the aim is to highlight the importance and role that research can assume in the field of disability management, in relation above all to its multidisciplinary nature and complexity, but also to the recent attention that it appears to receive from the academic and business world.

The process of identifying studies on disability management policies, that is, on company policies aimed at the inclusion of workers with disabilities, includes articles published between 1980 and 2025, as disability management has developed, particularly in North America and Northern Europe, since the 1980s. The process of identifying studies on disability management policies, that is, on company policies aimed at the inclusion of workers with disabilities, began with a search within the Web of Science database of articles published between 1980 and 2018, as disability management has developed, particularly in North America and Northern Europe, starting from the 1980s. The following search criterion is used for the selection: the presence of the keyword "disability management" in the title and abstract of published works. Subsequently, all duplicates and articles irrelevant to the review are excluded and other relevant research is added instead. The final selection follows the following criteria: articles published in a journal that adopts a peer-review review procedure as well as studies that contain qualitative or quantitative research and with a focus on the factors that can influence the management of a resource with disabilities within a company work context. The search returned 143 items including articles, abstracts, etc., with an h-index of 16 and an average citation per year of 6.88; these are, for the most part, theoretical studies that adopt a qualitative methodology. An important research activity was concentrated between the end of the Nineties and the beginning of the new century, with the greatest production in 1999, while it is possible to deduce a continuous interest in the topic especially starting from 2005. The publications can then be grouped into different scientific research areas: the scientific area relating to rehabilitation presents the greatest number of publications, i.e. 83; the scientific areas that are of close interest to our research analysis, i.e. those relating to the state of health in the occupational field and business economics present, respectively, 59 and 40 publications.

Finally, we conduct a systematic literature review that maps and evaluates the body of literature by identifying potential research gaps, vividly showing the boundaries of knowledge in the managerial field on the concept of disability management. The systematic review is completed with an interactive process between researched literature and analysis. The VOSviewer clustering algorithm was applied, which uses an optimization algorithm to systematically identify clusters of terms, that is, thematic areas, based on their relationship patterns (van Eck, Waltman, 2010, 2014). The VOSviewer clustering algorithm identified two clusters of terms: cluster 1, to identify research on the need for personalized disability management policies based on the type of disability, both for the adaptation of the working environment and for a targeted management of the disabled resource, from the recruitment phase to that of the possible reintegration in the case of supervening disability; cluster 2, to identify the set of research focused on the effects of disability management on improving the productivity of the disabled resource. The analysis confirms the orientation of the literature towards disability management, considered as a tool for reducing costs and improving the efficiency and productivity of resources with disabilities.

5 Preliminary results and concluding remarks

Disability management is therefore configured as a proactive strategy in identifying and resolving all the factors that prevent people with any type of disability from accessing work (Wagner et al., 2018). The primary purpose of disability management is to adopt actions, policies, and procedures that meet the needs of disabled workers, enhance their abilities, and, at the same time, help spread a culture of disability within the company. This last aspect is particularly important, since some scholars (Busse et al., 2011), through the administration of questionnaires, have shown that disabled workers show a systematically lower job satisfaction compared to able-bodied workers and that, in large part, this is due to the existence of discriminatory and marginalizing behaviours.

In this context, we find the research conducted by Westmorland, Williams, Amick, Shannon and Rasheed (2005) aimed at bringing out the positive identity of disabled workers in terms of benefits for the organization. Focused on concerns related to workplace adaptations, necessary reorganizations, the reduced capacity of people with disability and their (presumed) reduced productivity, companies sometimes risk neglecting the great potential that these resources are able to offer. The logic, in fact, should be completely opposite: focusing on the optimal placement and the creation of conditions that best enhance the attitudes and abilities of people with disability (Buys et al., 2017).

The topic of disability represents a frontier that has not yet been sufficiently explored in academic research and managerial debate, and the few relevant works (which are not very recent) mainly concern the North American labor market. International scientific literature has so far focused mainly on aspects related to rehabilitation and reintegration into the workplace and prevention, but has not yet satisfactorily addressed the topic of welcoming and fully integrating differently abled individuals into productive organizations.

Disability management has the merit of overturning the logic and the final judgment on the "company-disabled" binomial. The logic changes, because it assumes that it is above all the company that must approach the disabled, and not vice versa. The final judgment changes, because it illustrates the multiplicity of benefits deriving from a work of adaptation to diversity (Borgonovi, 2009). In fact, the management that values the work of disabled resources, not only manages to improve their performance, but also activates all those mechanisms conducive to a good working climate, with positive effects on overall organizational productivity.

By developing a corporate culture based on diversity, the company builds a solid bridge towards Corporate Social Responsibility, incorporating methodologies that facilitate compliance with other ethical criteria. At the same time, the company is able to regularize itself without trauma and with greater speed to the set of regulations in force regarding the management of safety and health in the workplace. All this significantly reduces the legal risk of complaints, sanctions, convictions for discriminatory behavior, containing the insurance, legal and judicial costs associated with infringements (Carroll, Buchholtz, 2008). Embracing the image of a socially innovative company, which bases its difference on the "differences of others", allows the company to improve economic performance and, last but not least, to reclaim that social function that is a physiological and genetic trait of its operations.

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HUMAN RESOURCE MANAGEMENT AND EATING DISORDERS: A BIBLIOMETRIC REVIEW AND FUTURE RESEARCH AGENDA

Short Paper

Giuseppe Ceci, University of Rome, La Sapienza, Rome, Italy, giuseppe.ceci@uniroma1.it
Mauro Gatti, University of Rome, La Sapienza, Rome, Italy, mauro.gatti@uniroma1.it
Michela Iannotta, University of Rome, La Sapienza, Rome, Italy, michela.iannotta@uniroma1.it

Abstract

This study explores the intersection between eating disorders (EDs) and human resource management (HRM), a topic underexplored despite growing relevance. Through a bibliometric analysis following the PRISMA 2020 methodology, we map existing research and identify key themes: weight stigma and workplace discrimination, HRM's role in supporting employees with EDs, and broader organizational effects on well-being and performance. Although EDs and HRM have evolved separately, evidence suggests HRM can mitigate ED impacts through inclusive leadership, equitable policies, and targeted well-being initiatives. Contributing novel theoretical and practical insights, this work proposes a future research agenda emphasizing cross-cultural perspectives, workplace food-related social dynamics, and methodologies capturing employees' hidden experiences with EDs.

Keywords: human resource management; eating disorders; bibliometric analysis; PRISMA 2020

1 Introduction

Eating disorders (EDs) represent complex psychiatric conditions that can cause serious health issues, psychosocial impairments, and an elevated risk of death (Hambleton et al., 2022). Traditionally, the discourse surrounding EDs has focused on the identification of antecedents, prevention strategies, diagnosis, and treatment. Research has primarily examined EDs from medical and psychological perspectives, addressing both biological and cognitive-behavioral factors, and has considered populations across different age groups, from adolescents to adults (Fischer, 2003). In the organizational domain, a growing number of scholars are beginning to explore EDs and their implications in the workplace, given the emerging evidence linking these disorders to job stress, productivity, and overall employee performance (Atroszko et al., 202; Warren et al., 2013). In this context, however, there is a notable gap in explicitly connecting EDs with human resource management (HRM) practices—an oversight that appears paradoxical, considering that HRM is fundamentally concerned with individuals' well-being, professional development, and alignment with organizational goals. Indeed, HRM is the process of managing people in organizations, encompassing the strategies and tools used to ensure that employees are skilled, supported, and continuously developed in line with stakeholder expectations (Wilton, 2022). In this vein, HRM strategies are increasingly evolving into more innovative and care-oriented functions, aiming not only to enhance performance but also to prevent and support employees' mental health and overall well-being (Hamouche, 2023; Serenko, 2024). To date, some studies have demonstrated a growing interest in EDs within the workplace. However, the discussion and implications for processes typically managed by HRM remain underdeveloped, highly fragmented, and poorly interconnected. The main objective of this study is to map the historical trends that serve as a foundation for building future research agendas for both researchers and policymakers. This mapping serves to

identify significant research gaps, which can be crucial for further investigation. Specifically, this study aims to answer the following questions using a bibliometric approach: *What are the past and current trends in the published literature on human resource management and eating disorders?* and *What are the future research avenues in the respective domains?* The answers to the above questions are important for providing an overview of the past, present, and future research on the topic of HRM and its impact on EDs Further, they will enable researchers to develop a comprehension of all of the major developments in the research domain and identify possible research gaps for future studies. Theoretically, this study offers the first bibliometric analysis linking HRM and EDs, revealing a largely untapped field. While the topics have been treated separately, our findings highlight emerging connections and propose a future research agenda focused on organizational processes and contextual factors. Practically, the study provides insights for HR managers and policymakers to raise awareness and promote inclusive practices that support employee well-being.

2 Methods

To perform the bibliometric analysis, this study draws on three key components: (1) the Scopus database for data collection, (2) the PRISMA 2020 framework for systematic data screening, and (3) VOSviewer software (version 1.6.18) for conducting the analytical visualizations. Data were extracted from Scopus, a well-reputed database known for quality journals which is considered a profoundly solid database as it covers a broad scope of distributed material in different spaces, especially in the domain of HRM (Khan & Muktar, 2020). The criteria for searching different articles play a crucial role in data extraction. As this paper is intended to investigate the relationship trends between HRM and EDs, the following search string was applied:

• Scopus TITLE-ABS-KEY ((Human_Resource_Management) AND (Eating_Disorders)). The Data Extraction date is 10 February 2025. This led to the extraction of 312 documents altogether from 2002 to 2025. Although the both the terms HRM and EDs present in the literature before the year 2002, there is no prior literature available on HRM leading to EDs. To conduct our analysis, we employed the PRISMA protocol. Indeed, the PRISMA approach is widely recommended for the screening process of the data. It consists of 3 steps as described in Figure 1: identification, screening of data for exclusion and lastly the inclusion of the final material required for the review (Page et al., 2021). In the first step, identification, the Scopus database provided 315 articles in total. At this stage, before screening, 5 articles were removed, as some files had duplicates and one file had blanks in it, which could lead to misinformation. Therefore, in the second step, 258 records were eliminated after careful reading the titles and abstracts.

Then, we retrieved a total of 49 articles that addressed the relation between HRM processes and EDs. After reading the whole articles, we only selected those in which HRM was linked with EDs or HRM practices (e.g., recruitment, selection, hiring, training, performance appraisals, well-being) or had some linkages in terms of potential intervention of HRM function. Out of these 28 retrieved articles, four were further removed, as they were inaccessible conference papers. At the final stage, 24 published articles were selected for analysis. There are no set guidelines available for the sample sufficiency criteria; however, past studies have shown that even a sample size of less than 50 articles is acceptable in bibliometric analysis (Khan et al., 2023).

To this aim, the PRISMA approach helps researchers to eliminate irrelevant information so that the findings provide focused insights. Thus, the sample size of this study was sufficient for the bibliometric analysis (Page et al., 2021).

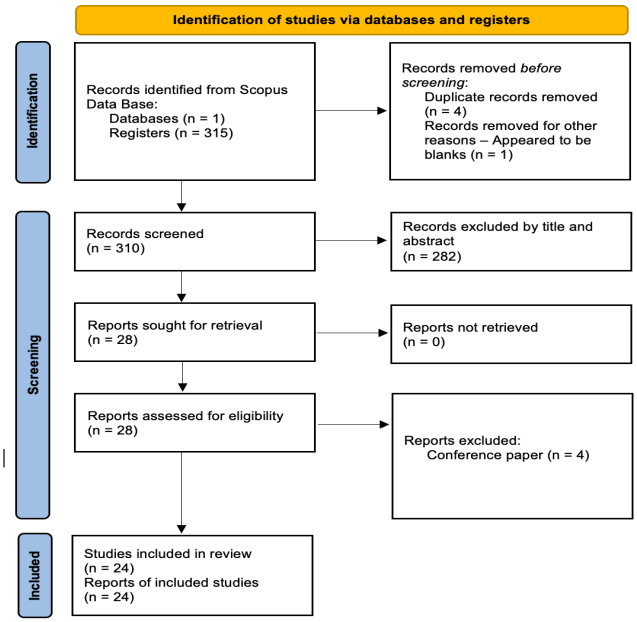


Figure 1. PRISMA approach.

VOSviewer software (version 1.6.18) was used to run the bibliographic analysis. This software was selected because of its user-friendly interface and attractive visual representation of the results. It helps to run different analyses, to know the impactful authors, number of citations, major countries contributing to the given domain, major institutes working in this field, bibliographic coupling analysis, and major documents co-authored. Additionally, VOSviewer can better examine the bibliographic pointers more efficiently.

3 Results

Given the word count limitations of this article, we present here only a selection of the most relevant findings from our broader bibliometric analysis. After describing key publication trends and disciplinary and geographical patterns, we narrow our focus to the final set of selected papers and use these as the basis for developing a research agenda aimed at advancing the intersection between HRM and EDs.
Figure 2 shows how the number of publications on this topic has evolved over time. Between 2009 and 2017, the trend remained relatively flat, with only minor fluctuations. However, starting in 2021 and continuing through early 2025, there is a clear upward trajectory, indicating a growing academic interest in how EDs intersect with workplace dynamics. The year 2023 stands out as the most productive, with 5 articles published—nearly one-third of the total output.

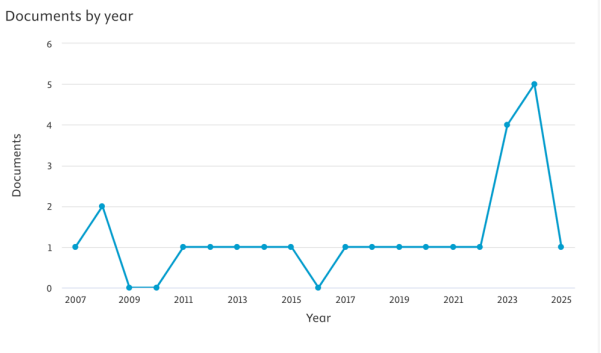


Figure 2. Articles by year.

Out of these 24 published articles, 5 were published in 2023, which is the highest number of publications in a year. This suggest a rapid increasing in bridging the two research fields which have been mostly treated as separately areas. In terms of disciplinary distribution (Figure 3), Psychology is the most represented field, accounting for 34% of the total articles. This reflects the deep clinical and cognitive-behavioral roots of eating disorder research. However, Business, Management and Accounting follow closely at 20%, indicating a growing recognition of the role organizational contexts—and especially HRM practices—can play in either mitigating or exacerbating EDs. Medicine (12%) and Social Sciences (10%) round out the top four, together making up over three-quarters of the research landscape.

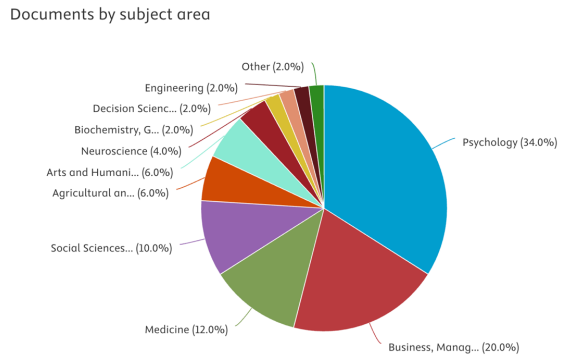


Figure 3. Articles by subject area.

Geographical patterns (Figure 4) reveal a concentration of studies in the United States, the United Kingdom, and Canada. Contributions from countries such as China, Egypt, Israel, the Netherlands, Poland, Spain, and Singapore are present but relatively sparse. This suggests uneven levels of academic engagement and policy development related to EDs in the workplace. The strong presence of North American and UK-based research may reflect more mature discussions around mental health at work and more established frameworks for employee well-being. Conversely, the relative lack of studies from the European Union and other regions highlights an opportunity for greater contextual diversity in future work.

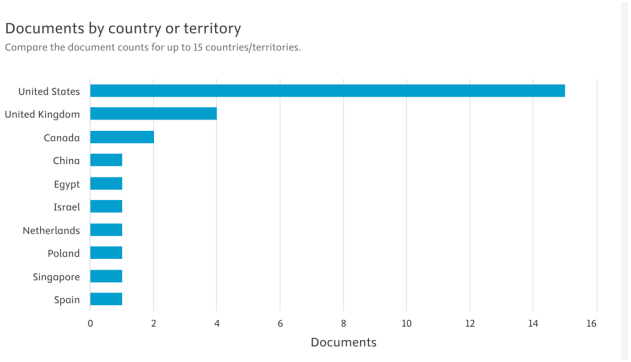


Figure 4. Articles by country or territory.

Taken together, these results point to an emerging yet fragmented field. In the following sections, we examine the final set of selected papers and draw on them to propose a research agenda capable of addressing the current gaps and guiding future studies in this area.

Indeed, our analysis reveals that EDs and HRM have largely been examined as separate domains. When HRM does appear in studies related to EDs, it is rarely the central focus. Instead, it is most often mentioned in the concluding sections—as part of future research directions or as a potential area for

intervention—rather than being explored in depth from the outset. Only recently have scholars begun to consider the implications of EDs within organizational life, highlighting how HRM practices could shape employees' experiences and well-being. In this emerging body of work, some studies have examined the direct influence of HRM on workplace health outcomes, while others have included mediating or moderating variables, such as leadership styles or organizational culture. These studies point to a growing awareness of the relevance of HRM but also underscore the lack of sustained, theory-driven research that systematically integrates EDs into core HRM frameworks. Table 1 summarizes the key contributions from this emerging literature.

4 Discussions

Our analysis identifies three core themes in existing research on EDs and HRM: (1) weight stigma and its impact on HRM practices, (2) HRM's role in supporting employees with EDs, and (3) the broader organizational effects of EDs on well-being and performance. Weight-based discrimination remains critical in workplaces, significantly affecting employee well-being and organizational culture. Employees with higher body weight frequently face mistreatment, harming their engagement and performance. Lemmon et al. (2025) highlight HRM's role in addressing weight-based mistreatment. Merritt et al. (2023) emphasize biases faced by larger-bodied leaders regarding perceived leadership effectiveness. Lemmon et al. (2022) and Swami et al. (2008) reveal experiences of stigma and objectification among larger-bodied employees, which HRM can mitigate through inclusive policies and education. Roehling et al. (2008) stress the importance of HRM addressing stereotypes of overweight employees. Johnson et al. (2024) note HRM's role in providing support to employees affected by EDs, enhancing their sense of value. Peleg et al. (2024) underscore HRM's potential to mitigate emotional distress and work-related stress. Schmid et al. (2024) demonstrate the effectiveness of weight-inclusive wellness programs. Cronin et al. (2023) advocate proactive HRM approaches distinguishing mental health from mental illness, and Toro et al. (2023) suggest the efficacy of online mental health resources like CBT-T. Siegel et al. (2020, 2019) highlight HRM's role in addressing compounded stigma related to gender among employees with EDs. Regarding organizational performance, Hernández-López et al. (2024) discuss HRM's role in enhancing body image flexibility. Üngüren et al. (2024) explore how HRM can reduce EDs through healthier workplace practices. Tian et al. (2023) emphasize HRM's ability to mitigate deviant behaviors stemming from organizational shame. Atroszko et al. (2021) note common factors between work addiction and EDs, suggesting HRM should address both within health initiatives. Krueger et al. (2014) and Bartels et al. (2013) illustrate biases in hiring processes influenced by weight and EDs, reinforcing HRM's responsibility for equitable recruitment. Bento et al. (2012) and Finkelstein et al. (2007) further demonstrate weight bias impacts on performance appraisals and hiring, underlining HRM's role in fostering fairness to enhance organizational productivity and employee well-being. Our future research agenda suggests examining EDs in understudied organizational contexts (e.g., consulting, healthcare, high-pressure firms), exploring geographical diversity beyond North America (particularly Europe), and investigating leadership roles in supporting employees with EDs without reinforcing stigma. Further studies could examine food-related workplace dynamics and expand bibliometric searches using broader keywords.

Limitations include assumptions linking overweight and obesity directly to EDs, recommendations mostly relevant for larger organizations, and reliance on English-language literature indexed in Scopus, limiting the global and cultural scope of findings.

5 Conclusions

This study presents a bibliometric exploration of the relationship between HRM and EDs. To the best of the authors' knowledge, this is the first systematic attempt to connect these two research domains in a clear and structured way. Theoretically, the paper contributes to bridging the gap between

organizational studies and mental health literature, highlighting how EDs—often treated as clinical or individual issues—also have organizational dimensions that deserve attention. Our bibliographic analysis reveals that the intersection between HRM and EDs is still in its infancy, marked by notable gaps and significant opportunities for future inquiry. The research agenda proposed here encourages scholars to explore both process-level dynamics (such as recruitment, performance management, and leadership) and contextual factors (including sector-specific challenges, cultural norms, and institutional frameworks). Practically, this work offers valuable insights for HR managers, inviting them to reflect on how EDs may manifest in the workplace and what role organizational practices can play in either exacerbating or alleviating these conditions. It also provides a starting point for policymakers—particularly in countries or regions where the topic is under-addressed—to support awareness and develop guidelines that help organizations build more inclusive, stigma-free environments. As mental health continues to gain recognition in workplace discourse, we believe that understanding and addressing EDs within HRM frameworks is both timely and necessary.

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BUILDING A POSITIVE ORGANISATION: CULTURAL TRANSFORMATION AND THE ROLE OF CHIEF HAPPINESS OFFICER

Short Paper

Maria Menshikova, Universitas Mercatorum, Rome, Italy, maria.menshikova@unimercatorum.it
Isabella Bonacci, Universitas Mercatorum, Rome, Italy, isabella.bonacci@unimercatorum.it
Danila Scarozza, Link Campus University, Roma, Italy, d.scarozza@unilink.it

Abstract

In response to growing concerns about employee wellbeing and disengagement, this study explores the role of the Chief Happiness Officer (CHO) in fostering positive organisational culture. Through narrative analysis of 95 certified Italian CHOs, the research examines their profiles, motivations, actions, and the factors that support or hinder their efforts. CHOs come from diverse backgrounds and act across strategic and operational levels to promote wellbeing and cultural transformation. The study explores the evolving role of CHOs in the transformation of organisations towards positive ones, offering interesting insights for the scientific and managerial community.

Keywords: Positive organisation, positive leadership, positive organisational culture, cultural transformation, Chief Happiness Officer

1. Introduction

Over the past decade, employee wellbeing, job satisfaction, and work engagement have experienced a persistent global decline, as evidenced by numerous international reports. The most recent Gallup State of the Global Workplace Report (Gallup, 2025) highlights that only 34% of employees worldwide are currently thriving. This downward trend is particularly evident among younger workers under the age of 35, whose wellbeing has dropped from 35% to 31%. Moreover, only 23% of employees globally report feeling engaged in their work. While this figure reaches 33% in North America, it falls drastically to just 8% in Italy. Additionally, 41% of employees report experiencing daily stress, and 20% report feelings of loneliness, rising to 25% among fully remote workers. These findings also reflect the date presented in the World Happiness Report 2025 (Helliwell et al., 2025), which indicates a similar decline in subjective wellbeing among Italian workers, with a marked generational gap. Although Italy ranks 40th globally in overall happiness, workers born before 1965 report significantly higher levels of life satisfaction than millennials and Generation Z. This generational divide reflects broader global dynamics and points to increasing social fragmentation, rising loneliness, and pervasive uncertainty about the future, especially among younger cohorts. In light of these alarming trends, a growing number of organizations are questioning how they can respond effectively. How can they support the wellbeing of their workforce, reignite engagement, and cultivate meaningful work experiences for a multigenerational employee base? This study is motivated by the urgency of these questions. It aims to explore how organizations can evolve into positive workplaces that not only address symptoms of disengagement and psychological distress but also proactively foster wellbeing and happiness.

The structure of the paper unfolds in four main sections. The first section presents the theoretical framework, offering a review of the main concepts related to positive organizations and the emerging role of the Chief Happiness Officer. The second section is related to research methodology and details the approach adopted for data collection and analysis. The third section outlines the key findings of the empirical investigation. Finally, the conclusion interprets the results in relation to the research

questions, as well as acknowledges the study's limitations and suggests possible developments of the research.

2. Theoretical framework

The concept of the positive organisation has gained growing attention of the scientific community over the last decades, particularly within the field of organisational psychology and behaviour. Di Fabio (2017) defines positive organisations as healthy systems that go beyond productivity and efficiency, embracing a holistic approach that values the wellbeing of individuals, groups, and stakeholders. A central component in these organisations is the development of a positive organisational culture, which underpins not only individual flourishing but also collective performance and long-term sustainability. Procter (2024) identifies the core elements of a positive organisational culture, including effective communication, clearly articulated values, and inclusive practices. These elements are shown to significantly enhance job satisfaction and strengthen employee engagement. Complementing this perspective, Bertulani (2023) proposes seven actionable strategies for cultivating a positive organisational culture: clear definition and communication of organisational values, encouraging open dialogue, promoting diversity and inclusion, supporting employee development, recognising and rewarding performance, fostering work-life balance, and leading by example.

Regarding the benefits of a positive organisational culture, they are manifold. Research demonstrates that such environments lead to enhanced employee wellbeing, motivation, resilience, and lower stress levels (Luthans & Youssef, 2007; Bakker & Schaufeli, 2008). At the organisational level, positive cultures drive innovation, collaboration, and adaptability, contributing to improved team dynamics and employee engagement (Diener et al., 2020). Moreover, positive social interactions contribute to the development of sustainable inner resources and resilience (Heaphy and Dutton, 2008). These positive social relationships are fundamental to creating organisational vitality (Ragins & Dutton, 2017).

Another recurring theme in the literature is the central role of leadership in shaping and sustaining a positive organisational culture. Leadership styles, as ethical, servant, and sustainable leadership, are key to nurturing environments centred on meaning, growth, and wellbeing (Di Fabio, 2017). Positive leadership behaviours have been shown to correlate strongly with employee wellbeing and psychological safety (Kelloway et al., 2013). Yammarino et al. (2008) describe the positive leader as one who embodies authenticity, emotional intelligence, hope, and optimism that are key traits for inspiring positive organisational behaviour. Moreover, Miller et al. (2020) underscore the importance of authentic leadership in creating human-centred workplaces where happiness becomes a shared organisational value. It is important to note that positive organisations are not the product of isolated interventions, but the result of a systemic commitment to cultivating positive work environments. While many organisations recognise the benefits of these approaches, their practical implementation often requires dedicated leadership and structural support. In this context, the Chief Happiness Officer (CHO) has emerged as a novel organisational role aimed at institutionalising the promotion of happiness, engagement, and wellbeing within the workplace (Tanquerel & Condor, 2020; Gennari & Di Ciaccio, 2022). The CHO functions as a change agent tasked with creating the conditions for a positive culture to flourish and align with the organisation's broader strategic vision (Araújo, 2020). This role entails the possession of specific skills, including emotional intelligence, communication, organisational behaviour expertise, and system thinking (Kjerulf, 2019). Despite increasing interest, the analysis on the role of Chief Happiness Officer is still emerging. Several scholars suggest that the major themes related to organisational happiness require deeper exploration and should be enriched through exploratory studies within real organisational contexts (Najeh, 2019). The present study seeks to address this gap by examining the emerging role of the Chief Happiness Officer within Italian organisations in the framework of organisational change towards a positive organisation. Specifically, the research questions are as follows: 1) What is the profile of CHO in Italian organizations? Who are they and what are their characteristics? 2) How does the CHO act to initiate the transformation towards positive organizational culture? 3) What elements support and hinder the transformation of organizational culture?

3. Materials and method

The research methodology adopted to investigate the research questions is qualitative, as the study has an exploratory nature and aims to gain a deeper understanding of the profile of Italian Chief Happiness Officers and the nature of their activities within Italian organisations. A narrative analysis approach was chosen, as it allows for the exploration of how CHOs construct, reflect, and shape their professional identities and lived experiences through storytelling (Sharp et al., 2019). Moreover, some previous research (Vaara et al., 2016; Dalpiaz et al., 2018) highlight that narratives play a pivotal role in shaping how organizations maintain continuity or undergo transformation in order to explore in depth the processes through which organizational actors construct meaning, navigate transitions, and respond to evolving contexts. To collect the CHO stories a Google Form was created in collaboration with the founders of the certifying body, culture company 2BHappy, Daniela Di Ciaccio and Veruscka Gennari. The form was distributed in February 2025 to the entire population of currently certified CHOs in Italy (approximately 400 individuals). Around one-quarter (95 CHOs) completed the Google Form, providing information about 1) Personal data (gender, age) and type of employment, 2) motivation in becoming CHO, 3) experience in transforming organizations towards positive ones (open questions). The information gathered through the open-ended questions allowed us to rebuild the CHOs' stories. The analysis of the stories has been conducted through the Greimas' actantial model to explore the narrative roles and dynamics in the CHOs' experiences (Iannotta & Polidoro, 2023).

4. Results

4.1. CHO profile

Regarding the profile of the people currently certified, the questionnaire asked about their age, gender, and employment typology.

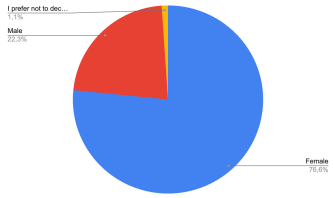


Figure 1. Gender distribution

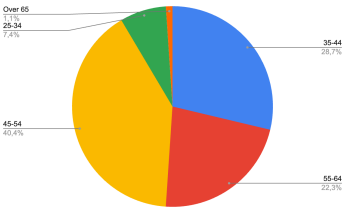


Figure 2. Age distribution

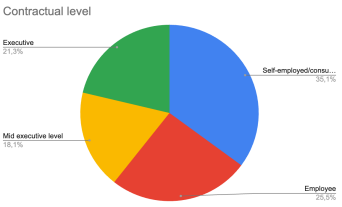


Figure 3. Employment typology

Fig. 1 shows the gender distribution of CHOs: a significant majority, 76,6%, identified as female, while 22,3% identified as male, approximately 1.1%, chose not to disclose their gender. Fig. 2 represents the age distribution of respondents. The largest group, accounting for 40,4%, falls within the 45–54 age range, followed by 35–44 (28,7%), and 55–64 (22,3%). Younger participants aged 25–34 represent 7.4%, while only a very small portion belongs to the over 65 age group (1,1%). Fig. 3 illustrates the type of employment of 95 respondents. The largest group, representing 35,1%, consists of self-employed or consultants. This is followed by employees at 25,5%, and executives at 21,3%, middle managers account for 18,1%. Notably, no respondents identified as workers.

4.2. CHO experience through the Greimas' actantial model

In this section, the stories collected from 95 CHOs will be analyzed through the main elements of Greimas's Actantial Model, which consists of: 1) subject, 2) object, 3) sender, 4) receiver, 5) helper, and 6) opponent. Furthermore, the actions the subject undertakes to reach the valued object is described as the "actions".

4.2.1. Subject

In the framework of Greimas' actantial model, the CHO can be viewed as the Subject - the central actor committed to pursuing a specific mission: promoting wellbeing and happiness within the organisation. As the Subject, the CHO actively engages in fostering a positive organisational culture and driving human-centred transformation, often navigating complex dynamics and different organisational structures. It is important to note the CHO is not necessarily a formally designated role; rather, it may be embodied by professionals operating under a variety of titles and positions. These include CEOs, COOs, and Managing Directors who integrate happiness into strategic vision; HR Directors and specialists, who embed wellbeing into people management practices; Training and Development professionals who design learning pathways to support flourishing at work; and Sustainability or CSR Managers who align happiness with broader social and environmental goals. Moreover, Marketing and communication managers may act as CHOs by shaping internal narratives and values. Along with this, external consultants, coaches and trainers, and temporary managers often serve as catalysts for cultural transformation through specific intervention in a specific period of time.

4.2.2. Object

Fig. 4 illustrates the object of value that the CHO aims to achieve through obtaining the CHO certification: a dual-impact transformation that integrates personal development and organisational change. On the individual level, the certification supports personal and professional growth, the acquisition of knowledge and tools, as well as the legitimisation of a personal vision centred on happiness and meaningful work. On the organisational level, it empowers CHOs to drive cultural transformation in the organisations, shifting the focus from toxic productivity to human-centred practices, and promoting happiness and eudaimonic wellbeing in the workplace.

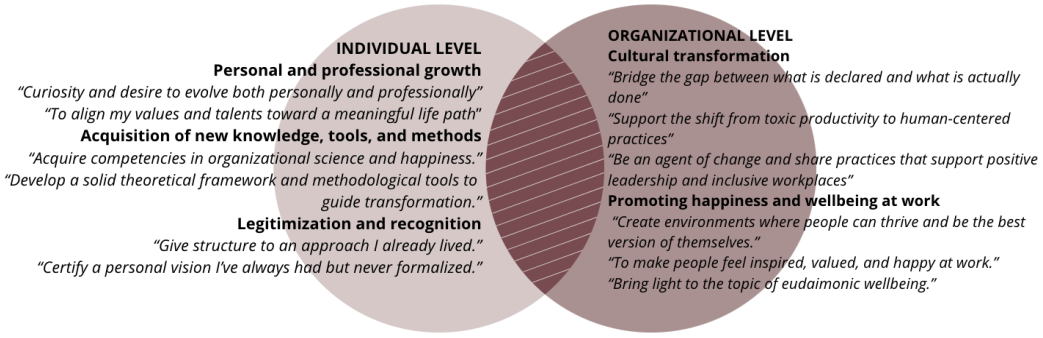


Figure 4. The object of value

4.2.3. Sender

The "Sender" in the actantial model represents the driving force that initiates the CHO's journey and mission. In this context, the sender is a combination of internal motivations and external influences that push individuals to pursue the CHO role. On the internal side, motivations include personal experiences such as burnout or dissatisfaction, a strong alignment with personal values and purpose, the desire for personal and professional growth, and a visionary belief in the need for a more human and meaningful world of work. On the external side, influences come from other people, such as encouragement from managers, peers, or other CHO, as well as from broader social and cultural drivers (e.g. growing urgency to redefine work in terms of wellbeing, responsibility, and community impact). These forces, when combined, act as a sender, requiring the CHO's commitment to becoming an agent of change within organizations.

4.2.4. Receiver

The receiver of the CHO's actions includes multiple stakeholders who benefit from the cultural transformation inside the organisations. At the employee level, CHOs contribute to creating a more human-centred environment where "*people feel more valued, more motivated and are willing to give more and do better*". At the organisational level, CHOs play a strategic role in reshaping internal processes and vision: *"we wrote the corporate strategy for the four-year period 2025–2028 side by side with the CEO, considering the cultural transformation"*. Their actions also enhance employer branding: "*the attractiveness of our organisation has increased in the recruiting processes and for the employee retention"*. In the broader business system, the impact is reflected in improved stakeholder perceptions: *"I recognise the impact by reading customer reviews", "some suppliers have asked me what is happening because they see us more positive and happy*".

4.2.5. Helper

The "helper" is the actant figure that supports or enables the CHO in promoting a positive organizational culture. Fig. 5 illustrates the network of support systems that can assist the Chief Happiness Officer in leading a positive organisational transformation. These supports are mapped across two dimensions: internal vs. external, and people vs. initiatives/tools. On the internal side, CHOs are supported by internal allies such as HR teams, management, department heads, and motivated employees. They also rely on internal tools and programmes, including learning and development initiatives, behaviour and motivation analysis tools, and wellbeing surveys. On the external side, external supporters include organisations like 2BHappy Culture Company, other CHOs, and various wellness professionals such as psychologists, coaches, and health practitioners. Regarding external initiatives, CHO certification programmes, training events, and networking activities offer essential resources for learning, knowledge sharing and supportive community building.

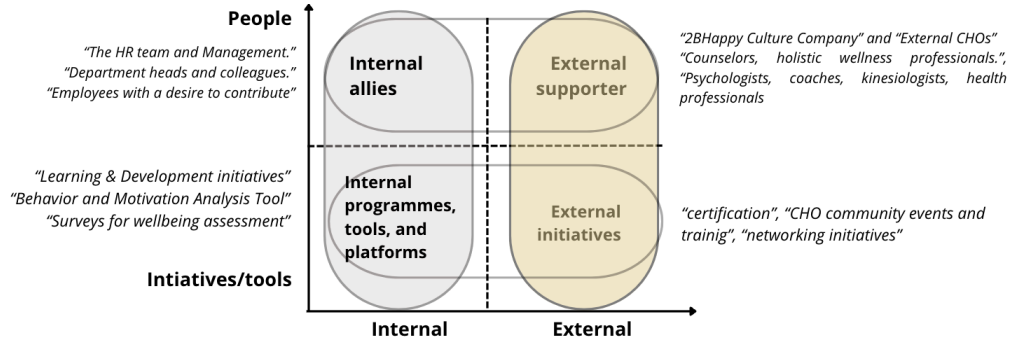


Figure 5. The helpers of CHO

4.2.6. Opponent

Fig. 6 shows the main opponents encountered by CHOs in their efforts to foster positive organisational transformation. These obstacles emerge from both individual and systemic sources, reflecting the complex nature of cultural change within organisations. One of the most pervasive barriers is the presence of toxic individuals and behaviours, such as colleagues who reject accountability, resist shared values, or display fixed mindsets. Closely linked is a lack of awareness, knowledge, and engagement regarding the concept of organisational happiness. Many individuals perceive happiness as a fleeting emotion rather than a developable skill, while others show superficial understanding or indifference, limiting active participation in wellbeing initiatives. Sometimes CHOs face emotional and personal limitations, particularly when operating in unsupportive contexts. Feelings of frustration, fatigue, and isolation are common, as some CHOs express the difficulty of sustaining motivation when structural resistance is strong: *"It's hard to maintain energy and faith when the context doesn't support change."* At the leadership level, traditional mindsets and resistance to change represent significant barriers. Many managers continue to reinforce outdated practices, showing reluctance to question their

own leadership styles. As one CHO reported, "*13 out of 15 managers showed strong resistance.*" Cultural barriers further complicate the CHO's role, especially in organisational contexts where rigid norms and gender imbalances persist. In some cases, local cultural values equate hard work with discomfort, or reject wellbeing initiatives as inconsistent with masculine organisational ideals. Another factor that could hinder positive organizational development is resource dependence. Many CHOs operate without dedicated budgets, institutional support, or continuity in action plans. As one of the respondents stated: *"I don't have the budget to communicate, train, or promote. It's difficult to do something without financial support."*

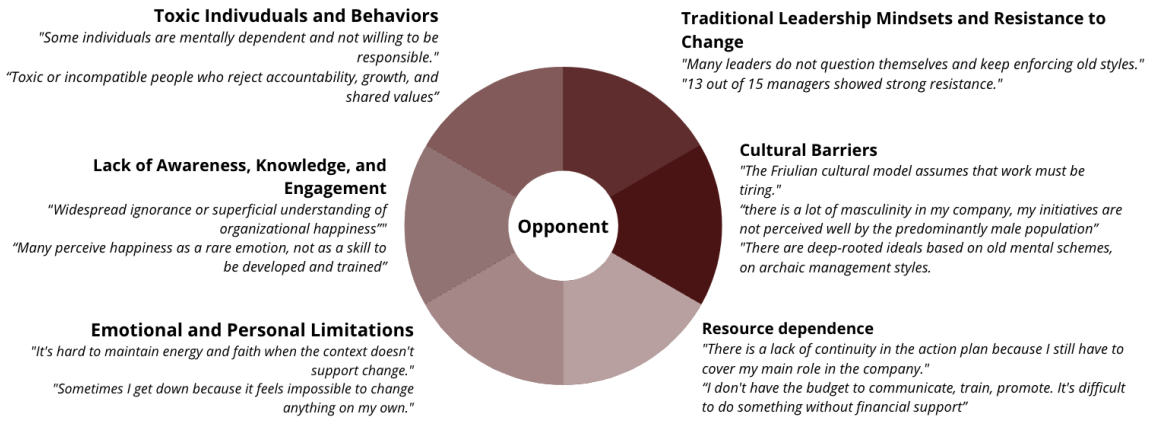


Figure 6. The opponents of CHO

4.2.7. Actions

To achieve the object of value, CHOs take action and engage in a series of initiatives and practices aimed at fostering a positive organisational culture. These actions reflect their active role as change agents and are summarised in Table 1:

Area	Quotes
Wellbeing	*"Yoga and mindfulness courses", "meditation courses and meetings", "corporate psychologist or social services", week dedicated to safety and well-being with dedicated initiatives and talks*
Work-life balance	*"Flexible hours, smart working, and self-managed leave and vacation", "Smart working and flexible hours to ensure work-life balance"*
Knowledge management	*"Convivial moments of sharing and exchanging information", "happy news", "Coffee breaks between departments to get to know each other better with games", "monthly sharing meetings"*
Feedback	*"I focus on one tool: using feedback as a means to build trust and foster individual growth", " Moments of listening, moments of dialogue", "development of the feedback system"*
HR development	*"Personal paths of colleagues, designing a career ladder for them", "effective communication course", "external and internal training", "Assigning increasingly more responsible roles", "annual review of levels and salaries"*
Organizational rituals and events	*"Team building and corporate dinners", "shared corporate volunteering projects", "playtime", "Dinners, aperitifs and company trips", "coffee break together", "Happy Board to highlight the beautiful things"*
Workspace design	*"Aesthetically pleasing and bright offices", "creating a meditation room", "company library", "relaxation areas", "equipped garden"*

Table 1. The main areas of CHO intervention inside the organization

5. Conclusion

This study set out to explore the emerging role of the Chief Happiness Officer within Italian organisations, aiming to deepen our understanding of who these professionals are, how they operate, and what supports or hinders their efforts to foster positive organisational culture. In response to RQ1, the findings reveal that CHOs are individuals operating at different levels and positions within organisations, from top executives to middle management and external facilitators. Many CHOs are professionals with backgrounds in HR, general management, sustainability, communication, or coaching. The role is predominantly held by women aged between 35 and 64. Motivations to become a CHO often stem from personal aspirations such as career development, recognition, and alignment with personal values, as well as a strong desire to contribute to cultural and organisational transformation. Common traits among CHOs include empathy, resilience, optimism, and collaboration. Their competencies span knowledge areas such as organisational behaviour, happiness science, emotional intelligence, DE&I, and sustainable practices, alongside skills in coaching, communication, project design, and change management. Regarding RQ2, it is possible to claim that the CHO acts as a change agent who initiates and supports the transformation toward a positive organisational culture. They do so by intervening on different cultural levels. On the surface level, CHOs influence artifacts by implementing visible changes—such as wellbeing initiatives, redesigned physical spaces, inclusive events, and internal communication platforms. On a deeper level, they promote shared values like wellbeing and happiness at work, inclusion and positive leadership, helping shift the organisational climate from individualism to collaboration. Although changing underlying assumptions is more complex, CHOs contribute by modelling trust, responsibility, and authenticity, setting an example that gradually influences the broader culture. In response to RQ3, the study identifies a variety of factors that either support or hinder the CHO's mission. Key enablers include the CHO's personal traits and skills, internal allies (e.g., HR professionals, team leaders, and engaged employees), and external supporters such as wellness professionals, coaches, and CHO networks. Tools like wellbeing platforms, feedback systems, and structured rituals also reinforce cultural change. On the other hand, CHOs often face significant obstacles: resistance from traditional leadership and rigid hierarchies, lack of awareness, cultural and demographic biases (e.g. prevalence of old-school men), toxic behaviours, and limited access to resources such as time and budget.

This study has several limitations. Its exploratory and qualitative design provides rich, context-specific insights but limits generalisability. The reliance on self-reported data introduces the potential for bias, as participants may present idealised accounts of their roles or impact. Furthermore, the research does not assess the long-term outcomes of CHO-led initiatives, nor does it include quantitative measures to validate their effectiveness. Future research should aim to build on these findings by conducting longitudinal studies that evaluate the sustained impact of CHO interventions on employee wellbeing, engagement, and organisational performance. Comparative analyses across industries, countries, and organisational sizes would offer valuable insights into contextual differences. Further studies could also investigate how formal organisational structures and HRM systems can integrate and support this role more effectively.

6. Acknowledgements

Acknowledgements are extended to the founders of Culture Company 2BHappy, Daniela Di Ciaccio and Veruscka Gennari, for the support provided during the data collection process.

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RETHINKING HRM FOR DISABILITY: LEARNING FROM THE PAST, SHAPING THE FUTURE

Short Paper

Giulia Flamini, Università Politecnica delle Marche, Ancona, Italy, g.flamini@staff.univpm.it
Enrico Cori, Università Politecnica delle Marche, Ancona, Italy, e.cori@staff.univpm.it
Chiara Morelli, Università del Piemonte Orientale, Novara, Italy, chiara.morelli@uniupo.it

Abstract

This paper investigates the complex relationship between Human Resource Management (HRM) practices and Disability Management (DM), aiming to understand how organizations can enhance inclusion and equity for people with disabilities. Drawing on a combined bibliometric and topic modeling analysis of 106 peer-reviewed publications, the study maps the main research areas and identifies key conceptual linkages between HRM and DM. Building on these insights, the paper proposes an interpretative framework grounded in Sustainable Human Resource Management (Su-HRM), which integrates ethical, social, and long-term perspectives into HRM practices. The findings suggest that sustainability-oriented HRM can foster inclusive organizational cultures, improve employability and well-being of employees with disabilities, and contribute to broader social and economic sustainability goals. The paper concludes by outlining future research directions aimed at advancing the integration of Su-HRM principles into disability-inclusive organizational strategies.

Keywords: Human Resource Management, Disability, Inclusion, Sustainability, Employment.

1 Introduction

The paper explores the complexity surrounding the relationships between HRM practices and disability management (DM). Initially, the authors critically analyze and synthesize existing research (Patriotta, 2020) through a literature review and a bibliometric study (Porter et al., 2002) combined with Topic Modeling (TM). Then, to offer new possible developments of the research line, they compare the observed topics with the latest lens of HRM literature, Sustainable Human Resource Management. We try to answer two main research questions: a) what we know about the areas of interest and trends in HRM research in Disability management (RQa) and, (b) how could Sustainable HRM contribute to future research and development on HRM for PWDs? (RQb).

2 Theoretical background

Just as the definition of disability has evolved over time, so too has the relationship between Human Resource Management (HRM) and Disability Management (DM). Historically, worker health within organizations was viewed primarily as a form of human capital investment—an input for productive labor (Caron, 2021). Disability, from this perspective, was framed as a medical issue (Davis, 2005), often seen as a cost factor and a barrier to productivity. In the mid-2000s, a shift occurred with the emergence of the social model, which reframed disability as an outcome shaped by social and environmental barriers. Reflecting this view, the World Health Organization (2011) defined disability as "the umbrella term for impairments, activity limitations, and participation restrictions, referring to the negative aspects of the interaction between an individual (with a health condition) and that

individual's contextual factors (environmental and personal factors)" (p. 4). This marked a significant step toward understanding disability as a relational and contextual phenomenon.

More recently, the ecological perspective has gained traction. It conceptualizes disability as the result of dynamic interactions among impairments, activity limitations, and participation restrictions in specific physical or social environments such as the workplace, home, or school (HRDC, 2003). In this view, "disability depends on the environment in which a person lives and carries out daily activities. If the environment is adapted to the person, the disability can change or even disappear" (HRDC, 2003, p. 7). When applied to the workplace, this perspective highlights the organizational responsibility to actively accommodate and integrate People with Disabilities (PWDs) into the workforce (Gröschl, 2007). Despite growing awareness, PWDs remain one of the world's largest minority groups—approximately 1.1 billion people globally (World Health Organization, 2018)—and continue to face disproportionate levels of job insecurity, underemployment, and unemployment (Schaap et al., 2023). This has prompted scholars to investigate how organizations can effectively include PWDs and even transform inclusion into a source of competitive advantage (Klinksiek et al., 2023). Concurrently, in the past 10–15 years, the global business context has pushed organizations to pursue broader objectives beyond financial performance (O'Higgins & Zsolnai, 2017). This shift has led to increasing attention to Sustainable HRM (Su-HRM) practices (Aust et al., 2020). Su-HRM emphasizes long-term influences—such as climate change, demographic shifts, and social inequality—over short-term financial gains. It seeks to manage human capital in a responsible and ethical manner while fostering organizational sustainability (Jackson & Ruderman, 2013). A core component of Su-HRM is the creation of inclusive, equitable, and supportive work environments that benefit the entire organizational community, including employees with disabilities (Sarkis & Sundaram, 2016).

3 The research gap

Despite a growing body of research on Disability Management (DM), only a limited number of studies have explicitly examined disability-related issues through the lens of Sustainable Human Resource Management (Su-HRM) (Stone & Colella, 1996). This reveals a significant theoretical and empirical gap, especially considering that today's organizations are increasingly expected to create sustainable work environments that support all employees (Meacham et al., 2017). To meet these expectations, organizations must implement DM programs and HRM practices that not only accommodate disability, but actively enhance the employability, well-being, retention, job satisfaction, and productivity of persons with disabilities (Stone & Colella, 1996; Meacham et al., 2017). Bridging the gap between DM and Su-HRM frameworks is therefore crucial to rethinking inclusion as a driver of both organizational sustainability and social equity.

4 The approach

To identify and describe key areas of interest and emerging trends in HRM research on Disability Management, we applied bibliometric techniques to a corpus of 106 peer-reviewed articles, mapping publication patterns, influential authors, and key thematic clusters. In parallel, we employed Topic Modeling to explore the latent structure of the literature and to uncover recurring topics and conceptual linkages. This dual-level analysis allowed us to offer a structured overview of the field and to frame our interpretation of the current state of research. We then propose an interpretative framework that highlights existing gaps and outlines potential directions for future research on HRM practices in disability management, grounded in the principles of Sustainable HRM.

4.1 The method of analysis

An ad hoc three-step research protocol guided the process, drawing on established methodologies (e.g., Tranfield et al., 2003). In the first phase, an extensive data collection effort was conducted across leading scientific citation databases to retrieve a comprehensive corpus of documents relevant to the research objectives. A series of panel meetings were then held to define the inclusion and exclusion criteria and finalize the dataset, resulting in a selection of 106 impactful peer-reviewed papers. In the second phase,

we conducted a combined bibliometric and Topic Modeling (TM) analysis. While the bibliometric analysis allowed us to map and critically assess the development of the literature connecting DM and HRM research lines, TM was employed to systematically explore the conceptual landscape of the corpus, with a particular focus on uncovering latent themes and problematizing the relationship between HRM and DM (Blei et al., 2003). Finally, we developed an interpretative framework to synthesize the findings and provide a comprehensive understanding of the multiple relationships between HRM and DM (Tranfield et al., 2003). This framework draws on an existing conceptual map of Sustainable HRM and adapts it to the specific features of disability-related practices. In particular, the model proposed by Aust et al. (2020), published in Human Resource Management Review, was used as a conceptual anchor to frame our understanding of how sustainability principles intersect with managing disability in the workplace.

5 Main findings: descriptive analysis of bibliographic data

2016 is the turning point for research on using HRM practices in disability management (See Figure 1). Indeed, the years preceded by sporadic publications that characterize it. The papers published in 2016 highlight the social and economic problems related to the low level of employment of people with disabilities (Bam & Ronnie, 2020) and analyze the barriers that PWDs have to face to enter the world of work. The papers published since 2016 underline, in particular, the existence and effects of non-physical barriers and the importance of creating and establishing an organizational culture based on the concept of inclusion. For this reason, this year, human management experts on disability and diversity have achieved a strategic role in eliminating bias in the recruiting and selection phases and in all the career steps of PWDs.

Journal of Occupational Rehabilitation, with 10 publications, represents the journal with the most publications on this topic. The publications in this journal use a multidisciplinary approach (from medicine to engineering to business management) to investigate the use of HRMP to facilitate the return to work. The article most cited about the relationship between HRM-Disability management is by Stone, D.L. & Colella, published in 1996 by the Academy of Management Review. This article describes above all how people are born and what effects they have, the perceptions and biases that not only able people develop towards PWDs, but also those that PDWs have towards themselves are intertwined, and how these distorted perceptions are interrelated. Out of almost 300 authors, 26 have more than one publication, and, as we can observe from Table 3, only 6 authors have more than two publications on the use and implementation of HR practices to support disability management. Among these, A. J. Colella is the most cited author with the most publications (1390 citations and four publications). To add further interpretative meaning to our results, we analyzed each developed topic, specifically referring to the main papers for each one (i.e., those papers that are made up of the topic under analysis at a higher percentage). Each topic shows two central dimensions: Disability management and HRM, which, of course, are the main focal topics of our paper. We describe each topic:

Topic 1: The New Way of Working: The first topic groups all the most recently published papers that focus on describing and analyzing the pros and cons of the new workplace characteristics for PWDs and how Human resource management practices could support their psychological health conditions. The papers highlight how contemporary organizations adhere to the image of an “ideal worker” and prioritize improving organizational productivity by adopting a set of organizational practices and work conditions that embody ideals of flexibility, teleworking, collaboration, empowerment, freedom, and democracy. These practices can create, aggravate, or reduce the unequal power relations between disabled and non-disabled employees (Van Laer et al., 2022), influencing their professional identity and job satisfaction and developing strong mental stress.

Topic 2: Inclusive disability management: The key concept present in topic 2 is equity. The papers underline how to guarantee equity, organizations must implement a set of diversity and equality management practices consistent with individual needs, aligned with the business strategy, to be more effective in achieving firm financial goals, and with the expectations of external institutions to gain social legitimacy. In this context, organizational culture recognizes the key to achieving workplace equity for under-represented groups. HR practices that support a culture of openness, anti-discrimination

policies, flexible work arrangements, and reasonable accommodations could create an organizational environment where disability is a normal event.
Topic 3: Employment Barriers: Topic 3 is the one containing the most papers among the five topics. The papers on topic 3 have utilized the social perspective about disability to explain how HRM practices could modify the organizational environment to destroy barriers to employment of PDW. The papers highlight how people with disabilities in the hiring and selection process are absolutely disadvantaged compared to normally gifted people due to negative employer attitudes towards hiring people with disabilities resulting from negative preconceptions about performance. The papers on the topic underline that HR practices and HR managers have the task of explaining the benefits that PDWs bring to organizational and individual performance . HR managers should share success stories, provide education on the benefits of a diverse workforce, and promote a culture of inclusion. At the same time, skills development and training practices should also be addressed to PDWs to ensure they have the necessary knowledge and skills to succeed in their roles, reduce stress, and improve performance (Heron et al., 2018). This can also help to break down barriers and improve overall workplace inclusion.
Topic 4: Job Satisfaction: This topic focuses on PWD's job satisfaction and its relationship with their performance. All papers underline how on-the-job perceived discrimination may provoke feelings of injustice and dissatisfaction for PWD. In particular, perceptions of wage-gap related to their disability lead to job dissatisfaction, which may in turn lead to dysfunctional behaviors and low performance.
Topic 5: Return to work: This topic focuses on managing the return-to-work (RTW) program process. The papers highlight the importance of managing all the phases of rehabilitation programs, communication strategies, and collaborations between various stakeholders to ensure a smooth and successful return to work for injured employees. Organizations are invited to implement programs that provide support and resources for injured workers as they recover and transition back to the workplace. These programs may include practices such as medical care, vocational rehabilitation, job retraining, modified work arrangements, and guarantee to receive appropriate compensation and benefits to accommodate the worker's abilities and limitations.

6 Final Remarks

To provide a comprehensive understanding of the multiple relationships between DM-HRM practices and propose future research avenues, we choose to develop an interpretative framework (Tranfield et al., 2003) that helps us to "lays out the key factors, constructs, or variables, and presumes relationships among them" (p. 440) (Miles and Huberman; 1994). Our framework has been developed by applying an already-existing map of the field of human resource management, sustainable human resource management, to the specificity of its features regarding disability management practices. In particular, we chose the publication performed by Aust et al. (2020) in the Human Resource Management Review. In this article, the authors develop a classification of Sustainable HRM types in four foci: (1) Socially Responsible HRM, where the goal of HRM is the human capital conservation minimizing negative impacts on business and reduce business risks (2) Green HRM, concern with environmental sustainability in business organizations, where the goal of HRM is develop and influence employees' ecological awareness and push them to implement more green behaviors (3) Triple Bottom Line HRM, when HRM practices focus not only on employee-oriented practices, but also simultaneously, on social and ecological environments and/or ecological goals and (4) Common Good HRM where HRM has a new role on developing an organizational culture of common good values and introducing HR practices based on such values as dignity, solidarity, and reciprocity to contribute on solve the "grand challenges" of our time.
Based on this interpretative framework, for each topic we propose:

- a set of "exploitative research avenues," i.e., directions that may still present an interesting further development despite having already been investigated.
- a set of "explorative research avenues," i.e., directions that have not been investigated either or to a minimal extent.

By intersecting the five topics with the four Sustainable HRM classifications, our framework highlights research gaps and possible future Research directions.

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BEYOND THE EMERGENCY:
MEDIUM-TERM ORGANIZATIONAL EFFECTS OF PANDEMIC RESPONSES IN ITALIAN HOSPITALITY

Short Paper

Sara Lombardi, University of Florence, Florence, Italy, sara.lombardi@unifi.it
Miguel Pina e Cunha, Nova School of Business and Economics, Universidade Nova de Lisboa, Carcavelos, Portugal, miguel.cunha@novasbe.pt
Luca Giustiniano, Luiss University, Rome, Italy, lgiusti@luiss.it

Abstract

Resilience is often celebrated as a desirable organizational trait, yet this study reveals that it can also carry unintended consequences when overemphasized. Taking a dynamic perspective, we explore how hospitality leaders in Italy navigated the post-pandemic period, drawing on qualitative data. Our analysis highlights that resilience, while beneficial, may lead to paradoxical outcomes—such as over-adaptation or suppressed vulnerability—which complicate its conventional positive framing. By exposing these underexplored tensions, the study offers a fresh lens on the less visible costs of resilience, particularly in high-pressure settings like the hospitality industry. In doing so, it contributes to a broader understanding of the nuanced effects of adaptive leadership and expands the emerging discourse on the darker facets of resilience in organizational life.

Keywords: Resilience, Dark side, Qualitative research, Hospitality.

1 Introduction

While resilience is often seen as a personal and organizational strength, recent research suggests it may have hidden downsides when taken to the extreme. Building on Lombardi et al. (2021), this study explores the long-term effects of pandemic-era responses in the Italian hospitality sector, asking: *How did leaders' reactions to COVID-19 shape resilience practices in the post-pandemic context?* Using qualitative data, we examine how resilience evolved beyond the crisis, revealing emerging tensions and costs associated with sustained adaptation. Framing resilience as a dynamic process (Giustiniano et al., 2018; Luthar et al., 2000), our findings show that what once ensured survival can become burdensome over time. This study contributes to the growing debate on the 'dark side' of resilience, highlighting its paradoxical nature and challenging its largely positive portrayal in existing literature.

2 Theoretical background

Resilience is often framed as a positive capacity to adapt and thrive under adversity. Traditionally rooted in psychology, it emphasizes individual recovery and self-actualization in the face of trauma or stress (Luthar et al., 2000). However, this view tends to idealize certain responses while overlooking others—such as withdrawal or maladaptive coping—that may serve protective or transformative functions over time (Ungar, 2015). Taking a practice-based perspective (Adrot et al., 2022), this study focuses on the everyday actions through which resilience is enacted, challenging its simplified portrayal as always

beneficial. Recent critiques (Atkinson et al., 2009; Mahdiani & Ungar, 2021) question whether resilience is universally desirable, suggesting it may involve tension, loss, or temporary dysfunction. By problematizing the assumption that all forms of adaptation are inherently good, we call for a broader understanding of resilience—one that accounts for its paradoxes and the complex paths through which individuals adjust to adversity.

While resilience is often celebrated, emerging research warns of its potential downsides when taken to extremes. Scholars have begun to show how excessive resilience can mask vulnerability, delay necessary change, or lead to harmful persistence (Giustiniano, 2022; Mahdiani & Ungar, 2021). In some cases, such as in urban systems or violent environments, resilience in one domain may create harm in another (Chelleri et al., 2015; Luthar et al., 1993). Leadership studies echo this concern, suggesting that overused strengths—like determination—can become liabilities, fostering overconfidence, poor decision-making, or tolerance of toxic conditions (Chamorro-Premuzic & Lusk, 2017; Kaplan & Kaiser, 2006). Resilience, then, is not always beneficial. When unchecked, it may reduce self-awareness, distort judgment, and undermine leadership effectiveness. In short, "more" resilience is not always better; its costs must be critically examined.

3 Research design

To address the question *How did leaders' reactions to COVID-19 shape resilience practices in the post-pandemic context?,* we adopted a qualitative research design. As highlighted by Kozinets (2010), qualitative research is well-suited for exploring complex phenomena by capturing the diverse perspectives and meanings of those involved. This approach facilitates the development of new theories and the emergence of fresh, inspiring perspectives to better understand the phenomenon. To investigate hospitality resilience, between May and October 2024, 14 exploratory interviews were conducted with hospitality managers working in Italy. Data collection continued until theoretical saturation was achieved (Corbin & Strauss, 2014). Respondents were identified through a mix of convenience and purposive sampling and informed about the study's purpose and exploratory nature. All interviews were recorded with participants' consent, ensuring data were used exclusively for research purposes. Following Lombardi et al. (2021), this study aimed to gather post-pandemic insights into how hospitality managers addressed resilience challenges. As other studies, we consider 'post-pandemic' the phase in which COVID-19 was not considered an emergency by regulators, and restrictions to business operations were definitely removed. The sample of participants is mainly composed by males (78%). Most respondents are aged between 40–49 (42.8%) and 50–59 (42.8%), with the remaining 14% aged 60–69. Participants mainly work in 4-star hotels; 21% are employed in 3-star hotels, and one manages a 5-star luxury property. The majority hold the role of hotel manager (35.7%), while 21% are also hotel owners. Additionally, 14.3% are general managers, with the remaining respondents including CEOs, operations managers, and consultants in the hospitality sector.

Each interview, lasting 50 to 70 minutes, was recorded and transcribed. No incentives were offered to participants. Consistent with her expertise in tourism research, a single co-author conducted all interviews. Given the exploratory nature of the study, the interviews allowed participants to narrate freely and provide illustrative incidents. Insights from early interviews informed refinements to the interview protocol for subsequent sessions (Eisenhardt & Graebner, 2007).

The interview protocol aimed at capturing perceptions regarding, for instance, the unintended side effects, such as overconfidence, from enduring the pandemic, the new strategies retained post-pandemic, the lessons learned, both personal and professional, etc. Interviews were conducted in Italian to encourage open expression and later translated into English for analysis. Despite participants' fluency in English, this ensured a more comfortable and nuanced dialogue.

Data were analyzed following Gioia et al.'s (2013) approach to inductive qualitative research, as also adopted by Lombardi et al. (2021). The analysis proceeded in three steps. First, all interview transcripts were compiled into a single database. Then, one author with hospitality industry experience conducted open coding, identifying thematic units and grouping similar codes into preliminary categories. As analysis progressed, new themes were added iteratively. Finally, axial coding was used to refine the

first-order categories by uncovering patterns and relationships among them, integrating both inductive insights and deductive reasoning (Corbin & Strauss, 2014).

4 Findings

Our analysis revealed two central dimensions through which hospitality managers practiced resilience after the pandemic: unlearning and forgetting.

Unlearning: Hospitality managers emphasized the need to discard outdated routines and mental models to navigate post-crisis challenges. This aligns with research framing unlearning as a core resilience mechanism, combining reactive and adaptive capacities (Giustiniano et al., 2020; Lombardi et al., 2021). Intentional detachment from obsolete practices enabled experimentation and organizational change (Fiol & O'Connor, 2017; Klammer & Gueldenberg, 2019). As one respondent noted:

> "The pandemic prompted a significant reset of everything we used to do before" (Respondent #2).

Forgetting: Forgetting emerged as a coping mechanism, helping managers regulate emotional memory and resume operations. Building on cognitive science, forgetting is viewed as an adaptive process that protects mental well-being by suppressing distressing memories (Gravitz, 2019; Hulbert & Anderson, 2018). One respondent reflected on this return to 'normalcy':

> "We were truly forced during the pandemic… But then, I saw everything go right back to exactly how it was before" (Respondent #7).

These findings reveal how resilience is shaped not only by action and adaptation, but also by selective memory and release.

5 Discussion and conclusion

Our preliminary findings reveal a paradox at the core of resilience: the coexistence of unlearning and forgetting. While Giustiniano et al. (2020) emphasize that unlearning is distinct from forgetting—framing it as a conscious shift to a new mental model—our data suggest that forgetting may also play a constructive role. By releasing cognitive and emotional burdens, forgetting can make room for new practices in a post-pandemic context. Yet, this raises a critical dilemma: is forgetting an adaptive strategy or a form of denial?

For some managers, forgetting appears to serve as a coping mechanism, allowing a return to pre-crisis routines while avoiding deeper change—potentially at the cost of lost tacit knowledge. This tension aligns with Klammer and Gueldenberg's (2019) distinction between intentional unlearning and unintentional forgetting, though others have noted that forgetting itself can be managed and purposeful (Martin de Holan, 2011). Our findings invite further inquiry into the paradoxes of resilience, particularly how learning, memory, and denial interact in shaping organizational responses to disruption.

6 Acknowledgements

The authors are grateful to the audience attending the XXVI Workshop Dei Docenti e Ricercatori di Organizzazione Aziendale (WOA 2025) as well as to the one participating in the 41st European Group of Organization Studies (EGOS) Colloquium for their insightful comment on this work.

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PROMOTING PROSOCIAL BEHAVIOURS TOWARDS PERSONS WITH DISABILITIES IN PUBLIC SECTOR ORGANIZATIONS

Short Paper

Manuela Paolini, University of Studies of L'Aquila, L'Aquila, Italy,
manuela.paolini@univaq.it
Domenico Raucci, University of Studies "G. d'Annunzio" of Chieti-Pescara, Pescara, Italy,
domenico.raucci@unich.it

Abstract

Persons with disabilities (PwD) frequently encounter cultural and behavioural barriers in the workplace. Within public sector organizations (PSOs), promoting inclusive workplace for PwD is particularly significant due to their institutional mandate and the alignment of their actions with social responsibility principles. To reach this purpose, PSOs should build the value of PwD inclusion as to influence the behaviours of organizational actors. This study explores how leader inclusiveness influences prosocial behaviours towards PwD among public employees, with a focus on the indirect role of organizational identification. A survey was conducted among Italian municipal employees. Using linear regression analysis, the study finds that municipal employees' perceptions of leader inclusiveness positively affect their prosocial behaviours towards PwD by stronger organizational identification. These findings contribute to the emerging strands of research on the individual-level CSR in PSOs. In doing so, it also contributes to literature on disability management practices.

Keywords: Prosocial behaviours towards Persons with Disabilities, Disability management, Leader inclusiveness, Organizational identification, Public Sector Organizations.

1 Background and Study Purpose

Persons with disabilities (PwD) frequently encounter multifaceted obstacles within the workplace, ranging from technical limitations to cultural resistance and social exclusion. International frameworks, such as the European Employment Equality Directive and the European Disability Strategy 2021-2030, advocate for more inclusive work environments. These efforts converge with the UN 2030 Sustainable Development Goals, which promote workplace inclusion of PwD as a core element of corporate social responsibility (CSR) (Kwan, 2020).

Over recent decades, numerous countries have reinforced these imperatives, by enhancing the internal regulatory frameworks on disability management practices and workplace adjustments especially with regard to public sector organizations (PSOs) because of their institutional role, and the profound connection of their public values with the social responsibility principles.

Nonetheless, merely implementing workplace adjustments may fall short in making PwD feel really included in the workplace (Waisman-Nitzan & Schreuer, 2019), that means being genuinely acknowledged and respected by colleagues and management (Mor-Barak et al., 2021; Raucci & Paolini, 2025).

PSOs should integrate the social responsibility principles into their foundational values (Aguilera et al., 2007; Aguinis & Glavas, 2012), by adopting managerial approaches that make the organizational actors aware of the relevance of inclusion as an organizational value (Palumbo et al., 2023; Shore et al.,

2018).Yet, research addressing the social dimension of CSR in terms of PwD inclusion in PSOs remain limited (Bennett, 2011; Raucci & Paolini, 2025).
Embedding employees in building and sharing the value of inclusion (Migliaccio, 2019) would allow them to develop a personal sense of social responsibility (Bennett, 2011; D'Aprile & Talò, 2014), and to engage in prosocial behaviours towards colleagues with disabilities. This shift necessitates leaders that, by signalling inclusiveness (Mor-Barak et al., 2021), may act as role model (Shore & Chung, 2023). The inclusiveness of the leader increases the individual's sense of belonging to a group while preserving their uniqueness in contributing to the goals and functions of the group (Randel et al., 2018). Employees' perceptions of leader inclusiveness positively influence their individual behaviours, encouraging helping (Randel et al., 2016) and organizational citizenship (Ashikali et al., 2021; Nelissen et al., 2017; Shore & Chung, 2023) behaviours.
Social identity theory (Tajfel & Turner, 2004) suggests that, when leaders recognize the individual contributions of the followers and promote workplace in which all the people feel of being part of a group, the need of belongingness to the reference community is fulfilled among employees with different characteristics, thereby increasing their organizational identification (OI) (Mitchell et al., 2015). Higher levels of OI can influence employees' motivational patterns, leading them to follow the leader by participating in the pursuit of the organizational social responsibility principles (Shore et al., 2011).
Building on these theoretical premises, the present study examined how perceived leader inclusiveness among non-managerial employees in PSOs influences their prosocial behaviours towards PwD through the indirect effect of OI.

2 Methodology

2.1 Sample

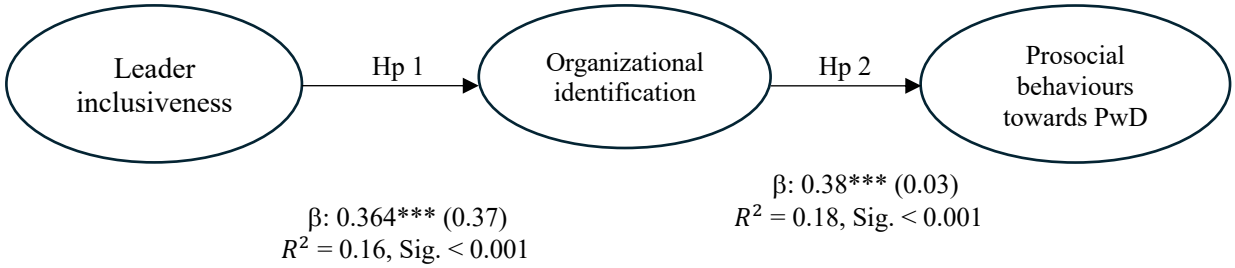
The analysis focused on Italian municipalities. Specifically, the target population included the Italian municipalities with resident population ranging from 20,000 to 59,999 - a demographic range representing a significant proportion of Italian municipalities, as identified by ISTAT. To ensure the organizational relevance of disability management practices, further selection criteria were applied: municipalities with over 50,000 residents and employing more than 200 staff members. These criteria align with the regulatory obligations outlined in the 2009 "White Paper on Accessibility and Urban Mobility", Legislative Decree 75/2017, and Law 227/2021, which require, among the others, the appointment of designated personnel for the implementation of disability management practices.
This process allowed to identify 19 municipalities. Of these, 9 municipalities agreed to be involved in the research.
A survey was used to collect data among non-managerial employees. The final sample includes 411 responses.

2.2 Measures

Leader inclusiveness was measured using 4 items from Nembhard and Edmondson (2006) scale, tailored to PSOs. Respondents evaluated the inclusiveness of their leaders on a 7-point Likert-type scale. A sample item includes: "The leader asks for the input of all organizational actors".
OI was measured through 5 items from Smidts et al.'s (2001) scale, which assess employees' emotional attachment and affective bond to their organization. Items were rated on a 7-point Likert scale. Sample items include: "I feel strong ties with my organization"; "I experience a strong sense of belonging to my organization".
Prosocial behaviour towards PwD was evaluated using a 4 items scale developed by Grant (2008). The participants were first asked the following introductory question: "Why are you motivated to do your work?". The items include: "Because I care about benefiting others through my work", "Because I want to help others through my work," "Because I want to have positive impact on others," and "Because it is important to me to do good for others through my work". All responses were recorded using a 7-point Likert scale.

3 Analysis and Results

Prior to hypotheses testing, preliminary analyses were conducted to evaluate the psychometric soundness of the measurement instruments. Internal consistency was assessed using Cronbach's alpha coefficients, while exploratory factor analyses were employed to verify the convergent and discriminant validity of the scales. Subsequently, descriptive statistics and bivariate correlations were computed for all variables included in the study.
The hypothesized model was tested using a linear regression approach. Control variables—gender, age, and educational attainment—were included as control variables.
The regression results are summarized in Figure 1.



No. of observations: 411
Standard error in brackets
***p-value ≤ 0.001
Gender, age and education as control variables
Figure 1. Regression analysis.

The evidence demonstrated that leader inclusiveness positively influence OI (β = 0.364, p ≤ 0.001). This result is consistent with the assumption that leader inclusiveness contributes to satisfy employees' need for belongingness and to build an organizational identity as part of their social identity. Thus, research hypothesis Hp 1 was verified. The findings also demonstrated the role of OI in inducing employees to follow the leader example. Indeed, the evidence documented a positive significant relationship between OI and prosocial behaviours towards PwD (β = 0.38, p ≤ 0.001), which is in line with the research hypothesis Hp 2. All in all, these findings have highlighted the potential of leader inclusiveness to reinforce the relations of subordinate employees with the public service of PSOs in which they work.

4 Discussion and Conclusion

The findings of this study have demonstrated that leaders may encourage subordinate employees to engage in prosocial behaviours towards PwD by using approaches that signal that they are inclusive towards all of them. Indeed, leader inclusiveness strengthens followers' perceptions of belongingness to the organization and the feelings of being valued for one's uniqueness (Randel et al., 2018). The strengthening of employees' emotional ties and affective bond with the organization and its goals reinforce their relations with the public service. This allows for a substantial increase in the workplace inclusion of PwD, as opposed to the mere CSR behaviours of "inclusion washing" (Raucci & Paolini, 2005).
Fostering employees' prosocial behaviours towards PwD may allow to effectively implement disability management practices (Nelissen et al., 2017), going beyond the adoption of workplace adjustments by developing a cultural orientation towards the principles of social responsibility. Such prosocial behaviours would have positive effects on the performance, well-being and even turnover intentions of PwD, as well as on the relationships with PwD as external users of the public service (Migliaccio, 2019).

This study contributes to the emerging body of literature on the micro-foundations of CSR (Aguilera et al., 2007; Aguinis & Glavas, 2012) by deepening the social lines of CSR in the scarcely explored context of PSOs (Raucci & Paolini, 2025). In doing so, it also extends the research on disability management (Palumbo et al., 2023).

Public management should convey the principle of social inclusion from within – rather than as a response to external mandates - since this would allow the joint building of fair and sustainable models, that may ensure the pursuit of broader public values and objectives that PSOs embody.

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FOSTERING EMPLOYEE WELL-BEING THROUGH LEADERSHIP: AN EMPIRICAL EXPLORATION OF STYLES AND BEHAVIORAL COMPETENCIES

Short Paper

Zoe Irene Albisetti, Ca' Foscari University, Venice, Italy, zoeirene.albisetti@unive.it
Fabrizio Gerli, Ca' Foscari University, Venice, Italy, gerli@unive.it

Abstract

Employee well-being plays a pivotal role in shaping both workplace experience and organizational performance. While previous studies have addressed this topic through diverse theoretical lenses, leadership remains a central factor in cultivating a healthy work environment. This research investigates the specific leadership styles and behaviors that contribute to employee well-being by analyzing data from 33 interviews with entrepreneurs and top-level executives across various organizations. Utilizing the "Behavioral Event Interview" method, we collected detailed narratives of real-life situations involving well-being initiatives. Findings highlight the use of multiple leadership styles − most notably supportive and inclusive approaches − and identify 13 distinct behavioral categories linked to key leadership competencies. The study underscores the importance of designing targeted training programs that equip leaders with the skills necessary to actively support both the professional development and personal well-being of their teams.

Keywords: Employee Well-Being, Behavioral Competencies, Leadership Styles.

1 Introduction

The World Health Organization (WHO) defines health not only as the absence of disease or infirmity, but also as a state of complete physical, mental and social well-being (World Health Organization, 2006). Indeed, workplace well-being is crucial, influencing not only employee health, but also professional performance (Bryson et al., 2017). Prioritizing employee well-being may contribute to increasing human potential and enhancing financial benefits, generating up to 11.7 trillion in global economic value (World Economic Forum, 2025).

Literature recognizes leaders' fundamental role in shaping team climate and, consequently, workplace well-being (Boyatzis & McKee, 2005). More broadly, the notion of healthy leadership has been defined through various models, but still requires concrete application to achieve a real and significant positive impact on employees (Rudolph et al., 2020).

Our research examines well-being from a processual perspective, investigating behaviors that leaders adopt to promote well-being within their specific organizational contexts. We focus on real job situations reported by leaders to identify how they conceptualize and implement well-being initiatives. This approach aims to explore both leadership styles and specific actions that foster a healthy workplace.

2 Theoretical Framework

Leaders have a crucial impact on employee well-being (Jiménez, Winkler, & Dunkl, 2017). Rudolph et al. (2020) introduced the concept of "healthy leadership" to broadly describe the approaches that leaders adopt to promote overall well-being in professional contexts. Both values and behaviors of leaders are relevant when exploring how to lead with healthy intentions.

Literature widely recognizes that healthy work climates, characterized by high performance and where people feel good, are associated with emotionally intelligent leaders, who can effectively identify, manage and use both their own and others' emotions (Boyatzis & McKee, 2005). Goleman et al. (2004) examined leadership styles developed by individuals with responsibility roles, focusing on characteristics associated with emotional intelligence. The authors identified distinct profiles based on leader-employee dynamics. For example, coaching leaders establish positive relationships based on agreement and trust, supporting employees in the process of goal attainment.

The literature presents several studies exploring the link between leadership styles and employee well-being by asking employees to rate their leader on a Likert scale based on predefined dimensions of styles, through employees' personal observations and estimates of their leader (Onesti, 2023; Pulido-Martos et al., 2023). Consequently, these studies present the limitation of assessing leadership styles from the employees' point of view or determining it from how the leaders themselves describe their approach. Other studies, as reported in the meta-analysis of Inceoglu et al. (2018), examined the impact that leadership behaviors have on employee well-being. The focus is thus brought to the link between the two concepts and not on how leaders act for organizational well-being, thus analyzing the link between leadership styles and employees' estimation of well-being.

In contrast to previous studies, our research addresses the current gap in literature regarding how leaders manifest pro-wellness approaches and behaviors. We focus on the characteristics of leaders, studying how they conceptualize and promote organizational well-being from a process-oriented, behavior-based perspective. Specifically, we examine leadership styles to understand the behaviors that are expressed in cases where leaders act to support organization well-being. Then, we explore the concrete actions implemented to foster employee well-being. Our research questions are:

Which leadership styles are adopted by leaders while promoting employee well-being initiatives? What specific actions do leaders take to support organizational well-being?

The contribution of this study lies in adopting a processual approach that considers well-being from the change agent's perspective during well-being initiative implementation, rather than from pre-established dimensions based on recipients' view. The goal is to bring new knowledge enriching our understanding of leadership and its role in supporting organizational development through healthy work climates via leaders' behavior. Results may encourage training institutions to implement programs developing leadership profiles that are effective in promoting organizational well-being.

3 Methodology

3.1 Sample

Our sample consists of 33 leaders in top organizational positions, including 17 entrepreneurs and 16 top managers. The age ranges from 36 to 76 years (M = 52.0; SD = 9.37), with role seniority ranging from 2 to 34 years (M = 11.73; SD = 9.77). As the research was conducted within the framework of a gender equality study, our sample is exclusively composed of women. However, our purpose is not to identify feminine versus masculine specificities. The sample selection followed a non-random approach, as it results from a selection of companies led by women with successful business performance based on multiple financial indicators.

3.2 Method

Data collection was conducted through interviews where respondents described how they behaved in implementing well-being initiatives in their organizations. Our intent was to extract descriptions of

concrete situations from which to identify leadership styles and behaviors. We used the *Behavioral Event Interview* technique, which enables the collection of detailed information about the context and the actual behavioral patterns adopted in specific situations, avoiding general opinions and beliefs. This technique is particularly effective in gathering accurate examples of real situations that reveal the interviewee's role and contribution (Spencer & Spencer, 1993).

For practical reasons, 32 interviews were conducted via video call, with one respondent opting for a face-to-face interview. All interviews were recorded with participants' consent, transcribed and imported into *NVivo14* software for analysis. To ensure anonymization, we designated entrepreneurs as "E" and managers as "M", with each participant assigned to a unique numerical identifier that allows us to trace the origin of the narratives.

To address our first research question, we coded the transcribed narratives using a dictionary that allowed us to distinguish the various leadership styles. This categorization process was based on the dimensions clearly defined in the literature by Goleman et al. (2002) in their work on emotional intelligence in leadership. We considered the following leadership styles (Table 1):

Supportive	Discusses continuously with the team, listen to all the members, guide them, and support their alignment with their personal aspirations with the aim of developing them.
Aggregating	Enhances harmony within the group and values individuals, considering their personal positionings, with the aim of improving the climate of the team.
Inspirational	Provides a clear vision and effectively communicates it to others. Defines goals, objectives, and ideals, creating enthusiasm and motivating the team.
Democratic	Encourages team members' active participation, involving each member in decision-making and valuing each input.
Authoritarian	Demands immediate compliance and seriously controls the team actions, ensuring that tasks are executed as required.
Demanding	Result-oriented and fixing challenging goals, demanding high performance from the team.

Table 1. Leadership Styles: Definitions.

For our second research question, we analyzed the narratives to identify concrete actions that leaders described related to their impact on employee well-being. We developed thematic categories inductively from the narratives. For each identified code, we developed a theme definition to ensure consistent attribution of the narrative extracts to specific actions. Following Paillé and Mucchielli (2012), we treated each category – or code – as a singular dynamic of reality differentiated from other phenomena. After extracting and categorizing the actions, we associated them with specific behavioral competencies. We based this attribution on a specific dictionary of behavioral competencies that has been refined through research conceptualizing competency as a set of behaviors driven by specific intentions (Boyatzis, 2008).

4 Results

First, we identified parts of the narratives that can be associated with leadership styles. The presence of detected profile is illustrated in Figure 1. Findings suggest that the most prevalent leadership styles that respondents manifest in well-being situations are supportive and aggregating.

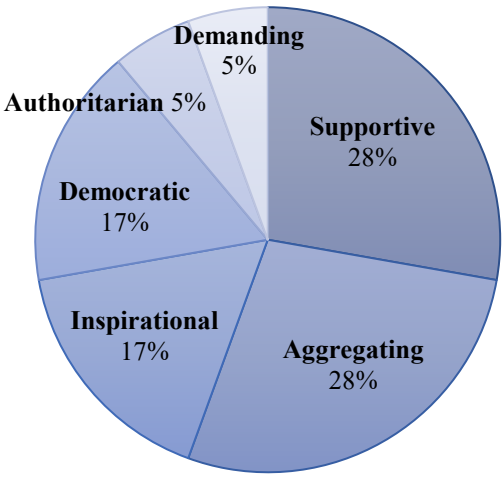


Figure 1. Leadership Styles Identified in Leaders' Well-Being Initiatives.

The supportive style is characterized by encouragement, involvement in teamwork and commitment to enabling employee performance and development. Leaders demonstrating this style show explicit intention to support employees in their work continuity and achievement of professional goals. Some examples follow:

Before presenting the budget to the partners, we share it with the employees in a simple way because obviously not everyone is accustomed to talking about it. In short, we explain how the organization is doing, so that then when it is presented to the partners, they are all present and have already seen it. M17

Synergy is not that you say "yes we are teamed up". You have to create it. So, we're putting them through courses to help them create more synergy, do projects together. Projects that we will then reuse within the company. E22

The aggregating leadership style, the second most prevalent in our findings, focuses on creating a united team with effective collaboration between leader and employees, with a particular attention to organizational climate. This style emphasizes mutual respect and open dialogue between parties to foster team cohesion. Some examples follow:

I have to feel that they are part of the team; so, I have to trust them and I have to feel their trust. M3

Since we work with the problems that our clients give us, at least among us we have to be good. We laugh a lot, we do yoga and do 1,000 things together. E10

Second, our analysis of the narratives identified specific actions that leaders implemented to promote employee well-being. Some leaders reported more than one action. These actions comprise interventions and policies that respondents consider to be associated with employee well-being. The analysis yielded 13 distinct categories of actions, as illustrated in Figure 2.

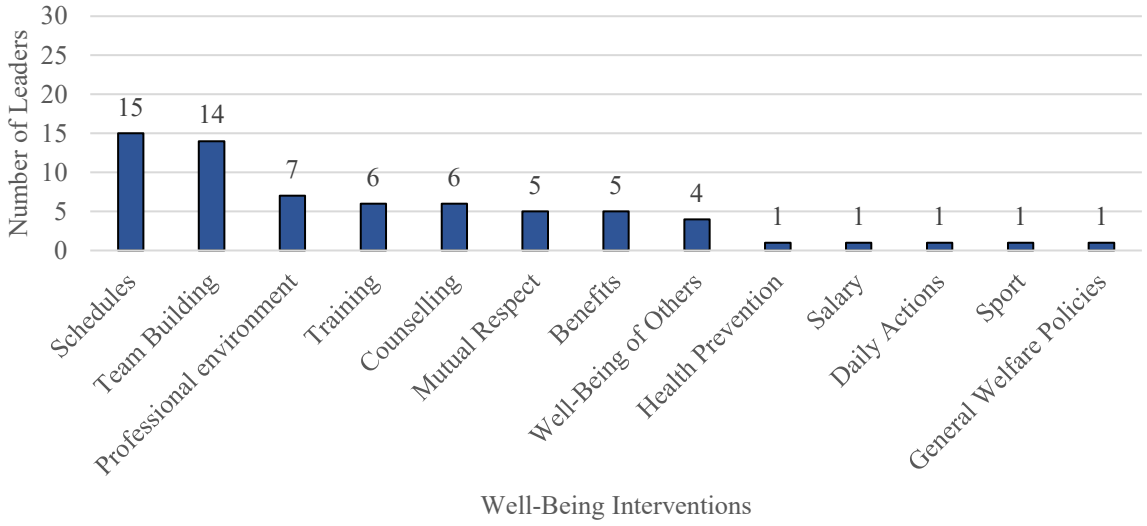


Figure 2. Actions Associated with Enhancing Employee Well-Being.

In a synthetic perspective, we report in Table 2 exclusively the two most deployed actions (schedule flexibility and team building initiatives), their definition, one example taken from the narratives, and the related behavioral competencies.

Category of action	**Definition**	**Examples**	**Related Behavioral Competencies**
Schedules	Interventions made to make working hours flexible both in terms of time and location. Also includes actions made to defend flexible work schedules in case of unexpected events.	*I implement a lot of flexibility, in the sense of company rules. If a person asks me for two days of smartworking because something happens, I grant it without any problem […] I go in first person to approve, to make the requests directly to the HR department. M13*	Service orientation
Team Building	Actions to unify the team, to create positive group dynamics.	*I do team building, in which I also give feedback to let understand what happened [..] thanks to the team building they were able to bring together different perspectives. M14*	Team work

Table 2. Two most Deployed Actions for Supporting Well-Being

5 Discussion

Our study aimed to explore leadership styles and actions that enhance employee well-being, adopting a process-oriented, behavior-based approach. Leadership styles and behaviors were extracted from the leaders' narratives describing concrete situations where they effectively influenced employee well-being initiatives.

5.1 Leadership styles in promoting well-being

Regarding our first research question – examining leadership styles that leaders apply to support the employee well-being – our findings indicate the predominance of supportive and aggregating styles in well-being situations. The supportive style reflects leaders' willingness to respond to the needs to perform the job effectively and to grow, reconciling professional life with the upcoming commitments of private life. The support of the leader is crucial to let employees feel good in the workplace, highlighting the importance of helping leaders in promoting sustainable workplaces and employee health (Jiménez, Winkler, & Bregenzer, 2017).

The supportive style draws upon empathy, which is related to social intelligence (Boyatzis, 2018), and allows to understand employees' needs to stay in the company, appreciating the work and being able to do it to the best of their ability. Training programs focusing on needs assessment and feedback on workplace conditions could prove valuable in fostering supportive and well-being-conscious organizational approaches.

Our results also highlight the relevance of an aggregating style in well-being situations. In this line, aggregative behaviors tend to enhance individual well-being and work performance, potentially generating positive returns to the firm (Bryson et al., 2017). Therefore, developing leaders' aggregative style may benefit individual and team well-being, while improving workplace atmosphere and performance.

5.2 Leadership Actions for Well-Being

Addressing our second research question – regarding well-being associated actions – work schedule flexibility emerged as the predominant theme. So, leaders emphasized schedule flexibility, including options for part-time work, remote working arrangements, and the importance of protecting this flexibility. Our findings suggest that leaders can contribute to time-management policies that promote employee autonomy when work conditions permit such flexibility. This aligns with research emphasizing the importance of rethinking policies to support work-life balance (Bhopal, 2020).

Given our female respondent sample, schedule flexibility emerged as particularly significant. For instance, during motherhood, women require organizational flexibility to manage biological imperatives such as breastfeeding (Ventura et al., 2021). In order for a mother to continue on her own career path, it is therefore essential to adopt policies that enable her to manage her different roles (Due Billing, 2011).

The second group of actions to support well-being concerns team building. Leaders described interventions fostering group cohesion and promoting positive interactions among otherwise isolated employees. Team building activities are reported to be opportunities to establish new group dynamics and create cohesion that would not be possible through activities purely associated with the profession. Research confirms that activities focused on teambuilding competencies improve team outcomes, specially concerning the affective sphere (Klein et al., 2009).

6 Conclusion

This study investigated leadership styles and behaviors related to well-being initiatives. Using *Behavioral Event Interview* technique, we collected detailed narratives of concrete professional situations, which consist in extracting specific information regarding leadership well-being practices. Unlike research focusing on the different dimensions of well-being, in this study we explored the concrete actions that leaders take to enhance employee well-being.

Our findings revealed supportive and aggregating styles as prevalent in the implementation of well-being initiatives. These findings emphasize the importance of a greater awareness of one's leadership profile in order to enhance healthy approaches in relation to employees. We then identified two most prevalent categories of actions that leaders perform in well-being initiatives: actions to support flexibility in working time and actions to support team building. Overall, our analysis suggests designing training programs aimed at supporting the development of pro-well-being styles and actions.

7 Acknowledgements

This project has been co-funded by Veneto Region and the European Social Fund Plus. We thank ESAC S.p.A. and its partners for their cooperation.

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GENDER, CULTURE, AND LEADERSHIP: SHAPING RESPECTFUL PRACTICES AND EMPLOYEE ENGAGEMENT

Short Paper

Cinzia Calluso, LUISS University, Rome, Italy, ccalluso@luiss.it
Valentina Iacopino, Università Cattolica del Sacro Cuore, Milan, Italy, valentina.iacopino@unicatt.it
Anna Piazza, Greenwich University, London, UK, anna.piazza@greenwich.ac.uk

Abstract

This study explores the interplay between gender, culture, and respectful leadership, focusing on their combined influence on employee engagement. Drawing on data from 280 participants in the UK (Anglo cluster) and Italy (Latin Europe cluster), we examined the impact of gender and national culture on the adherence to respectful leadership, and their combined effect on employee engagement. Results indicate that while no significant gender differences emerged in the adoption of respectful leadership, female leaders elicited higher engagement. Cultural context moderated the gender–engagement relationship, with Italian female leaders linked to the highest engagement levels. These findings suggest that while respectful leadership is not inherently gendered, female leaders may elicit greater engagement—by working harder to overcome competence biases—particularly in cultures with stronger gender norms. The study contributes to understanding how leadership behaviours, gender, and culture interact, offering valuable insights for developing inclusive leadership practices across diverse organisational settings.

Keywords: Respectful leadership, Culture, Gender, Engagement.

1 Introduction

Leadership is widely acknowledged as a critical driver of organisational success. This widespread interest in the topic has prompted the development of numerous models aimed at identifying the characteristics of effective leadership. Remarkably, in recent years, there has been a growing recognition in the literature of leadership approaches that prioritise respectful and socially sustainable practices, emotional atonement, and positive relationship between the leader and their followers. Across these models, in the current research, we focused our attention on the respectful leadership style (van Quaquebeke & Eckloff, 2010).

An increasing body of research signals gender-based differences in leadership behaviours, with women more frequently exhibiting respectful and relationally oriented styles that align closely with transformational and participative leadership approaches (Eagly, 2003; van Quaquebeke & Eckloff, 2010). Nevertheless, systemic barriers and deep-rooted stereotypes—such as the "think manager–think male" bias (Schein et al., 1996)—continue to influence what is perceived, or expected, as an effective leader, shaping gendered patterns in the workplace.

Cultural dimensions introduce additional complexity to these dynamics, as societal norms and values deeply influence expectations and perceptions of leadership. For example, in masculine cultures, assertiveness and competitiveness—traits typically associated with male leaderships—are often prioritised, whereas feminine and collectivist cultures tent to privilege relational, inclusive, and

collaborative leadership practices (Hofstede, 2001). As a result, female leaders may experience greater acceptance of relational leadership practices in egalitarian or feminine cultures, while facing considerable resistance in environments characterised by predominantly masculine traits (Snaebjornsson et al., 2015).

This research examines how gender and cultural context interact to shape respectful leadership practices, and its effect on employee engagement in the United Kingdom and Italy. The study explores how leaders' behaviours are interpreted and valued within different cultural contexts, and how gendered expectations influence both the applicability and acceptance of leadership styles. By integrating perspectives from cross-cultural studies and gender leadership theories, this work aims to provide a comprehensive understanding of the ways in which cultural background and gender intersect to influence leadership effectiveness and employee engagement within organisations.

2 Literature Review

2.1 Respectful leadership

Respect plays a vital role in both interpersonal and professional relationships, serving as a foundation for building organisational commitment and encouraging behaviours that support the collective wellbeing of employees. Respect can be understood through two main dimensions: respectful engagement, which focuses on team-oriented interactions, and autonomous respect, which emphasises individual agency and value. Both forms of respect have been linked to increased well-being, job satisfaction, employee loyalty, and resilience.

At its core, respectful leadership involves recognising the intrinsic worth of all people in the organisation, regardless of their position within the hierarchy. This leadership style is expressed through actions such as fostering trust, empowering employees with autonomy, and actively valuing their contributions (van Quaquebeke & Eckloff, 2010). Respectful leadership also encompasses two complementary dimensions of respect such as, recognizing leader's competence and expertise, and affirming the equal dignity and value of all individuals.

Although not yet widely implemented in organisational settings, employees consistently express a strong appreciation for this leadership style. Research shows that respectful leadership contributes to increased employee retention, heightened social awareness, and more effective knowledge exchange (Gerpott et al., 2020). Comparable leadership models—such as ethical, participative, and servant leadership—have similarly been associated with improved employee engagement, greater well-being, and enhanced job performance. In contrast, harmful practices like abusive supervision significantly undermine these outcomes, leading to disengagement and reduced organisational commitment (Li et al., 2021).

Leaders who model respectful behaviour can cultivate environments grounded in trust and mutual regard, where employees feel recognised, supported, and motivated. This approach resonates strongly with the evolving expectations of today's workforce, which increasingly values inclusivity, psychological safety, and individual well-being. By prioritising respect in leadership practices, organisations can strengthen employee loyalty, enhance job satisfaction, and build resilience across people (van Quaquebeke et al., 2009).

2.2 Gender & Leadership

Scholarly debate on gender differences in leadership is proliferating, with some perspectives dismissing gender-based differences, while others highlighting that gender represents a central element through which leadership should be understood. Despite this growing interest, the debate is still far from settled, and the question of how gender influences leadership effectiveness continues to be both open and highly contested.

Although women have gained greater access to managerial positions over time, they continue to face significant obstacles in how their leadership is perceived. For instance, despite study consistently points at women's leadership strengths (Paustian-Underdahl et al., 2014), they are still frequently viewed as less competent than their male counterparts. The Role Congruity Theory offers insight to understand this discrepancy. It argues that deep-rooted social stereotypes associate women with communal qualities—such as empathy and nurturance—that are often perceived as incompatible with the assertiveness and decisiveness traditionally linked to leadership roles. This perceived mismatch fuels bias and undermines evaluations of women's leadership effectiveness (Eagly & Wood, 2012). Further, it gives rise to a "double bind," forcing women to navigate a difficult balance between displaying warmth to meet gender expectations and demonstrating competence to be seen as credible leaders (Eagly & Karau, 2002).

According to the Stereotype Content Model (Fiske et al., 2002), people automatically tent to evaluate others along two primary dimensions: competence (e.g., ambition, capability) and warmth (e.g., kindness, relationality). Men are often assumed to possess high competence, aligning with conventional leadership ideals, whereas women are typically associated with communal traits, but inherently perceived as lacking assertiveness. Furthermore, when women adopt assertive behaviours to align with leadership norms, they risk being labelled as unfriendly or aggressive. Conversely, when they conform to expectations of warmth, their competence may be undermined. This tension is exemplified by the "queen bee syndrome," where women in leadership adopt traditionally masculine traits to succeed, only to face backlash (Staines et al., 1973). As a result, women may struggle with self-confidence and are often perceived as less likable, regardless of their actual effectiveness.

Despite these challenges, women are progressively embracing transformational and respectful leadership approaches that integrate both competence and warmth, fostering environments of inclusion and heightened effectiveness, serving as a valuable bridge across gendered expectations, highlighting the importance of relational skills in defining effective leadership. Based on this, we hypothesise:

> *H1a. Leaders' gender is linked to respectful leadership, with female leaders exhibiting higher levels of respectfulness compared to male leaders.*

Gender stereotypes deeply shape perceptions of leadership, placing an unfair and disproportionate burden on women to continuously prove their competence and legitimacy. Rooted in social categorisation, these stereotypes assign distinct traits to each gender—communal qualities to women and agentic traits to men—while prescribing rigid expectations for appropriate behaviour. This fundamental mismatch between traditional feminine roles and leadership ideals generates two major biases: women are frequently viewed as less capable leaders and are forced to work harder to establish their competence. Moreover, women often face backlash, being judged as less socially adept when they attain senior positions. Despite these systemic barriers, research consistently finds that women outperform in areas such as individualised consideration, charisma, and intellectual stimulation, enhancing leadership effectiveness (Eagly et al., 2003). While men tend to overestimate their own effectiveness, women are more frequently rated as effective leaders by others across diverse contexts—a phenomenon described as a "female leadership advantage"(Eagly & Carli, 2003). This evidence highlights the persistent challenges women face in navigating entrenched biases, often needing to exceed male performance levels to earn equivalent recognition, all while demonstrating behaviours that are crucial and highly prized within organisations. Thus, it is hypothesised:

> *H1b. Employee engagement is linked to leaders' gender, with female leaders fostering higher levels of engagement compared to their male counterparts.*

2.3 The role of culture

Leadership is profoundly shaped by cultural contexts, which influence expectations of appropriate leaders' behaviours, as well as how their effectiveness is evaluated. Foundational models by Hofstede (2001) and Minkov (2017) highlight how cultural dimensions, such as masculinity and femininity, affect leadership styles: masculine cultures tend to value competitiveness and productivity, while feminine cultures emphasise empathy, cooperation, and respect. Further supported by the GLOBE study, dimensions like power distance and collectivism also play crucial roles in shaping leadership perceptions (House et al., 2004). For instance, collectivist societies favour relational, team-oriented leadership, whereas individualistic cultures prefer more directive and assertive leadership approaches (Tang et al., 2010).

These differences are especially relevant for respectful leadership, which is catered on empathy, active listening, and mutual regard. Female leaders, who often embody collaborative and inclusive styles, tend to flourish in feminine cultures, but encounter obstacles in masculine settings where such behaviours may clash with dominant leadership expectations.

Cultural values also influence gendered perceptions of leadership. Feminine cultures often foster environments that support women's empowerment and promote work-life balance initiatives, facilitating the adoption of respectful leadership. However, systemic barriers continue to restrict women's access to top leadership positions (Snaebjornsson & Edvardsson, 2013).

Women typically demonstrate stronger intercultural empathy and diplomatic skills, while men tend to excel in technical expertise and interpersonal influence. These tendencies are shaped by broader cultural expectations: feminine, low power-distance cultures encourage collaborative leadership models, whereas high power-distance cultures lean toward more authoritarian styles. Overall, the expression of respectful leadership is heavily moderated by cultural environments that value inclusivity and cooperation. Therefore, we propose the following hypothesis:

> *H2a. The greater tendency of female leaders to adopt respectful leadership approaches is moderated by national cultural context.*

The intensity of the challenges women faces in reaching and succeeding in leadership roles is closely tied to the rigidity surrounding gender stereotypes within their cultural environment. In societies where traditional gender roles are firmly entrenched, female leaders are subjected to greater scrutiny, often needing to navigate heightened expectations to conform to prevailing social norms (Eagly & Karau, 2002). Such environments impose a heavy toll, demanding women constantly prove their legitimacy while balancing conflicting behavioural expectations. On the other hand, cultures marked by high gender egalitarianism or collectivist orientations, which emphasise social harmony, cooperation, and group cohesion, naturally resonate with communal traits traditionally linked to femininity. This congruence alleviates the tension between gender role expectations and leadership demands, allowing women to be more positively received and evaluated as leaders. In stark contrast, individualistic cultures prioritise competition, assertiveness, and measurable achievements, values aligned with masculine leadership prototypes. This cultural framework amplifies the difficulties for women leaders, as they must simultaneously meet performance criteria and overcome stereotypes that associate leadership ability predominantly with male attributes (Eagly & Karau, 2002).

The resulting pressure forces female leaders to expend disproportionate effort in managing the contradictory demands imposed by cultural stereotypes, especially in societies with strict and inflexible gender norms. Ultimately, the obstacles faced by women reflect the broader societal resistance to breaking traditional gender roles within leadership domains. Building on these insights, we hypothesise:

> *H2b. The positive effect of female leadership on employee engagement, relative to male leadership, is moderated by cultural context, varying across countries with different gender norm rigidity.*

3 Methods

3.1 Setting

Our study focused on two countries from different cultural clusters in the GLOBE project (Chhokar et al., 2007; House et al., 2004): the UK (Anglo cluster) and Italy (Latin Europe cluster). These two countries display significant differences in gender egalitarianism, highlighting how cultural norms shape societal behaviours and aspirations. The UK, part of the Anglo cluster, shows moderate gender equality and a cultural shift toward inclusivity and reduced hierarchy. Despite male dominance persists, the overall emphasis is on progressing toward greater equality. In contrast, Italy, representing the Latin Europe cluster, retains a more traditional structure marked by pronounced gender disparities and unequal power distribution. Although Italy's low power distance score suggests some openness to change, deeply rooted hierarchies continue to slow progress toward gender equality compared to the UK.

3.2 Participants

280 participants (49% males, 51% females, age ≈ 38) were recruited via Prolific, following the APA ethical guidelines. Participants completed demographic questions and two questionnaires measuring respectful leadership and employee engagement. Respectful leadership was assessed using the Respectful Leadership Scale (van Quaquebeke & Eckloff, 2010), while employee engagement was measured using the Utrecht Work Engagement Scale (Schaufeli et al., 2006), encompassing vigour, dedication, and absorption subscales. Cronbach's alpha was computed for both scales across the two national samples. Data were z-transformed before statistical analysis.

3.3 Statistical Analyses

H1a, H2a: A moderation model was run using the PROCESS macro (Hayes, 2014) for SPSS (IBM SPSS, 2021) to test the impact of leaders' gender on respectful leadership, moderated by nationality, including a series of covariates (i.e., gender, age, education, nationality, marital status, children, income, job position, industry, and company's size).

H1b, H2b: Another moderation model examined the effect of leaders' gender on employee engagement, moderated by nationality. Similarly to the previous model, control variables were included.

4 Results

The reliability analysis conducted to test scales internal consistency showed that the respectful leadership scale and the employees' engagement scale showed a good reliability across both the Italian and UK samples ($\alpha > 0.7$).

4.1 Hypothesis testing

To test hypotheses H1a and H2a, a single moderation model was run using respectful leadership as the dependent variable, leaders' gender as the independent variable, nationality as a moderator, and control variables as covariates. The model was non-significant ($p = 0.725$). Leaders' gender ($p = 0.466$), nationality ($p = 0.487$), and their interaction ($p = 0.374$) were all non-significant. Age showed a significant effect ($p < 0.05$), indicating older employees perceive their leaders as more respectful. Other covariates were non-significant, providing no support for H2a or H3a.

Hypotheses H1b and H2b were tested using a single moderation model with employees' engagement as the dependent variable, leaders' gender as the independent variable, nationality as a moderator, and control variables. The model was significant ($p < 0.05$). Leader's gender significantly influenced engagement ($p < 0.01$), with female leaders linked to higher engagement. Nationality ($p < 0.01$) showed higher engagement in the UK than Italy. The leaders' gender by nationality interaction was also significant ($p < 0.01$). Post-hoc analysis revealed Italian female leaders were associated with higher

engagement than Italian males ($p < 0.05$) and English females ($p < 0.05$), while engagement differences between genders in the UK were non-significant ($p = 0.25$). None of the covariates showed statistically significant effects on employee engagement. The analysis supports H2b and H3b.

5 Discussion

This study explored how leaders' gender influences both respectful leadership and employee engagement, while also examining how these relationships are shaped by cultural context. The results offer meaningful insights into the intersection of gender, leadership style, and national culture. In an era where organisations are increasingly focused on equity and inclusion, leadership rooted in empathy, fairness, and mutual respect plays a critical role in enhancing trust, reducing turnover, and fostering a sense of belonging.

Hypothesis H1a—namely, the hypothesis that women display more respectful leadership than men—was not supported. This suggests that respectful leadership is not inherently gendered, but instead reflects behavioural tendencies accessible to leaders of any gender (Eagly & Carli, 2007). This result highlights how the assumption of communality on the side on women may be largely rooted in stereotypes.

Hypothesis H2a, which posited that national culture moderates the relationship between leader gender and respectful leadership, was not confirmed. The absence of significant cross-national variation between the UK and Italy suggests that expectations for respectful leadership may be converging across cultural contexts.

In contrast, H1b was supported, with employees reporting higher engagement under female leaders. This finding likely reflects the additional work women often undertake to navigate and counteract gendered assumptions of low competence, thus putting effort in displaying agentic traits like assertiveness to establish credibility and trust. This additional effort may translate into increased appreciation and engagement under female leaders.

Finally, hypothesis H2b was confirmed: Italian female leaders were associated with significantly higher employee engagement than both Italian male leaders and UK female leaders. This may be due to stronger gender role expectations in Italy, where women may feel compelled to demonstrate exceptional leadership qualities to succeed, thereby enhancing their impact on employee engagement. In the UK, where gender norms are less rigid, engagement outcomes appear to be less influenced by leader gender.

These findings highlight the nuanced role that gender and culture play in shaping leadership effectiveness. While respectful leadership appears broadly valued across contexts, its impact on engagement is mediated by cultural expectations. These results underscore the importance of developing leadership strategies that are both culturally sensitive and attuned to gender dynamics to support inclusive and high-performing organisational environments.

6 Final Remarks

This study sheds light on the nuanced relationships between leadership style, gender, and culture, emphasising how respectful leadership fosters employee engagement across contexts. While respectful leadership was not found to differ by gender, female leaders were perceived as more engaging—especially in Italy, where cultural norms impose greater expectations on women in leadership roles. These findings challenge gendered assumptions about leadership and reinforce the value of respectful leadership as a universally beneficial practice. They also highlight the importance of considering cultural context when evaluating leadership effectiveness. For organisations aiming to build inclusive and high-performing workplaces, investing in leadership development that fosters respect, empathy, and fairness is essential. Future research should extend this investigation across more diverse cultural contexts and explore additional moderators, such as organisational culture or industry type. Further, here we used cross-sectional data to test the relationships between leadership style, gender, culture and employee

engagement, future studies could include the temporal dimension to better capture any hidden mechanisms and the change over time. Ultimately, promoting respectful leadership and addressing systemic gender biases could lead to more equitable and engaging workplaces for all employees.

7 Acknowledgements

This research was supported by the departmental funds of Luiss University, Department of Business & Management.

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THE DEVELOPMENT OF AN EMOTION PROCESSING CULTURE: HOW LEADERS SUPPORT EMPLOYEES AFTER WORK-RELATED TRAUMA

Research Idea

Nicole A. Alonso, Luiss University, Rome, Italy, alonson@luiss.it
Anthony Silard, Luiss Business School, Rome, Italy, tony.silard@luissbusinessschool.it

Abstract

Employees in high-stress industries such as emergency services, law enforcement, and not-for-profit organizations are frequently exposed to traumatic events, often resulting in secondary trauma. Without effective organizational support, this exposure can lead to burnout, PTSD, and diminished well-being. While prior work highlights the value of emotional authenticity and support at work, limited research has explored how leaders proactively create and sustain emotion processing cultures—environments where employees are encouraged to openly discuss their emotional responses to work-related trauma. Using a ground theory approach, this study explores how leaders foster these cultures and the outcomes they produce for employees and organizations.

Keywords: Secondary Trauma, Leadership, Emotion, Culture

1 Introduction

Leader support following work-related trauma significantly impacts followers' ability to cope with their traumatic experiences and subsequent wellbeing (Birkeland et al., 2017). By fostering open communication, validating employees' experiences, and empathizing with their challenges, leaders facilitate emotional recovery from traumatic events (Silard, 2020). This support is especially important in industries where employees regularly encounter traumatic experiences such as emergency medical personnel, police, and not-for-profit organizations. Without proper support for the challenging emotions that often follow traumatic experiences, employees are more likely to experience burnout, posttraumatic stress symptoms, or posttraumatic stress disorder (Brewin et al., 2000). Thus, it is essential that employees have an outlet to express and gain a more lucid understanding of their emotions, including secondary trauma. Unfortunately, many organizations discourage openly sharing about the emotional toll of work-related trauma despite its positive benefits instead fostering a "suck it up"/suppression mentality or relying on external professionals, neglecting the role of workplace leadership in supporting employees' emotional wellbeing.

To support employees' wellbeing, leaders can create an emotion processing culture characterized by open dialogue about emotional experiences. This type of culture can mitigate the harmful effects of workplace trauma while fostering resilience and productivity. Despite groundbreaking work on how workplace leaders can create a "culture of authenticity" of open sharing and expression in response to challenging work situations (Grandey et al., 2012), specific research focusing on how leaders establish and maintain emotion processing cultures in the workplace is sparse. Given the nascent stage of this research, we adopt a qualitative grounded theory approach to explore the practices leaders use to create and maintain an emotion processing culture, as well as its concomitant employee and organizational outcomes.

2 Methods

To answer this question, 53 semi-structured interviews were conducted with employees from 9 police departments and two not-for-profit organizations. In addition, 23 participants completed free-write surveys in 8 not-for-profit organizations and 13 private and not-for-profit social work organizations. Participants were selected using purposive sampling to include individuals likely to experience secondary trauma at work. Using grounded theory (Corbin & Strauss, 2015), the first author coded the police data, and the second author coded the not-for-profit and private sector data. Coding discrepancies were resolved through discussion to ensure reliability. Categories were then compared across industries to identify contextual differences in leaders' approaches to fostering emotion processing cultures.

3 Results

To create and maintain an emotion processing culture, leaders must demonstrate authenticity, attack issues rather than people, demonstrate empathy, and often must be the first to disclose their own emotions related to workplace trauma. Regarding authenticity, followers want to know that their leader genuinely cares about their wellbeing and is committed to supporting them, rather than merely offering empty words. For instance, one participant noted, "But from our manager, the only change has been the door's been closed when she's here. That's it …. Now my phone calls and emails are not answered … so definite backlash there. That just adds to the stress."

Leaders who focus on addressing issues rather than criticizing individuals foster a culture of respect and openness, enabling employees to feel supported while constructively addressing challenges. "If you're disappointed with someone, you have to show it," one participant explained. "I think it's very subtle but it's more about communicating ideas and concepts. 'I am disappointed but that doesn't mean I don't like you.'" This approach also helps followers feel valued even if they have made a mistake or are struggling with trauma-related incidents at work.

Empathy further strengthens connections within the organization and enhances employees' performance. "Emotions are connected to the organization's social purpose," one participant shared, "oftentimes the conversation will spark emotions that you might not realize are connected ... or why someone's being emotional about this specific topic. It might be difficult to make that connection but asking and inquiring more and getting people to let feelings out [because] those emotions are actually what make your staff a good staff."

Leaders who set an example by openly processing their own emotional experiences encourage followers to do the same. "I cried with them," one organizational leader stated. "I have no problem expressing that." This vulnerability allowed followers to express and process their own emotions and difficulties with work-related trauma.

Finally, we find that an emotion processing culture provides employees with support they might not otherwise receive. One participant shared, "There was one incident with my youth where I couldn't share with anyone. I couldn't talk to my husband about it. I couldn't talk to anybody about it. But I was able to talk to my supervisor." Connecting with a leader enables employees to process their negative emotions at work, preventing these feelings from spilling over into their personal lives.

4 Conclusion

In conclusion, our findings demonstrate that fostering an emotion processing culture is vital for supporting employees in high-stress industries, such as police departments, not-for-profit organizations and both private and not-for-profit social work organizations. Leaders who demonstrate authenticity, empathy, and vulnerability create environments where employees feel safe to process their emotions, leading to improved mental health and workplace satisfaction.

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WHEN WORK HEALS AND HURTS: EMOTIONAL WELLBEING OF EXTREME WORKERS IN EMERGENCY DEPARTMENTS

Short Paper

Ylenia Curzi, Università di Modena e Reggio Emilia, Modena, Italy, ylenia.curzi@unimore.it
Tommaso Fabbri, Università di Modena e Reggio Emilia, Modena, Italy, tommaso.fabbri@unimore.it
Francesca Nepoti, Università di Modena e Reggio Emilia, Modena, Italy, francesca.nepoti@unimore.it
Barbara Pistoresi, Università di Modena e Reggio Emilia, Modena, Italy, barbara.pistoresi@unimore.it
Erica Poma, Università di Modena e Reggio Emilia, Modena, Italy, erica.poma@unimore.it

Abstract

This study explores how extreme work shapes emotional experiences among emergency departments' professionals. While existing research frames extreme work outcomes as detrimental, our findings reveal a more ambivalent picture. Drawing on a sequential mixed-methods design, we integrate quantitative survey data with in-depth interviews conducted in two Italian hospitals. Results confirm that core dimensions of extreme work are consistently associated with reduced wellbeing. At the same time, some organizational features, including autonomy in task execution and supervisor support, were found to mitigate these negative effects and sustain positive emotions at work. Notably, the study uncovers contrasting dynamics: increasing workloads, long working hours, and constant engagement in critical care are sometimes linked to positive emotions. The findings contribute to a deeper understanding of how extreme work might shape emotional wellbeing in healthcare and other intensifying work environments.

Keywords: Extreme work; emotional wellbeing; emergency departments; healthcare professionals, organizational studies.

Adknowledgments: This work was supported by the Università di Modena e Reggio Emilia – Fondazione di Modena Project "What makes hospitals work? Organizational conditions and interventions for improving employees' work ability " funded by Fondo di Ateneo per la ricerca Anno 2023 - Bando per il finanziamento di progetti di ricerca interdisciplinari, CUP E93C23002060007

1 Introduction

Research on the notion of "extreme work" constitutes an emergent stream within organization studies (Rouleau, 2023). Scholarship on extreme work is frequently situated within extreme contexts (Hällgreen *et al.,* 2018), encompassing settings such as the military (Hawkins, 2015) or the occurrence of catastrophic events, such as incidents in nuclear plants (Patriotta *et al.,* 2011). The literature conceptualizes extreme work as consisting of prolonged working hours and intensification of labour (Garavan *et al.,*2024).

Within this conceptualization of "extreme work", healthcare organizations occupy an essential societal function, facing high levels of pressure because of the nature of the service provided, the adoption of new public management and the introduction of high-performance models of human resource management (Townsend and Loudoun, 2024). Moreover, healthcare organizations in Italy are increasingly defined by chronic staffing shortages and a high level of intention to leave, well documented by literature (Catania *et al.*, 2024). Such set of conditions generate a dual set of risks: on one hand, they contribute to work intensification and heighten employee vulnerability and emotional exhaustion (Catania *et al.*, 2024), on the other, they erode organizational capacity to respond effectively to crises, thereby limiting the system's adaptability and resilience in the face of ongoing change. In the present study, we particularly focus on an organizational division within healthcare institutions where the conditions of extreme work are especially evident, namely, emergency departments (EDs). EDs represent a particularly interesting research setting (Wankhade, 2020), as work in healthcare emergency contexts involves specific characteristics such as engaging in life-or-death decision-making, operating under constrained resources, and navigating escalating demands (Buchanan et al., 2013).

Specifically, we examine how organizational characteristics associated with extreme work influence employee wellbeing, with a particular emphasis on their effects on both positive and negative emotional experiences in the workplace (Warr, 1990), focusing on the specific setting of EDs. In so doing, the study seeks to address a notable gap in the existing literature on emergency work, which has predominantly relied on archival data and has made relatively limited use of interviews and direct observational methods (Hällgreen *et al.,* 2018).

To this end, the paper adopts a mixed-methods design, integrating quantitative data derived from a survey administered to a sample of EDs' professionals, analysed using shrinkage techniques, with qualitative insights generated through in-depth interviews conducted with emergency personnel. By combining these two methodological components, the study aspires to provide a more holistic and empirically grounded understanding of how the structural and experiential dimensions of extreme work affect the emotional wellbeing of healthcare workers operating in high-pressure environments.

Emergency contexts are regarded as analytically privileged sites, acting as revelatory cases, revealing organizational and behavioral patterns that are often latent and hidden in non-extreme environments. Therefore, at a broader level of analysis, the results of this study can inform the study of the relationship between organization and wellbeing in other forms of work which, although not situated in extreme settings, increasingly exhibit characteristics associated with extreme work such as escalating social and work intensification (Hünefeld *et al.,* 2018) and employees' perceived work pressure (Kubicek and Tement, 2015).

By uncovering the hidden dynamics of extreme work in healthcare, this study not only deepens our understanding of high-pressure environments but also offers valuable insights for reshaping organizational practices across industries increasingly defined by intense work demands.

2 Theoretical background

Organizational literature on extreme work conceptualizes it as consisting of two main elements: work intensification and the experience of physical, mental, and emotional strain (Garavan *et al*., 2024). Extreme work is marked by escalating demands on employees to increase productivity, accelerate their work pace, manage unpredictable workflows, meet tight deadlines, reduce recovery time, work during nonstandard hours, and remain constantly available (Buchanan *et al.,* 2013; Gascoigne *et al.,* 2015).

These conditions are also associated with elevated levels of physical, mental, and emotional effort (Granter *et al*., 2019): a growing body of literature recognizes adverse consequences for workers' health and wellbeing (Chatzitheochari and Arber, 2009) as well as emergence of intense negative emotional responses, including stress, anxiety, fear, and sadness (Maitlis and Sonenshein, 2010), which can compromise job performance and lead to serious mistakes or misjudgements, particularly in high-stakes environments (Hällgreen *et al.,* 2018). These emotional consequences, in turn, can hinder organizational functioning, especially under conditions of

crisis or acute disruption (Ron *et al*., 2006). Nonetheless, recent research has begun to challenge this predominantly negative framing, suggesting that exposure to life-threatening or highly stressful conditions may also elicit positive emotions such as empathy and resilience (Hällgreen *et al.,* 2018). This line of inquiry invites greater attention to the ambivalence of emotional responses to extreme work, a dimension still underexplored within organizational scholarship.

EDs provide a particularly rich empirical context because of the coexistence of different dimensions of extreme work as reported by the literature (Wankhade, 2020). On one hand, EDs' professionals routinely engage with acute medical emergencies, often facing patients' death or exposure to violence; in line with the literature, their jobs involve trauma and life-and-death situations "*consuming of an individual's senses, emotions and lives*" (Wankhade et al., 2020, p. 50). On the other hand, they experience high levels of stress, chronic overwork, and systemic organizational pressures. This dual nature makes EDs uniquely suited to investigate how organizational characteristics of extreme work shape emotional responses.

Accordingly, this study is guided by the following research question: "How does extreme work influence the emergence of both positive and negative work-related emotions among EDs professionals?"

3 Research context and methodology

Given the novelty of the topic, we adopted a sequential mixed-methods approach (Torrioni, 2015), consisting of an initial quantitative phase, followed by a qualitative phase aimed at deepening and contextualizing the findings that emerged from the statistical analysis.

The first phase involved the administration of an original online questionnaire to a sample of 192 healthcare professionals working in two emergency departments (EDs) located in Northern Italy. A total of 131 valid responses were collected, corresponding to a response rate of approximately 68% of the target population.

The quantitative analysis modeled the relationship between predictors and Job-Related Affective Wellbeing (JAWS), including Comfort, Enthusiasm, Depression, and Anxiety. We used LASSO and Elastic Net with cross-validation, AIC, and BIC to determine the optimal regularization parameter (λ). Model accuracy was assessed using MSE and R-squared with a 70/30 train-test split. This approach was chosen to handle high-dimensional data and avoid overfitting. In addition, 36 semi-structured interviews were conducted with EDs workers to gain insights into their experience of extreme work.

	Model (1) **LASSO (cross validation)**	**Model (2)** **LASSO (cross validation)**	**Model (3)** **LASSO (cross validation)**	**Model (4)** **Elastic Net (AIC)**	**Model (5)** **Elastic Net (cross validation)**
Target variable:	Job-Related Affective wellbeing (overall JAWS)	Comfort	Enthusiasm	Depression	Anxiety
Predictors:					
Sociodemographics					
Gender		-0.047	-0.009		
Middle school		-0.012			
High school			-0.044		
Bachelor degree		0.013	0.007		
Partner	0.047	0.073	0.178		
Children 0-5			0.092		
Children 12-18			0.005		
Household chores			-0.111		
Child care		-0.037			
Work-life balance	0.055			-0.026	-0.151
Professional tenure			-0.047		
Job role: Doctor	-0.070	-0.051			0.044

Work Ability					
WAS	0.128	0.119	0.134	-0.032	-0.009
Physical WA		-0.048			
Work intensification					
Presenteeism	-0.357	-0.219	-0.225	0.276	0.231
Increasing workload		0.093			
Tight deadline		-0.134			0.041
Frequent work interruptions	-0.070		-0.025		
Simultaneous task			0.092		0.028
Information overload				0.025	
No room for distractions		0.021		0.036	
Weekly hours			0.110		0.057
Autonomy and Discretionality					
Autonomy in work goals			0.051		
Apply your own ideas	0.088	0.127	0.016		
Colleagues choices		-0.061			
Break discretion		0.007	-0.015		-0.070
Support and work environment					
Colleagues support		-0.043			
Supervisor development		-0.084			
Supervisor feedback to improve my work			0.031		
Inadequate working environment	-0.165	-0.221	-0.204		0.019
Violence					
Colleagues verbal violence	-0.018	-0.028			
ED users physical violence		-0.016			
ED users verbal violence		-0.030			
Violence concern	-0.086	-0.184	-0.095		

Table 1. Optimal Models Identified Through Regularization Techniques

Table 1 reports the optimal predictive models for the target variables: overall JAWS (Model 1) and its dimensions—Comfort (Model 2), Enthusiasm (Model 3), Depression (Model 4), and Anxiety (Model 5). For each target variable, the table presents the standardized coefficients for the selected predictors. Standardized coefficients are derived by normalizing all predictors, allowing a direct comparison of their relative impacts.

A first set of results confirms the negative impact of work intensification and exposure to violence, both central characteristics of extreme work, on affective wellbeing. A cluster of variables associated with work intensification is either negatively related to overall JAWS (Model 1) and positive emotions (Models 2–3), or positively related to negative emotions (Models 4–5). Specifically, the presence of tight deadlines reduces comfort (β = -0.134, Model 2) and increases anxiety (β = 0.041, Model 5); frequent work interruptions negatively affect both overall JAWS (β = -0.007, Model 1) and enthusiasm (β = -0.025, Model 3); and information overload is positively associated with feelings of depression (β = 0.025, Model 4).

Regarding violence exposure, the results similarly show a detrimental effect on wellbeing, particularly on comfort (Model 2). Physical and verbal violence from ED users significantly reduce comfort (β = -0.016 and β = -0.030, respectively, Model 2). Likewise, verbal aggression from colleagues negatively affects both comfort and overall wellbeing (β = -0.028, Model 2; β = -0.018, Model 1). However, the most impactful predictor appears to be violence concern, which shows a strong negative association with overall JAWS (β = -0.086, Model 1), comfort (β = -0.184, Model 2), and enthusiasm (β = -0.095, Model 3).

These quantitative findings align with existing literature on the adverse emotional consequences of extreme work and are further substantiated by qualitative evidence. Interview excerpts highlight how ED workers experience significant work intensification with negative implications for mental wellbeing. As one interviewee noted:

> *"After you've been there* [in the ED] *for seven or eight hours... It's nonstop, you can't catch your breath because it's one ambulance after another, one patient after another, and people are never satisfied with what you do. Every thirty seconds they ask for something. In the end, you just can't"*

In this context it emerges that some work organization practices; particularly those related to autonomy, discretion and supervisor support; may help balance wellbeing. In particular, discretion regarding the possibility of taking a break positively influences comfort and decreases anxiety levels ($\beta = 0.007$, Model 2; $\beta = -0.07$, Model 5), as does supervisor support and autonomy in work objectives, which positively affect enthusiasm ($\beta = 0.031$ and $\beta = 0.051$, Model 3) and the ability to apply one's own ideas ($\beta = 0.088$, Model 1; $\beta = 0.127$, Model 2; $\beta = 0.016$, Model 3).

On the contrary, an inadequate work environment appears to further worsen the relationship with wellbeing ($\beta = -0.165$, Model 1; $\beta = -0.221$, Model 2; $\beta = -0.204$, Model 3; $\beta = 0.019$, Model 5), likely due to a combination of physical effects on the body, such as the inability to concentrate due to noise, limited space, or the difficulty of the physical setting in providing protection from potential violence. This dimension also emerges from the interviews:

> *"There are moments when, to all the noise made by the people, you add the noise made by the patients, who often complain because they're in pain by the relatives who are talking on the phone, by the monitors sounding alarms, the respirators, the doors... There are moments in which it's hard to think."*

A second set of findings, conversely show a positive or mixed effect of work intensification predictors on overall JAWS and positive emotions. For example, an increasing workload appears to have a positive effect on comfort ($\beta = 0.093$, Model 2), while presenteeism, simultaneous tasks, having no room for distractions, and weekly hours all show mixed results in relation to wellbeing and emotions.

In particular, presenteeism affects all the target variables ($\beta = -0.221$, Model 1; $\beta = -0.357$, Model 2; $\beta = -0.219$, Model 3; $\beta = -0.225$, Model 4; $\beta = 0.276$, Model 5), worsening overall JAWS, comfort, enthusiasm, and increasing anxiety levels; yet also having a negative effect on depression. Similarly, simultaneous tasks increases both enthusiasm and anxiety ($\beta = 0.092$, Model 3; $\beta = 0.028$, Model 5); not having room for distractions has positive effects on both comfort and depression ($\beta = 0.021$, Model 2; $\beta = 0.036$, Model 4); and weekly hours increase both enthusiasm and anxiety ($\beta = 0.11$, Model 3; $\beta = 0.057$, Model 5).

The interviews provide potential explanations for the above unexpected findings, by highlighting the idea that those working in emergency settings choose to do it following a vocation:

> "*There is definitely an idealisation of the emergency department as a place where you take action, a sort of romantic place, where what you do matters, it matters a lot. You need to have certain skills, you need to be able to put them into practice at the right moment, with the right timing."*

These quotes show how the meaning and significance attributed to the work translate into behaviours that would otherwise be hard to explain, such as positive relationship between work intensification and positive emotions. At the same time, these behaviours respond to systemic needs: a system that relies on workers' wellbeing but is paradoxically fostering unhealthy and dangerous behaviours.

> *"I got hurt the other night, I had my hand checked, and I should stay home and rest, but if I tell my supervisor, I think they'll have a fit."*

Related to the above, a final set of findings emerging from the data analysis offers fresh insights into the work-life balance in the context of our study. On the one hand, a good work-life balance appears to have a positive impact on wellbeing ($\beta = 0.055$, Model 1; $\beta = -0.026$, Model 4; $\beta = -0.151$, Model 5), just as having children seems to have a positive effect on enthusiasm. On the other hand, care responsibilities related to children and housework ($\beta = -0.037$, Model 2; $\beta = -0.111$, Model 3) negatively affect positive emotions. In the context of extreme work, especially when such work is directed toward social duty and ethical values, caregiving and personal responsibilities could be perceived as a distraction from one's professional imperatives. In this perspective, it is not surprising that having a partner might improve wellbeing ($\beta = 0.047$, Model 1; $\beta = 0.073$, Model 2; $\beta = 0.178$, Model 3), as a person with whom to share the caregiving burden, and that women experience lower levels of positive emotions ($\beta = -0.047$, Model 2; $\beta = -0.009$, Model 3).

4 Preliminary conclusive remarks

Going beyond the mainstream literature on extreme work—which typically emphasizes its negative impact on wellbeing—our study offers empirical evidence supporting the emerging idea that exposure to life-threatening or highly stressful conditions can also evoke positive emotions.

Our data portray EDs professionals as persistently committed to their work, often at the expense of personal life. While literature frequently labels this phenomenon as *workaholism*, typically understood as a behavior driven by individual characteristics, our study suggests a more complex interpretation. Excessive and pervasive engagement with work appears to emerge from the complex interplay between individuals' subjective meaning attached to work and organizational constraints. Notably, many participants frame their work in the ED as a social duty or moral obligation. Within this context, extreme work—somewhat paradoxically—is often linked to enthusiasm, happiness and overall wellbeing. Yet, beneath this vocation lies a silent trade-off: the emotional uplift of moral commitment can coexist with personal strain. The same forces that sustain professionals in the short term may undermine them in the long run—turning dedication into quiet erosion. The individual and systemic consequences of these dynamics can silently compromise both personal wellbeing and the resilience of entire healthcare organizations

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INTER-ORGANIZATIONAL NETWORKS IN TIMES OF CRISIS: A RESILIENCE PERSPECTIVE

Short Paper

Tiziano Volpentesta, Libera Università Internazionale degli Studi Sociali (LUISS) Guido Carli, Rome, Italy, tvolpentesta@luiss.it

Fausto Di Vincenzo, University of Chieti-Pescara, Pescara, Italy, f.divincenzo@unich.it

Daniele Mascia, Libera Università Internazionale degli Studi Sociali (LUISS) Guido Carli, Rome, Italy, dmascia@luiss.it

Camillo Odio, Regione Abruzzo, Dipartimento Sanità, Servizio Flussi Informativi e Sanità Digitale, Pescara, Italy, camillo.odio@regione.abruzzo.it

Abstract

Disruptive events like natural disasters and pandemics are increasingly frequent, with cascading effects across interdependent systems. Responding effectively requires inter-organizational collaboration, yet resilience is often studied at the firm level, overlooking networked responses. Adopting a network perspective, we analyzed patient transfer networks in an Italian region before, during, and after two crises: an earthquake and the COVID-19 pandemic. The two events triggered different dynamics. During the earthquake, the network remained stable. In contrast, post-COVID-19, it became less cohesive and more fragmented, with increased clustering, asymmetry, and reduced connectivity. These patterns suggest partial reorganization and weakened integration. Since the 2014 Ebola outbreak, healthcare resilience has gained attention, with COVID-19 exposing variation in system responses. Understanding how inter-organizational ties adapt under pressure is critical. Our longitudinal analysis shows that different crises reshape healthcare collaboration in distinct ways, offering insights into system-level resilience and coordination under stress.

Keywords: *Healthcare, Network, Resilience, Inter-organizational collaboration.*

1 Introduction

Disruptive events, ranging from natural disasters to pandemics, are becoming increasingly frequent, with profound and far-reaching impacts on societies, individuals, and organizations. These shocks have implications that extend beyond individual organizations, amplified by growing reliance on interdependent networks, where the failure of an entity can trigger a domino effect across the entire system. Coping with crises requires coordinated strategies, as no organization operates in isolation, nor does any single entity possess the resources to face such challenges alone.

Resilience, the capacity to respond and adapt to jolts, has increasingly gained prominence in both academic and practitioner discourse. However, much of the literature in organization studies focused on resilience, considering the firm level, overlooking higher-order, aggregate, and interdependent levels of analysis (Linnenluecke, 2017). Network resilience, that is, the capacity of a network, whether biological, infrastructural, or organizational, to absorb and adapt to shocks, remains underexplored in the organizational literature (Liu et al., 2022). Neglecting a network perspective over resilience fails to encompass the patterns of collaboration enacted by organizations in response to a challenging situation. A network perspective on resilience shifts the analytical focus from isolated

organizations to groups of interdependent actors coping with crises, giving salience to the inter-organizational ties emerging across them in the process of adaptation and recovery from adversities. In other words, crises offer a window of opportunity to explore collaborative dynamics, as uncertainty and challenges heighten the need for coordination, resource exchange, and collective action. While prior research has examined crises in single organizations in the aftermath of a crisis, there is still limited understanding of recovery from crises at the network level and how the structure and evolution of collaborative networks change over time after experiencing stressors. Moreover, exploring the phenomenon of adaptation and recovery over time and across crises gives justice to the developmental and relational nature of the concept of resilience (Giustiniano et al., 2018). To shed light on network resilience over time, we aim to provide an empirical exploration of how crises shape networks over time.

To address this, we analyze the healthcare collaboration network of an Italian region before, during, and after two distinct crises: a major earthquake and the COVID-19 pandemic. This allows us to compare how the same system responds to different shocks. Both crises significantly challenged the healthcare network. Healthcare collaboration networks, represented by patient transfers (Lomi et al., 2014), play a crucial role in alleviating pressure on overloaded facilities and reallocating capacity during periods of high demand, thus enhancing system-wide resilience. We employ longitudinal network analysis methods to investigate how network collaborations evolve over time (Schaefer & Marcum, 2021). These techniques allow us to empirically examine the structural changes within networks in different periods. By analyzing network evolution before, during, and after critical events, we aim to explore collaboration patterns toward the system's resilience.

We observed distinct patterns of network collaboration across the two crises examined. The earthquake was a sudden, intense shock that physically disrupted hospitals and forced immediate closures, requiring rapid patient redistribution. This uncoordinated response tested the network's ability to handle an exogenous shock. In contrast, COVID-19, though sudden, unfolded over a longer period, allowing for some planning and coordination. These differences highlight different patterns in network dynamics. For COVID-19, network cohesion weakened over time, with declines in density, node engagement, transitivity, and reciprocity, reflecting disrupted interactions. Post-pandemic, the network didn't fully recover, though transitivity rebounded, and reciprocity continued to fall, suggesting growing centralization. For the earthquake, network density and ego network size initially increased, then stabilized or contracted post-event. Transitivity declined, while reciprocity dropped during the earthquake but rose afterward, surpassing pre-earthquake levels. Assortativity became more negative, reflecting increasing dissimilarity in node connections.

Since the 2014 Ebola outbreak, healthcare resilience has been a key concern, with the COVID-19 pandemic revealing significant variation in how systems adapt to extreme disruptions (Duvald et al., 2025). Healthcare organizations are especially critical during crises, making it imperative to understand how they respond, not just individually, but collectively through inter-organizational collaborations. By adopting a longitudinal network perspective, we explored how inter-organizational relationships emerge, adapt, or terminate during jolts, and how the network evolves after stressful conditions. During and after COVID-19, the network became less cohesive and more heterogeneous, indicating fragmentation of prior connections. It evolved into a more clustered, asymmetric, and hierarchical structure, with reduced connectivity. In contrast, the earthquake network remained stable, showing only minor fluctuations, suggesting greater resilience. However, this could be influenced by the shorter observation period for the earthquake. We contributed by analyzing the dynamics of networks shaped by different crises over time, revealing how these events influence network structures. We highlighted the critical role of crises in shaping network behavior, explored their distinct impacts on network dynamics, and emphasized the varying consequences each crisis has on resilience and adaptation.

2 Background Knowledge

The word resilience derives from the Latin "resilire", to signify "to recoil" or "to rebound". Originally a physics term referring to the ability to absorb energy and return to its original form, resilience has since transcended disciplinary boundaries (Linnenluecke, 2017). In management research, resilience

stands as a concept closely related yet distinct from crisis management, organizational adaptation, and errors (Giustiniano et al., 2018). Resilience is the outcome of effective adaptation, and while crisis management focuses on the immediate response and mitigation after a crisis, resilience encompasses not only recovery but also the ability to anticipate crises and learn (Linnenluecke, 2017). Notwithstanding that organizations are increasingly embedded in interdependent networks in which crisis can have negative ramifications, resilience has mostly been investigated at the organizational levels of analysis, overlooking higher and aggregated levels (Giustiniano et al., 2018; Linnenluecke, 2017). Network resilience is the ability of an interconnected system, whether ecological, biological, or infrastructural, to adapt its operations and maintain core functionality when confronted with disruptions (Liu et al., 2022). Being part of a network of organizations enhances resilience by enabling the exchange of resources, promoting coordination, strengthening social capital, and supporting recovery by sharing information, equipment, personnel, and technology (Williams et al., 2017). Resource pooling is essential during crises, as no single organization has all the necessary assets.

Crises profoundly impact the dynamics of inter-organizational networks, offering a window of opportunity to explore changes in inter-organizational collaborations under conditions of uncertainty and disruption. During a crisis, heightened uncertainty and challenges strengthen network interactions. This frequently results in the formation of new ties or the reinforcement of existing ones, as actors seek to share resources and provide mutual support to navigate emerging challenges (Doerfel et al., 2013). Moreover, empirical studies have shown that in the immediate aftermath of a crisis, networks often become more centralized and exhibit increased connectivity. However, these intensified structures may not persist in the long term. As the crisis subsides, the urgency that previously sustained elevated interaction levels diminishes, often leading to a reduction in overall network density (Misra et al., 2017). Beyond these dynamic shifts, crises can also trigger deeper structural transformations within organizational networks. These can be gradual, evolutionary changes, like those in ecological systems, or abrupt shifts, as seen after natural disasters (Liu et al., 2022). In organizational contexts, such disruptions have been shown to reshape alliance structures, prompt reconfigurations in competitive relationships, and stimulate the emergence of novel forms of collaboration, including public-private partnerships designed to enhance systemic resilience (Corbo et al., 2016; Doerfel et al., 2013).

In conclusion, network resilience is increasingly vital, particularly in critical infrastructure and service networks that must maintain functionality during major crises. Resilience can be fostered through interactive mechanisms such as resource exchange, which not only strengthens inter-organizational linkages but also supports more equitable resource distribution and continuity of service delivery during periods of disruption.

3 Methodology

This study examines the evolution of a regional healthcare network over time across two distinct crises. To explore changes, we adopt longitudinal network approaches (Schaefer & Marcum, 2021) implemented using the R package SNA (Bender-deMoll & Morris, 2021) to study dynamics, focusing on changes and variability over time.

We use data from the Abruzzo region's healthcare systems. Healthcare systems are networks exchanging services, with patient transfer being a key form of collaboration. Patient transfers can intensify during crises, such as the COVID-19 pandemic, when patients are moved to less burdened hospitals, or in earthquakes, when patients are relocated to functional hospitals. Patient transfers help redistribute demand, reduce pressure on overwhelmed facilities, and ensure continuity of care (Lomi et al., 2014).

The Abruzzo region serves approximately 1.3 million residents. Abruzzo is part of Italy's National Health System, characterized by Local Health Authorities (LHAs) managing healthcare delivery. Over time, Abruzzo's healthcare system has evolved, consolidating from six LHAs and 35 hospitals in 2009 to four LHAs and 27 hospitals by 2020. We retrieved data from 2009 and 2009 due to two major crises: the 2009 earthquake and the 2020 pandemic. On April 6, 2009, a powerful earthquake with a magnitude of 5.9 struck L'Aquila and the entire Abruzzo region, resulting in 309 deaths, over

1,500 injuries, and significant damage to both buildings and cultural heritage. In contrast, the first signs of COVID-19 emerged in Abruzzo in February 2020. The "first phase" of the epidemic, from February to March 2020, was marked by rapid transmission and a subsequent nationwide lockdown. Regional infection rates varied, with some areas experiencing weaker outbreaks, which led to a partial reopening in June. "Phase 2" began in May, with the easing of some restrictions, followed by further relaxations. The "second wave" began in late August, with cases rising again, particularly as schools reopened in September. By October, transmission surged, prompting the classification of regions into red, orange, and yellow zones, each with specific restrictions.

The data represent the inter-hospital patient transfers. We collected data accounting for the differing durations of the prolonged COVID-19 pandemic and the sudden earthquake to explore patterns before, during, and after each crisis. The longitudinal data is collapsed into three waves for each crisis.

	Covid-19	**Earthquake**
Crisis	February 2020	April 2009
Before	February to December 2019	January to April 2009
During	February to December 2020	April to August 2009
After	February to December 2021	August to December 2009
Transfers (pre,during,after)	4298, 3988, 4123	440, 647, 476
Number of hospitals	27	35
Patients Admissions	387.715	397.280

Table 1. Timeline of the two crises.

4 Preliminary Findings

In this section, we provide a graphical visualization of network dynamics and network-level statistics that reflect structural shifts in the network. Table 2 presents key network statistics across the observed periods for both crises.

For COVID-19, we observe a gradual weakening of structural cohesion from the pre- to post-pandemic phases. In particular, network density and average node engagement declined, indicating a reduction in overall connectivity. Likewise, both transitivity and reciprocity decreased, suggesting fewer closed triads and a decline in mutual connections. These shifts likely reflect disrupted or restructured interaction patterns, influenced by the contagious nature of the virus and the resulting restrictions on direct collaboration. Notably, degree assortativity became increasingly negative over time, indicating a growing tendency for nodes to connect with others of dissimilar degrees, possibly reflecting adaptive, heterogeneous link formation in response to the crisis. Between the during and after COVID-19 phases, the network does not show a full recovery to pre-pandemic levels. Both density and average ego network size declined further, suggesting a continued, albeit modest, contraction in overall connectivity and individual node reach. In contrast, transitivity increased, nearly returning to pre-pandemic levels, indicating a rebound in local clustering. However, reciprocity continued to fall, implying a further decline in mutual exchanges. Finally, assortativity became slightly more negative, reinforcing the trend toward connections between nodes of differing degrees, potentially signaling growing centralization or hierarchy in the post-COVID network structure.

For the earthquake, density shows a slight increase from the pre- to post-earthquake phases, followed by stabilization in the post-earthquake period, albeit this finding could be conflated by a shorter observation span (see Table 2). Moreover, average ego network size increases from the pre- to during-earthquake period, suggesting that individual nodes expanded their direct connections in the immediate

aftermath. However, a slight decline follows in the post-earthquake phase, indicating a small contraction or rebalancing of individual connectivity levels. Transitivity shows a gradual decline throughout the three periods, indicating a steady weakening of local clustering. Reciprocity initially decreases during the earthquake phase but then rises post-event, exceeding pre-earthquake levels. The assortative degree becomes progressively more negative over time, pointing to an increasing tendency for nodes to connect with others of dissimilar degrees.

Metric	Before	During	After
Covid-19			
Density	0.282	0.251	0.249
Transitivity	0.602	0.559	0.591
Reciprocity	0.697	0.670	0.640
Assortativity_Degree	-0.255	-0.260	-0.284
Avg_Ego_Network_Size	14.667	13.037	12.963
Earthquake			
Density	0.118	0.122	0.122
Transitivity	0.380	0.377	0.364
Reciprocity	0.438	0.407	0.472
Assortativity_Degree	-0.241	-0.304	-0.335
Avg_Ego_Network_Size	6.621	7.290	7.067

Table 2. Network-Level Statistics.

4.1 Network Dynamics During COVID

We now present some preliminary insights that emerge from a visual exploration of how the network reconfigured during the COVID crisis (Figure 1). The COVID-19 pandemic intensified collaborations between hospitals, not only among those in close geographic proximity (e.g., 11–17; 15–17). Interestingly, some previously strong collaborations (e.g., 20–18) were interrupted when the crisis hit. In the post-crisis period, however, certain ties (e.g., 3–18; 9–17) became even stronger. These collaborations often involved exchanges between different types of institutions, for example, public hospitals working closely with nursing care facilities. Notably, during the height of the pandemic, Hospital 17 became a key reference point for Hospitals 15 and 11. In Figure 1, the creation of new collaboration patterns among previously disconnected hospitals (e.g., 11, 10, 12) emerges, which began sharing patients during the crisis and continued to do so afterward. In some cases, the direction of patient flows was even reversed due to the pandemic, for instance, a shift from 16→23 to 23→16.

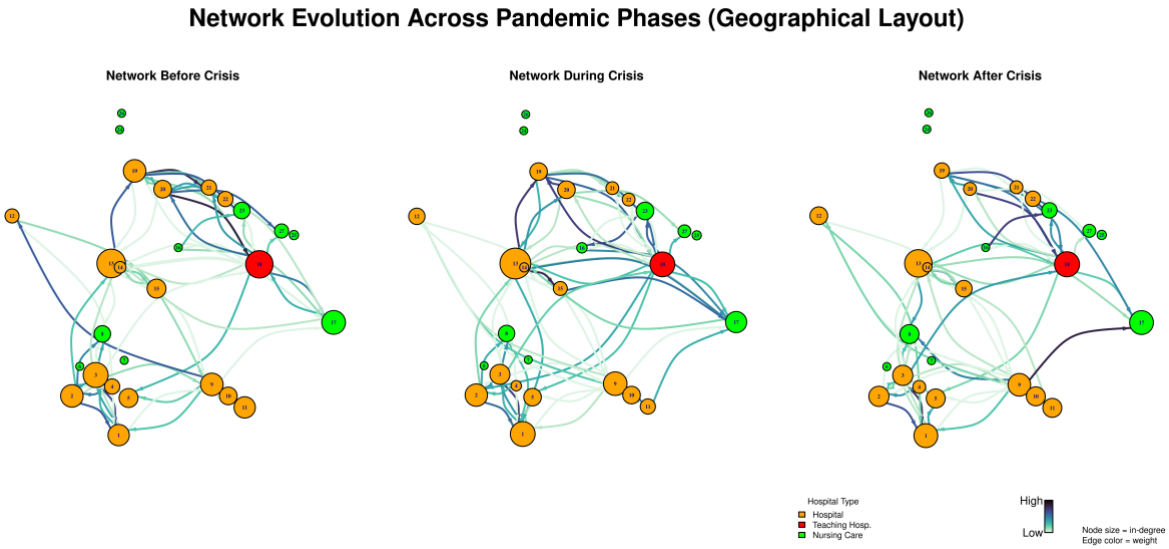


Figure 1. *Transfer networks across three phases—before (Feb–Dec 2019), during (Feb–Dec 2020), and after (Feb–Dec 2021). Edges with weights <10 are omitted for clarity. Edge colors reflect exchange intensity (scaled across all periods); node colors denote hospital types, and node sizes indicate in-degree (scaled globally). Layouts approximate geographic positions.*

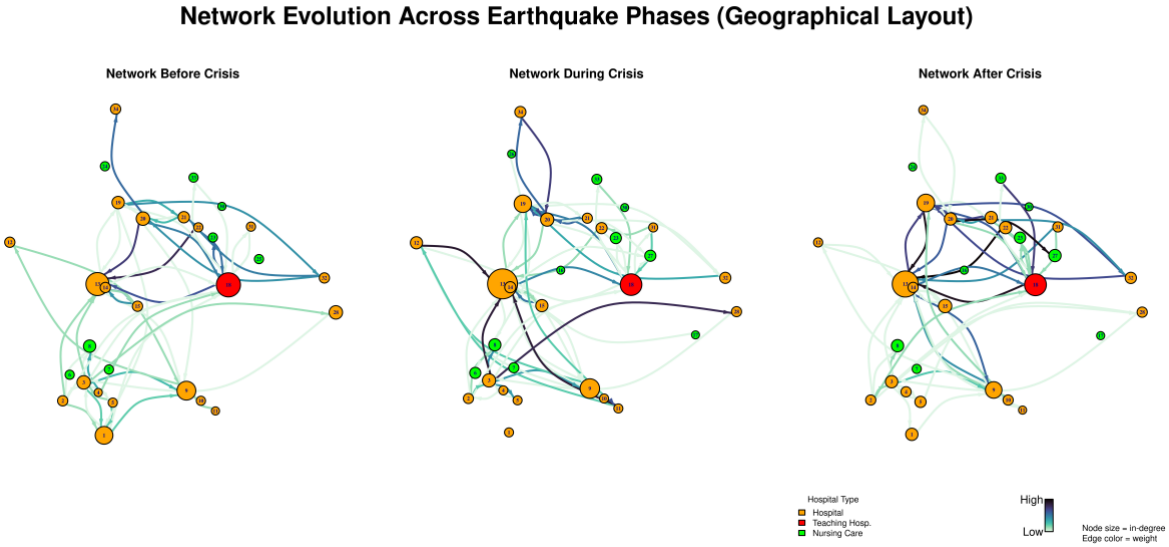


Figure 2. *Hospital transfer networks across three phases—before (Jan 1–Apr 6), during (Apr 6–Aug 31), and after (Aug 31–Dec 31, 2009). Edges <1 excluded for clarity. Edge colors show transfer intensity (scaled globally); node colors = hospital types; node sizes = in-degree (globally scaled). Layouts approximate geographic positions.*

5 Contributions

In times of crisis, the functionality of critical infrastructure, such as the healthcare system, is essential to prevent societal collapse and to mitigate the challenges arising from increasingly frequent natural

disasters, pandemics, and conflicts. Inter-organizational collaboration emerges as a key mechanism through which organizations pool resources and capabilities, recognizing that no single entity can effectively manage large-scale disruptions in isolation.

We examined the dynamics of healthcare collaboration networks across distinct crisis events, investigating how these networks evolve in the aftermath of catastrophic disruptions. We observed distinct dynamics across the two crises. During and after the COVID-19 outbreak, the network appears to have become less cohesive and more heterogeneous, suggesting a fragmentation of previously established connections. While some level of reorganization occurred, the network did not fully revert to its pre-COVID structure. Instead, it evolved into a more clustered configuration, characterized by increased asymmetry and hierarchy, and a slight overall reduction in connectivity. Conversely, in the context of the earthquake, the network structure remained relatively stable over time, exhibiting only limited fluctuations across the observed periods, which suggests a more resilient or less disruptive impact on network cohesion. Yet, this finding might be linked to the shorter observation period for the earthquake (Table 1).

Based on the findings, we contend that pathways toward resilience take different trajectories, closely shaped by the nature of the specific stressor. This supports the view of resilience as a relational and context-dependent construct—one that is tightly coupled to the particular moment, environment, and type of disturbance faced (Giustiniano et al., 2018). Furthermore, by adopting a longitudinal and temporally dynamic perspective, we can capture the evolution of collaborative resilience before, during, and after crises, offering a more nuanced understanding of how healthcare networks adapt over time.

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PROMOTING HEALTHY EATING INITIATIVES IN ORGANIZATIONS: AN EXPLORATORY STUDY

Short Paper

Beatrice Re, University of Pavia, Pavia, Italy, beatrice.re@unipv.it
Pietro Previtali, University of Pavia, Pavia, Italy, pietro.previtali@unipv.it

Abstract

Organizations are progressively dedicating resources to corporate wellness programs to improve their employees' health. Among these efforts, diet-related interventions in the workplace play a crucial role in promoting employee well-being, and they can have a positive impact on organizational performance by contributing to enhancing productivity and reducing absenteeism. However, there is a lack of in-depth understanding regarding the specific diet-related strategies included in corporate wellness programs and how these initiatives influence both employee well-being and organizational performance. Through in-depth interviews with a collective catering company and two of its client organizations located in Italy, we explore how firms promote healthy eating in the workplace, and their expected benefits on individual well-being and organizational performance. We contribute theoretically to organization studies by providing evidence of diet-related interventions implemented within corporate wellness programs. We also offer practical suggestions to managers on how to effectively promote healthy eating initiatives in organizations.

Keywords: corporate wellness, healthy eating, employees' wellbeing, organizational performance.

1. Introduction

Organizations are increasingly investing in employee health and well-being through corporate wellness (CW) programs, which aim to improve wellness from psychological, physical, and social dimensions (Grant et al., 2007). These programs are praised for their positive effects on employees and organizations, including improved health, reduced healthcare costs, and increased performance and productivity (Kelly & Snow, 2019).

Among CW programs, workplace diet-related interventions have gained attention for their impact on employee health and productivity (Gubler et al., 2018). The authors showed that employees with pre-existing health issues improved their health via wellness programs and increased productivity through two primary mechanisms: job motivation and capability.

Despite growing interest in CW programs, diet-related workplace interventions are currently under-researched, particularly in managerial and organizational discussions (Gubler et al., 2018). While previous studies have explored employee well-being and productivity, there is limited empirical research on how improved dietary patterns impact workplace performance, especially in high-income countries (Drewnowski, 2020).

In this paper, we delve deeper into the topic of nutrition in organizations by conducting a twofold investigation. On the one hand, we explore how a firm of collective catering supports its client firms through the introduction of healthy eating initiatives in the workplace. On the other hand, we investigate

how the client firms implement these initiatives, and which benefits they seek concerning individual well-being and organizational performance. Specifically, we address the following research questions: "How do firms promote healthy eating in the workplace? What benefits do they seek for their employees' well-being and the whole organization?".

2. Theoretical background

Many organizations develop CW programs by offering gym memberships, promoting cycling to work, and car-sharing programs to encourage physical activity and improve their employees' physical health (Haddon, 2018). Mulaney et al. (2021) found that employee participation in diet/nutrition initiatives is the highest among all CW initiatives. Organizations are experimenting with different solutions to provide healthier food and drink options in cafeterias or canteens for better nutritional balance (Haddon, 2018). Nutrition is a key element for a healthy workplace, as nutritious food is essential for employees to remain healthy and productive (Wanjek, 2005) and for addressing non-communicable diseases associated with diet and physical inactivity (such as obesity, diabetes, cardiovascular disease, and hypertension). Taking care of employees' eating habits within the workplace can make a difference in improving their dietary patterns and psycho-physical well-being (Grant et al., 2007) while at the same time enhancing organizational performance. As shown in the study by Gubler et al. (2018), nutritional and diet programs are among those CW interventions that have the potential to impact employee productivity and firm profitability significantly.

In Italy, where food is a central part of daily life and eating well is ingrained in the culture, over 70% of workers take a lunch break each day. Among them, 41% have lunch at their workplace (such as homemade meals, canteens, or vending machines), while 59% prefer to eat outside, often in nearby restaurants or cafes (Caraher et al., 2017). The demand for healthy food is a notable trend among European employees (Caraher et al., 2020), with Italian workers being particularly discerning and conscious of their food choices (Corvo et al., 2020). They expect high-quality food, often look for specific attributes like organic or sustainable options, and request more vegetables in their meals (Caraher et al., 2020). However, socioeconomic factors also play a role in shaping healthy eating habits (Huang et al., 2024). Hence, implementing healthy eating initiatives at the corporate level could also help to address these socio-economic disparities among employees.

3. Methodology

3.1 Data collection

To answer our research questions, we collected data through in-depth interviews involving a collective catering company and two of its client firms. We chose Elior as a catering company as it is a leading one in Italy, and in 2024 it was elected the best collective catering company in the country by the Italy's Best Employers survey. We contacted Elior's Nutrition Office Manager who showed availability for an in-depth interview and connected us with the knowledgeable informants of two of its client firms through snowball sampling (Patton, 2015). Our data collection took place in February and March 2025 (see Table 1 for details). Our primary data collection included three in-depth interviews that have been conducted via Zoom. The first one involved the Nutrition Office Manager of Elior. This interview was devoted to understanding how the firm contributes to developing healthy nutrition programs in its client firms (e.g., implemented activities, nutritional initiatives, and communication support). The second and third interviews were conducted respectively with the Hospitality Specialist and the HR manager of two of Elior's client firms, i.e., Galdi and Baxi. These interviews aimed to investigate how these firms promote healthy eating initiatives in the workplace by partnering with Elior, and which benefits they seek in terms of individual well-being and organizational performance. Each in-depth interview lasted from 60 to 75 minutes, was recorded through an electronic device, and transcribed within 24 hours. To

ensure internal validity (Denzin, 1978), per each case firm we triangulated the gathered primary data with secondary sources of information (mainly companies' websites and web articles) (Table 1).

Table 1 Data collection. Source: Authors' own work.

	Type of data	**Interviewee's role**	**Details**
Primary data	In-depth interview	Nutrition Office Manager - Elior	February 2025 - 1 hour
	In-depth interview	Hospitality Specialist - Galdi	March 2025 - 1.15 hour
	In-depth interview	HR Manager - Baxi	March 2025 - 1 hour
Secondary data	Companies' websites and web articles		/

Elior is the leading group in Italy in the collective catering sector. It serves a large number of companies of different sizes (small, medium, and large) in several sectors (such as education, healthcare, and leisure). Elior values and promotes healthy eating initiatives in the workplace, as also stated in its website: "Eating well means feeling good, even at work. The importance of the lunch break is fundamental for people because it is a central moment of the day that often determines its progress and allows you to be more focused, attentive, and productive. In fact, an increasing number of companies consider the catering service as corporate welfare".

The firm currently employs around nine thousand employees and has several brands, including Hospes, the brand with which it operates in the North-East Italian regions and particularly in the Veneto region.

Galdi is a company that produces packaging solutions for the food industry. It is in Treviso (Veneto region) and has 130 employees. It is a highly innovative firm that constantly improves its efficiency by adopting Lean and Agile methodologies. In January 2022 the firm, in synergy with Hospes, inaugurated the Galdi Bistrot, which is a new catering space dedicated to the employees, and which has been conceived to promote healthy and natural food. As reported on the website by the Hospitality Manager, "Galdi Bistrot adds another piece to the development of corporate welfare created with the Village. A healthy diet is in fact the basis of quality of life... and work. We conceived the lunch break as a moment to love ourselves, thanks to genuine and balanced dishes. Without forgetting taste and aesthetics. After all, we are Italian!"

Baxi is a company that boasts almost a century of experience in the heating and air conditioning sector. With over 850 employees and a turnover of 380 million euros in 2024, the company is well-established in the Italian market and distributes its products in over 50 countries worldwide. Baxi gives great importance to the aspects related to diet and nutrition as part of the employees' wellbeing, and it increasingly considers the canteen as a strategic asset. The collaboration with Hospes started ten years ago, marking a significant turning point in the way of conceiving the canteen service, which changed from being simply a place where one can eat to a real place of socialization for all the employees.

3.2 Data analysis

To analyze the collected data, we first proceeded with carefully reading the interviews to become familiar with each of them. We started with Elior's interview by identifying all of the activities implemented to contribute to developing healthy nutrition programs in its client firms, and we briefly described them. Subsequently, we analyzed Galdi and Baxi's interviews by coding them according to three variables of interest, i.e., (i) healthy eating initiatives, (ii) individual well-being, and (iii) organizational performance.

4. Findings and discussion

From the interview with Elior, we found that the firm promotes different healthy eating initiatives to its client firms. The main ones are i) the nutritional desk, which is a service addressed to all employees aiming at providing nutritional advice; ii) seminars on nutrition, both general and specific (such as nutrition and sport, celiac disease, and eating disorders); and iii) thematic weeks on different aspects related to nutrition plus poster supports and information material for communication purposes. Communication also concerns sustainability as their menus show the impact of CO2 on their recipes. The firm administers questionnaires on menu satisfaction but does not monitor the impact of the activities it carries out on a communicative and informative level (e.g., dietary changes). The analysis of Galdi's and Baxi's interviews brought out several aspects concerning the implemented healthy eating initiatives, and the related expected impact on individual well-being and organizational performance. Table 2 briefly summarizes our findings.

Table 2 Data analysis. Source: Authors' own work.

	Healthy eating initiatives	**Individual well-being**	**Organizational performance**
Galdi	Introduction of balanced and varied menus	Improve employee health, increase in concentration	Increase productivity, improve job satisfaction
	Food education seminars	Improve employee health	Increase productivity
	Meetings with a nutritionist	Improve employee health	Improve job satisfaction
	Transition from the canteen to the opening of a modern bistrot with a chef	Relaxation and leisure	Improve job satisfaction Reduce employees' turnover
Baxi	Introduction of balanced and varied menus	Improve employee health, increase in concentration	Reduce absenteeism, increase productivity
	Meetings with a nutritionist	Improve employee health	Improve job satisfaction

Our analysis reveals that firms are experimenting with several healthy eating initiatives, i.e., the introduction of balanced and varied menus, the organization of food education seminars and meetings with a nutritionist, and the opening of a bistro with a chef. Through these initiatives, the firms seek benefits both in terms of individual well-being (improve employee health, increase in concentration, relaxation and leisure) and organizational performance (improve job satisfaction, increase productivity, reduce absenteeism and employees' turnover). Almost all the results are in line with those identified in the literature (Gubler et al., 2018; Kelly & Snow, 2019). The emerging novel finding as compared to the literature regards "relaxation and leisure" as individual well-being resulting from the introduction of a modern bistro. This place goes beyond the concept of a mere canteen to become an experiential space where employees can enjoy the relaxing view of mountains and roof garden: the break thus turns into a moment of relaxation. Conceiving employees' well-being also in terms of mental well-being (Haddon, 2018) by favoring peace of mind during lunch breaks may be key nowadays for organizations to improve job satisfaction and reduce turnover.

Interestingly, our respondents note a growing interest among employees in environmental issues associated with food consumption and therefore they tend to implement actions in this direction. For instance, through Elior-Hospes, they offer plant-based alternatives to traditional dishes, and they introduce food recovery services such as TooGoodToGo. These choices are consistent with the Italian workers' search for quality food and growing attention towards sustainability (Caraher et al., 2020). However, several barriers persist in the adoption of healthy initiatives as the consumption of balanced and perhaps also plant-based dishes often requires a change in habits, which is difficult to implement when one is tied to traditions. Through the support of Elior-Hospes, both firms encourage change in this direction by increasing employee awareness through communication on the menus in terms of calories and the sustainability of each dish. Finally, our findings highlight that implementing healthy eating initiatives that employees could access almost for free (Baxi) or at a discounted price (Galdi) may be a feasible way to improve job satisfaction while addressing socio-economic disparities among employees (Huang et al., 2024). This is an emerging aspect that may be worthy of further investigation from the employees' perspective.

5. Conclusion

This study aimed to investigate diet-related interventions implemented within corporate wellness programs in organizations. Our study contributed to research on diet and nutrition, an area that remains under-investigated in the managerial and organizational discourse (Gubler et al., 2018). Through in-depth interviews with a collective catering company and two of its client organizations, we found that organizations are experimenting with several healthy eating initiatives in the workplace, i.e., the introduction of balanced and varied menus, the organization of food education seminars and meetings with a nutritionist and opening of a bistro with a chef. These initiatives have several expected benefits both in terms of individual well-being (improve employee health, increase in concentration) and organizational performance (improve job satisfaction, increase productivity, reduce absenteeism and turnover).

From a managerial perspective, our findings suggest that investing in healthy eating initiatives within corporate wellness programs could be an effective means to improve individual well-being and organizational performance. To do so, we advise firms to develop successful communication strategies to reduce barriers concerning the adoption of healthy eating habits in the workplace. Moreover, we suggest organizations implement systematic mechanisms to check the effectiveness of these programs both on the expected impact on individual well-being and organizational performance. Ways to do so could be administering periodic surveys to the employees and conducting ethnographic research.

This exploratory study sets the stage for further qualitative and quantitative research, to develop and test a model on a larger sample of firms implementing healthy eating initiatives. Such research would allow for broader generalizations across countries and industries. Additionally, a longitudinal study combining surveys and ethnographic methods would provide valuable insights into how diet-related interventions affect employee well-being and organizational performance over time.

6. Acknowledgements

We would like to thank the Nutrition Office Manager at Elior Italia for actively supporting us throughout the data collection process.

This research was funded under the National Recovery and Resilience Plan (NRRP), Mission 4 Component 2 Investment 1.3—Call for tender No. 341 of 15 March 2022 of Italian Ministry of University and Research funded by the European Union—NextGenerationEU. Project code PE00000003, Concession Decree No. 1550 of 11 October 2022, adopted by the Italian Ministry of University and Research, CUP F13C22001210007, Project title "ON Foods—Research and innovation network on food and nutrition Sustainability, Safety and Security—Working ON Foods.

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WHY CAN'T I BE A 'PIZZAIOLA'? AN EXPLORATORY STUDY OF THE GENDER DIFFERENCES IN THE NEAPOLITAN PIZZA BUSINESS

Research Idea

Gaia Pennino, University of Naples "Parthenope", Naples, Italy, gaia.pennino001@uniparthenope.it
Rocco Agrifoglio, University of Naples "Parthenope", Naples, Italy, rocco.agrifoglio@uniparthenope.it
Concetta Metallo, University of Naples "Parthenope", Naples, Italy, concetta.metallo@uniparthenope.it
Maria Ferrara, University of Naples "Parthenope", Naples, Italy, maria.ferrara@uniparthenope.it

Abstract

This exploratory research aims to explore the barriers faced by women for being women pizza chefs in the business of Neapolitan Pizza. Historically, women had always worked in Neapolitan pizzerias doing a lot of managerial and operational tasks, while the role of pizza chef was always a men-dominated position. Such gender employment gap is much more prominent in the Neapolitan Pizza business than in the restaurant sector and, more in general, in the hospitality industry. Using a qualitative methodology based on the in-depth interviews, we collected data from 9 women Neapolitan Pizza chefs. Findings show that various gender barriers influence women's attitudes and behaviors in pizzerias, causing them to shy away from the position of pizza chef. This study contributes to the debate on gender diversity by identifying the main barriers women face in becoming pizza chefs and provides useful insights for further investigations on the topic.

Keywords: gender diversity; gender barriers; restaurant; Neapolitan Pizzerias.

1 Introduction

This paper is part of a larger research project on gender differences in the Neapolitan Pizza business (Pizza Napoletana). Contrary to popular belief, women have always worked in the Neapolitan Pizza business by performing not only operational and support tasks, like dining room staff and cashier, but also managerial ones, like restaurant manager. Today, although the number of women owning or managing a pizzeria has increased overtime, gender differences between male and female Neapolitan Pizza chefs exist. There are 95,870 (30%) women restaurant owners in Italy (Confcommercio, 2024), while the women owners in pizzerias are almost 9,000 (11%). This gender employment gap is more prominent for women's Neapolitan Pizza chefs operating in Italy, who are 6 out of 309 (2%) (AVPN, 2024), against the 20% of women chef (Fipe-Confcommercio, 2021). Given the pervasiveness of the working machines in the pizzeria, this gap is not more connected to the effort for the dough and the pizza processing, but it seems to have deeper roots related to the social, psychological, and cultural spheres. Gender differences in the workplace were analyzed through many theories, mainly related to the social psychological perspective, aimed at explaining how stereotypes, roles, and social expectations influence the attitudes and behaviors of men and women. Although literature has paid considerable attention to gender differences in hospitality, little research has focused on the restaurant sector and, even less, on pizzerias. It is unclear why women who work in pizzerias are more likely to work as waitresses, cashiers, and dining room managers (and entrepreneurs too) rather than as pizza chefs.

2 Gender differences in the workplace: a social psychological perspective

One of the most influential frameworks within the social psychological perspective on gender differences in organizations (Eagly *et al.,* 2012; Joshi *et al.,* 2015), is the Social Role Theory (SRT) developed by Eagly in 1987, this theory posits that societies tend to socialize male and female to perform specific functions and roles (Ndofirepi, 2020, Eagly, 1987). In according to SRT women are particularly communal, while men are particularly agentic. Such differences derive from the different roles covered in the family and in society overtime (Eagly, 1987). Unlike the SRT, Gender Schema Theory (GST) aimed at investigating the ways in which society creates and enforces the categories of gender (Bem, 1981). Using a social-cognitive approach, GST explains how people in society become gendered from an early age and the impact of such gendering on their cognitive and categorical processing throughout their lifetime. This gender knowledge forms cognitive schemas, which give rise to stereotypical beliefs and influence behavior (Martin *et al.,* 2002).

'Lack of fit' models (Heilman & Eagly, 2008), such as the Role Congruity Theory (RCT), suggest that bias may arise from the perceived incongruity between stereotypes about a social group and expected requirements for success in a social role. People often hold stereotypical expectations for persons who are in a particular social position (Eagly & Karau, 2002), the concept of role congruity (or incongruity) refers to the level of consistency (or inconsistency) in the norm-based expectations of two social roles one occupies, who act in role-congruent ways were perceived more positively than those who violated gender role norms (Koenig*, et al.,* 2011). Gender differences were also analyzed by using other social psychological theories, like the stereotype content model (Clow & Ricciardelli, 2011), that explains gender stereotypes through perceptions of competence and warmth, which shape different forms of prejudice; and the ambivalent sexism theory (Viki *et al.,*2003), that highlights both positive and negative biases toward gender.

2.1 Gender barriers for women in the workplace

Barriers are all those factors, both visible and invisible, that limit or prevent a person from accessing the same opportunities as others. Women face a lot of barriers (or gaps) in the workplace, including gender discrimination, stereotypes, bias and difficulties on balancing career and personal life.

The literature identified some descriptive stereotypes recognized as relevant for defining the barriers that women faced, including the 'lack of fit and the formation of performance expectations', the 'leadership roles', and the 'gender-type of the field'. The first one concerns a perceived 'lack of fit' between a woman's attributes and the attributes believed to be required to succeed in traditionally male occupations and organizational positions (Heilman, 1983). According to the SRT and the RCT, the leadership role is usually associated with the masculine gender role (Eagly & Karau, 2002). Research has provided evidence that there is a perceived incongruence between the demands of high-level organizational positions and the characterization of women. For instance, findings of Russen et al. (2021) research shown that only the 20% of women in the sector of restauration are in top management teams.

Prescriptive gender norms and stereotypes not only designate how women and men are, but also how they should be. Differences on women and men leadership styles (Eagly & Johnson, 1990) is a prescriptive stereotype. Another critical barrier for women is entrepreneurship, which presents similar issues of the leadership. The literature posits out that women are incongruent with the role of the entrepreneur because entrepreneur role is typically associated with stereotypes of autonomy, boldness, and dominance (agentic behaviour) usually associated to men characteristics (Fine, 2017). Both women and men perceive entrepreneurs to possess masculine traits (Gupta *et al*., 2009).

Finally, a huge issue for women in the workplace is the work-life balance. Traditional gender role expectations encourage women to identify more with their family and caregiver role and men to focus

more on paid work outside home (McDaniel, 2008). It was found that women who are trying to meet the demands of both roles are subject to constant tension (Parodi *et al.,* 2022).

3 Research methodology

This research uses a qualitative methodology based on in-depth interviews. The interviews were conducted both face-to-face and remotely (by e-mail and phone) in March 2025. Consistent with Alsaawi (2014) we used the unstructured interview because it is more informal and for suitable for gather data on a specific phenomenon in depth.

We contacted 9 women operating in the Neapolitan pizza business with different tasks. Moreover, we also collected data from another interview that is available online given by a woman 'Neapolitan pizza' chef on the topic of gender gaps in the workplace. The average duration of each interview was about 30 minutes. All interviews were recorded, and then the data was transcribed by using a specific software.

Total number of participants	9
Average age	47
Gender	9 women
Position	3 pizza makers, 1 training manager, 2 sommeliers, 3 entrepreneurs
Type of interview	4 face-to-face, 5 online

Table 1. Descriptive analysis of the sample

Interviews' quotes	**Gender gaps**	**Theory**
"We live in a society where women are not seen as capable of leading a team"	Leadership/Entrepreneurship	RCT
"They told me that it was not a job for women, I would not be able to stand the stress both physically and mentally and that therefore I would be a waste of time."	Lack of fit	GST
"It has always been a man's job, and that's how it should stay."	Gender type of field	SRT
"There's this belief that a man is naturally competent, while a woman always has to prove herself."	Performance expectations	Stereotype content model
"The difficulties for a woman who wants to enter the job market mainly concern pregnancy/maternity."	Work-life balance	Ambivalent sexism

Table 2. Gender gaps in women Neapolitan Pizza Chefs

4 Discussion and conclusions

Findings highlights the existence of some gender gaps that influence both perception and participation of women in the business of Neapolitan Pizza. We identified 4 thematic areas of gender barriers for women to access pizza chef position which can be summarized as follows: Leadership & Entrepreneurship, multiple quotes reflected the difficulty women face in leading a team or assuming position of authority. This is linked to RCT for the perceived conflict between feminine traits and the trait associated with the leadership role. Performance expectations, women must constantly prove their competence. This is linked to the stereotype content model. Gender typed work fields and Lack of fit, this aspect is connected to SRT and GST and explains how the historical division of labor shapes the consideration of works such as masculine of feminine. Work-life balance, a significant gap is related to motherhood and working hours issues.

The results of this analysis show that the gender gap in the workplace is not merely a matter of access or representations, but it is deeply rooted in cultural, cognitive, and symbolic mechanisms operating at multiple levels. Further research is needed to expand and deepen these findings. Future studies could adopt a longitudinal approach to explore how perceptions of gender roles evolve over time and could be conducted also a comparative study across different sectors, considered male-dominated.

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A SYSTEMATIC REVIEW OF THE LITERATURE ON THE RECRUITMENT AND HIRING PROCESSES FOR AUTISTIC CANDIDATES

Short Paper

Ludovica Airaghi, University of Milan, Milan, Italy, ludovica.airaghi@studenti.unimi.it
Alessandra Lazazzara, University of Milan, Milan, Italy, alessandra.lazazzara@unimi.it
Sanjay Kumaranden, University of Bath, Bath, United Kingdom, sk2388@bath.ac.uk
Chris Ashwin, University of Bath, Bath, United Kingdom, ca272@bath.ac.uk

Abstract

Employment rates remain low for autistic individuals despite their strengths and growing autism awareness. This systematic review, guided by the biopsychosocial model of disability and the neurodiversity framework, synthesised 140 studies on early employment stages, recruitment, hiring, and onboarding, to identify Human Resource Management (HRM) practices and contextual factors influencing the inclusion of autistic jobseekers in competitive employment. Thematic analysis using the GIOIA methodology revealed key barriers and enablers at individual, organisational, and environmental levels. Findings highlight a strong focus on job interviews and workplace accommodations, with limited attention to broader recruitment strategies and onboarding. The role of digital HRM technologies is underexplored, often limited to assistive tools without addressing potential risks. This review offers an integrated framework for understanding employment factors affecting autistic individuals, deepens theoretical insight, and identifies critical research gaps, providing practical recommendations for more inclusive HRM practices.

Keywords: Autism, Hiring; Recruiting, Onboarding, Digital HR

1 Introduction

While awareness on autism spectrum disorder (ASD) is growing, employment remains a significant challenge for individuals on the spectrum. In the UK, only 30% of autistic individuals are employed, one of the lowest rates among all disabilities (DWP, 2023). Those employed often face underemployment (Smethurst et al., 2024) and lower wages (ONS, 2022).

Although employment is a priority for the autistic community (Pellicano et al., 2014), research from an Human Resource Management (HRM) perspective remains underdeveloped. Existing reviews offer insights into employment programmes (Hedley et al., 2017), barriers and enablers (Harmuth et al., 2016), and International Classification of Functioning, Disability and Health (ICF) related employment factors (Scott et al., 2019), but a comprehensive focus on recruitment, hiring, and onboarding in competitive settings remains unexplored. This study addresses this gap through a systematic review, synthesising fragmented literature on early employment processes to identify HRM practices and contextual factors that support or hinder inclusion, with particular attention to the role of digital HRM technologies. The systematic approach also responds to concerns over methodological rigour (Harmuth et al., 2016) and aims to generate practical insights for both research and practice.

This review seeks to answer the following research question: *Which factors influence the recruitment, hiring, and onboarding of autistic candidates in competitive employment?*

2 Theoretical Framework

ASD is a complex neurodevelopmental condition marked by impairments in socio communication and interaction, as well as restrictive, repetitive behaviours and interests (APA, 2013). Given its heterogeneity, the term autism describes not only a specific diagnosis but also a wide spectrum of traits (Lord et al., 2020). This variability complicates further understanding how ASD relates to disability, as functioning can vary across different life domains and environments (Waizbard-Bartov et al., 2023).

In this regard, this study draws back to the biopsychosocial model of disability (Engel, 1977), which underpins the ICF-framework (World Health Organization, 2001). This model highlights the interaction of biological, psychological, and socio-cultural factors in shaping functioning (Wade & Halligan, 2017), challenging the reductionism of the medical model (Borrell-Carrio et al., 2004). An important extension of this approach is the neurodiversity paradigm, which frames conditions like autism, attention deficit hyperactivity disorder (ADHD), and Tourette's syndrome as natural human variations (Jaarsma & Welin, 2012). Rather than focusing on cure, it advocates for acceptance and the accommodation of cognitive differences in society and the workplace.

3 Research Design and Method

This study follows the systematic review guidelines for management research proposed by Rojon et al. (2021) and adheres to PRISMA 2020 standards to ensure methodological rigour and transparency (Page et al., 2021).

The literature search was conducted across psychology- and management-oriented databases, including APA PsycNET (PsycINFO), PubMed, Embase, Web of Science, Scopus, Business Source Complete, and Emerald. A Boolean search string was enter in each database: (autis* OR asperger OR ASD) AND ("personnel recruitment" OR "recruitment practice" OR "job interview" OR "personnel selection" OR "job applic" OR "personnel evaluation" OR "supported employment" OR "job search" OR "curriculum based assessment" OR "personnel placement" OR "competency assessment" OR "HRM" OR "human resources" OR "digital HR" OR "HR technolog" OR "workplace accommodation" OR "reasonable accommodation" OR "workplace adjustment" OR "reasonable adjustment" OR "onboarding" OR "job seek*"). The search was limited to peer-reviewed journal articles published after 1980, following the introduction of the ASD diagnosis in DSM-III (APA, 1980).

Studies were excluded if they: (1) did not focus specifically on autism (e.g., neurodiversity); (2) focused non-competitive employment; (3) did not cover recruitment, hiring, onboarding or related processes; (4) provided only descriptive statistics; (5) were grey literature; (6) were not peer-reviewed; (7) were not published in English; or (8) were published before 1980.

All included studies were critically appraised using a revised version of the Critical Appraisal Skills Programme (CASP) checklist for qualitative studies (CASP, 2023). Following Mears et al. (2024), a three-point rating scale (1 = weak, 3 = strong) was applied across 12 CASP items. Mean scores were calculated for internal appraisal purposes, though all studies were retained regardless of rating.

Aligned with Rojon et al. (2021), this review offers both descriptive and critical syntheses of the findings. Thematic analysis was conducted using the GIOIA methodology (Gioia et al., 2013), which is particularly suitable for exploring complex social and organisational processes in absence of a unified framework.

4 Findings

4.1 Employment Barriers

In response to the research question, the thematic analysis identified several recurring factors influencing workplace inclusion, which can be broadly categorised as employment barriers and enablers.

Individual-level barriers were reported in 112 studies (80%), with 73 studies (52.14%) attributing challenges to autism-specific traits, 54 (38.57%) highlighting work performance limitations, and 30 (21.43%) identifying other personal challenges. Additionally, 26 studies (18.57%) explored the lived experiences of autistic job seekers. Environmental-level barriers appeared in 81 studies (57.86%), with 60 studies (42%) addressing organisational-level obstacles, including HR process-related constraints (n = 20, 14.29%) and barriers in the general work environment (n = 50, 35.74%). Broader environmental barriers were reported in 28 studies (20%), including limitations in supported employment and vocational rehabilitation services (n = 21, 15%) and challenges within the wider socio-economic context (n = 11, 7.86%). Second-order themes and dimensions were organised according to the ICF framework (WHO, 2001), highlighting the interaction between personal characteristics and environmental factors in shaping workplace inclusion.

First-order themes	**Second-order themes**	**Aggregate dimensions**
Deficit in socio-communication and social interaction [1, 2, 3, 5, 6, 8, 9, 10, 14, 16, 17, 19, 20, 21, 28, 31, 33, 36, 41, 45, 47, 51, 56, 59, 60, 64, 69, 70, 72, 73, 74, 77, 78, 79, 82, 84, 87, 88, 91, 94, 95, 96, 97, 99, 100, 102, 107, 108, 110, 112, 113, 115, 117, 118, 119, 120, 121, 122, 123, 126, 127, 128, 132, 135, 138, 139, 140]; hyper- or hyporeactivity to sensory inputs [6, 13, 16, 17, 22, 33, 97, 108, 135, 138]; restricted, repetitive patterns of behaviour [20, 41, 43, 60, 119, 135]; insistence on sameness and difficulties with change [43, 60, 114, 119, 135]; highly restricted, fixated interests [110, 135]; echolalia, disruptive vocalizations [27]; emotional dysregulation [33, 76, 119, 132]; intellectual impairments [36, 88, 95, 114]; sisruptive behaviours [59, 76, 88, 94, 95, 132]	ASD traits	Personal factors
Job search, job application and job interview difficulties [3, 21, 44, 91, 109, 123, 124, 125, 128, 129, 130, 139, 140]; learning and skills generalization difficulties [12, 46, 104, 109, 131]; task independence and performance challenges [4, 6, 11, 12, 17, 42, 44, 45, 46, 51, 80, 90, 103, 104, 109, 110, 114, 118, 119, 131, 136, 139]; need for continuous support and supervision [4, 20, 39, 40, 41, 43, 80, 90, 94, 95, 100, 103, 113]; attention and focus challenges [6, 10, 104, 114, 118, 131]; difficulties following instructions [117, 122, 5, 45, 57]; rigidity and adaptability issues [10, 13, 60, 104, 120, 136, 138]; social interactions and workplace relations difficulties [13, 44, 47, 59, 60, 84, 100, 106, 118, 120, 122, 136]; self-promotion and self-advocacy difficulties [60, 123, 124, 127, 128, 129]	Performance related difficulties	
Work-readiness skills and awareness [5, 14, 26, 30, 31, 36, 40, 41, 56, 61, 71, 78, 86, 98, 100, 101, 106, 107]; co-occurring conditions and mental health [2, 14, 15, 26, 56, 59, 62,	Other personal difficulties	

64, 72, 73, 78, 86, 91]; personal hygiene and grooming [30, 119]; self-confidence and independence [12, 15, 63, 64, 91, 107, 128]		
Stress and pressure to mask autistic traits [69, 53, 55, 71, 89, 112]; anxiety [3, 12, 53, 55, 71, 97, 112, 123, 126, 127, 129, 138, 139, 140]; fear of disclosure and perceived stigma [23, 68, 81, 101,108,116, 137]; pessimism and frustration with the employment process [22, 63, 101, 119]	Experiences reported	
Emphasis on social skills in job interviews [7, 52, 54, 58, 63, 68, 69, 73, 75, 79, 92, 93]; uncertainty and ambiguity in the recruitment process [7, 63, 75]; sensory barriers in job interviews and lack of adjustments [7, 70, 75]; limited access to on-site training [46, 115]; recruiter bias and limited ASD awareness [18, 58, 61, 63, 66, 75, 92, 93, 108, 138]	HR processes	Organizational factors
Inadequate workplace accommodation [22, 23, 50, 52, 53, 55, 58, 65, 67, 69, 81, 84, 85, 86, 89, 102,108, 130, 139]; lack of ASD awareness and stigma [23, 29, 33, 35, 38, 39, 50, 52, 53, 59, 65, 66, 69, 71, 83, 84, 85, 86, 89, 97, 102, 108, 111,112, 113, 115, 116,120, 137, 138, 139]; employer's concerns and negative attitudes [29, 42, 48, 49, 50, 52, 54, 67, 72, 83, 84, 87, 108, 113,116]; unclear job expectations and skill mismatch [33, 35, 48, 52, 67, 70, 72, 89, 97, 139]; workplace social exclusion and lack of peer support [35, 37, 47, 48, 50, 52, 53, 55, 65, 67, 68, 70, 76, 81, 84, 102, 107, 113,136, 139]	Work environment	
Lack of ASD-specific knowledge in service providers [99, 111]; insufficient tailored support [57, 80, 87, 98, 100, 111, 121, 126, 131, 132, 135]; prioritization of job placement over job fit and prolonged service duration [31, 57, 59, 62, 99, 111]; access difficulties to VR services [62, 71, 80, 90, 26, 106,133, 134, 135];	Supported employment	Environmental factors
Disincentives to competitive employment [15, 31, 34, 105]; high unemployment rates and social inequality [15, 57, 63, 105, 126]; insufficient VR services and other employment supports [42, 63, 65, 78, 132]	Other environment	

Table 1. GIOIA Data Structure for Employment Barriers.

4.2 Employment Enablers

In terms of enablers, the emerging themes were organised using the micro–meso–macro framework (Dopfer et al., 2004). At the micro level, 62 studies (44.29%) discussed individual level facilitators, including autism-specific interventions (n = 55, 39.29%), as well as the use of assistive technology (n =

42, 30%). Environmental-level enablers were reported in 90 studies (68.29%). At the meso level, 55 studies (39.29%) focused on organisational adjustments, including modifications to HR processes (n = 21, 15%) and to the general work environment (n = 41, 29.29%). Digital HR technologies were addressed in six studies (4.28%), though this area remains underexplored. At the macro level, 47 studies (33.57%) identified broader systemic enablers, with supported employment emerging as a key theme (n = 42, 30%).

First-order themes	**Second-order themes**	**Aggregate dimensions**
Job interview training [1, 2, 3, 6, 14, 21, 30 56, 64, 72, 73, 75, 77, 78, 79, 91, 119, 121, 123, 124, 125, 126, 127, 128, 129, 139, 140]; work tasks management training [11, 12, 15, 22, 36, 37, 45, 46, 51, 57, 76, 88, 90, 96, 103, 104, 109, 110, 114, 130, 131]; socio-communication skills training [19, 29, 67, 96, 117, 122, 131, 139]; self-regulation training [19, 27, 44, 67, 76]; self-confidence and self-advocacy training [73,76]	Individual interventions	Micro-level
Digital and VR-based job interview training [1, 2, 3, 14, 15, 21, 30, 64, 73, 74, 77, 78, 79, 91, 121, 123, 125, 126, 127, 128, 129, 131]; task planning apps, self-management devices and other assistive technologies [11, 27, 37, 40, 43, 45, 51, 59, 90, 100, 103, 120]; devices for literacy and workplace communication [28, 45]; online peer networking and support [47]; real-time remote job-coaching [109, 110, 140]; interactive social skills training and video feedback [117, 119, 122]	Assistive technologies	
Inclusive and structured hiring practices [8, 11, 29, 52, 54, 66, 68, 69, 70, 75, 82, 92, 97, 101, 108, 112, 137]; reasonable adjustments in hiring and recruiting [8, 11, 69, 75, 92, 112]; ASD awareness and bias reduction in hiring [1, 18, 23, 61, 69, 75, 92, 93, 112]; supporting early autism disclosure [11, 61, 69, 75]	HR processes	Meso-level
ASD awareness training and organizational diversity [11, 13, 16, 23, 29, 35, 38, 39, 42, 49, 52, 53, 54, 57, 58, 66, 67, 70, 81, 83, 84, 85, 89, 102, 108, 116, 118, 130, 138]; workplace accommodation [9, 13, 16, 17, 22, 23, 29, 33, 35, 39, 42, 49, 53, 54, 57, 58, 65, 66, 70, 80, 81, 84, 85, 89, 94, 97, 102, 108, 118, 130, 136, 138, 139]; mentoring and workplace support [16, 29, 39, 42, 47, 53, 54, 67, 68, 70, 80, 84, 97, 102, 118, 138, 139]; strength-based job matching and inclusive job design [35, 42, 52, 68, 84]	Workplace adjustments	
Electronic communications channels [17, 70, 75]; online recruiting and gamified assessments [7, 17, 54]; time managements	Digital HR technologies	

and task priorization devices [17]; VR and digital job training [12, 17]		
Supported employment and VR services [4, 5, 9, 10, 13, 20, 24, 25, 26, 31, 32, 34, 40, 41, 42, 48, 50, 57, 59, 60, 62, 63, 66, 68, 71, 86, 87, 99, 100, 101, 105, 106, 107, 108, 111, 113, 115, 120, 132, 133, 134, 136]; work preparation and skill development [4, 5, 9, 10, 20, 26, 31, 32, 40, 42, 48, 60, 62, 86, 87, 99, 100, 107, 120, 133, 134, 136]; job placement and career planning [4, 5, 9, 10, 13, 20, 26, 32, 40, 42, 48, 57, 60, 62, 63, 71, 86, 87, 99, 100, 101, 105, 106, 107, 111, 113, 115, 120, 132, 133, 134, 136]; post-hiring and workplace integration [4, 5, 9, 10, 20, 26, 32, 40, 42, 48, 50, 57, 60, 62, 63, 71, 86, 87, 99, 100, 101, 105, 106, 113, 115, 120, 132, 133, 134, 136]; workplace accommodation support [4, 10, 42, 48, 50, 59, 62, 71, 86, 87, 105, 107, 111, 113, 115, 120, 132, 134]	Supported employment	Macro-level
Community and vocational support services [24, 25, 34, 44, 65, 66, 83, 98]; post-secondary education [25, 59]; disability legislation[59, 66]; family support and parental involvement [65, 67]	Other environment	

Table 2. GIOIA Data Structure for Employment Enablers.

5 Discussion

Building on existing research on employment barriers and facilitators for autistic adults (Harmuth et al., 2016), this study employs a systematic review methodology complemented by thematic analysis to critically synthesise findings.

This analysis contributes to the existing literature by applying two theoretical frameworks to present the emerging themes. First, the ICF framework (WHO, 2001) is used, building on and extending the work of Scott et al. (2019), to explore how different barriers interact across personal, environmental, and societal dimensions. Second, the micro meso–macro framework (Duggleby et al., 2010) is employed to analyse enabling factors at individual, organisational, and systemic levels. By integrating these frameworks, the study offers a more comprehensive perspective on how various factors shape employment outcomes for autistic individuals. Unlike previous reviews (e.g., Harmuth et al., 2016), this approach highlights the interrelationships between levels and dimensions of barriers and facilitators, thereby enhancing the theoretical depth of the analysis. This contribution is further strengthened by its specific focus on HRM processes and technologies—an area that remains underexplored in current systematic and scoping reviews (Harmuth et al., 2016; Hedley et al., 2016; Scott et al., 2019).

6 Conclusion

The study highlights the significant influence of HRM practices on the inclusion of autistic individuals, while also revealing that most literature concentrates on the job interview stage, with limited attention to other phases of recruitment. Regarding induction, studies primarily focus on workplace accommodations, with less emphasis on structured onboarding or socialisation practices. Digital HR

technologies remain insufficiently examined. While technology is commonly discussed in the context of assistive tools, its broader application in HRM is rarely explored. Moreover, technology is largely presented as a facilitator, with minimal attention given to its potential discriminatory effects.

Overall, this systematic review identifies key research gaps and underexamined topics, offering practical implications for enhancing recruitment, hiring, and onboarding practices to support the workplace inclusion of autistic candidates.

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MAKING THE PUBLIC SECTOR ATTRACTIVE AGAIN! AN EXPLORATORY STUDY OF EMPLOYER BRANDING STRATEGIES IN THE ITALIAN PUBLIC SECTOR

Short Paper

Roberta Romano, University of Salerno, Fisciano, Italy, robromano@unisa.it
Simona Mormile, University of Salerno, Fisciano, Italy, smormile@unisa.it
Caterina Galdiero, University of Salerno, Fisciano, Italy, cgaldiero@unisa.it
Gabriella Piscopo, University of Salerno, Fisciano, Italy, gpiscopo@unisa.it
Paola Adinolfi, University of Salerno, Fisciano, Italy, padinolfi@unisa.it

Abstract

This study explores the Employer Branding (EB) strategies adopted by Italian public administrations to attract and retain talent. Through a qualitative analysis of 17 semi-structured interviews, the research highlights how EB in the public sector assumes distinctive features linked to civic mission, Public Service Motivation (PSM), and collective value. The findings reveal that effective EB requires alignment between external communication and internal practices, continuous investment in employee development, and the implementation of flexible work policies. The study contributes to the literature by offering an interpretive understanding of public sector branding as a strategic lever for organizational renewal and resilience, while also providing directions for future research and practical implications for human resource management in public organizations.

Keywords: Employer branding, Public administration, Human resource management, Qualitative research.

1 Introduction

In light of an aging workforce, rapid technological advances, and evolving societal expectations, the public sector is increasingly called upon to radically rethink its Human Resource anagement (HRM) strategies. Addressing these dynamics requires effective change management approaches, where active employee engagement plays a pivotal role in fostering adaptability and organizational resilience in a complex and rapidly changing work environment. As a result, public administrations have become increasingly aware of the need to adopt focused strategies to attract and retain new talent (Lee et al., 2023).

However, the Italian public sector is currently experiencing a critical staffing emergency, with shortages of more than 50% in some ministries (Formez-Censis, 2024). Generational turnover and decades of hiring freezes have led to a marked aging of public employees, hindering the transfer of knowledge to younger generations. Although recent recruitment campaigns launched over the past three years represent an institutional attempt to address the crisis, the challenge remains both severe and widespread. In this context, Employer Branding (EB)—understood as the set of strategies aimed at building and communicating a distinctive and appealing image of the organization as a desirable place to work (Theurer et al., 2018, p. 155; Fernandes et al., 2023) —is emerging as an increasingly strategic lever for addressing the challenges faced by the public sector. Therefore, this study adopts a qualitative document

analysis approach to explore how EB strategies are implemented and adapted to attract and retain talent within Italian public organizations.

2 Theoretical background

Originally developed in the private sector, the concept of EB has gradually gained relevance within the public domain. Ambler and Barrow (1996) define EB as "the package of functional, economic, and psychological benefits provided by employment, and identified with the employing company." More recently, Theurer et al. (2018, p. 155) described EB as an integrated approach to recruitment and retention aimed at promoting—both internally and externally—a clear vision of what makes an organization uniquely attractive as a workplace. In other words, EB enables organizations to attract and retain qualified talent by clearly conveying what makes them distinctive and desirable employers, while effectively communicating their core values to both current and potential employees (Love and Singh, 2011; Fernandes et al., 2023).

Over the past decade, EB has increasingly captured the attention of public administrations, enhancing their ability to attract, retain, and engage top-tier talent in an increasingly competitive labor market (Biswas and Suar, 2016).

Within public administration, EB assumes unique characteristics, stemming from its public mission, the regulated nature of employment, and the need to ensure legitimacy and maintain a positive reputation among a wide array of stakeholders (e.g., citizens, policymakers, employees).

This context positions EB in public administration as a multidimensional construct, intersecting with organizational culture, perceived reputation, and working conditions (Romano, Piscopo and Mormile, 2024).

Its effectiveness depends not only on external communication but also on the internal alignment between values, leadership practices, and employee experience (Ingrassia, 2017; Weske et al., 2020; Pakhare et al., 2023). The ability to attract and retain skilled professionals is therefore critical to supporting organizational change and responding to the new challenges posed by innovation and increasing managerial complexity (Boselie et al., 2021).

A key dimension that distinguishes EB in public administration from its private-sector counterpart is its alignment with Public Service Motivation (PSM) (Adinolfi et al., 2024). As defined by Perry and Wise (1990), PSM refers to "an individual's predisposition to respond to motives grounded primarily or uniquely in public institutions."

In the context of EB, this implies that the appeal of the public employer brand extends beyond economic and developmental benefits to include the expression of civic purpose, collective mission, and commitment to the common good.

However, the literature highlights several limitations that hinder a comprehensive understanding of the phenomenon within the public sector. In particular, numerous studies emphasize the need to move beyond one-size-fits-all approaches, advocating for more tailored EB strategies that are aligned with specific institutional contexts and target professional profiles (Sataøen and Wæraas, 2015; Keppeler and Papenfuß, 2021). The central role of organizational communication and employee training is also widely acknowledged, as these represent key levers for conveying organizational values and strengthening the employer identity (Starineca and Voronchuk, 2014). Despite these valuable insights, the existing body of knowledge remains limited in several respects. The academic debate on EB in public administration has only recently begun to take shape, likely because this theme has not traditionally been regarded as a strategic driver within public organizations (Ingrassia, 2017). As a result, empirical research remains scarce, particularly in relation to the analysis of predictive factors such as employee retention, career development, and recruitment practices (Ibrahim et al., 2018).

Accordingly, this study contributes to the current literature by exploring how EB strategies are perceived and implemented in the context of Italian public administrations.

3 Method

3.1 Exploratory Research

This study adopts an exploratory qualitative design (Morgan, 2022) grounded in the interpretivist paradigm. Given the novelty of the topic of EB in the public sector context and the limited empirical evidence available, an exploratory approach was deemed most appropriate (Weber, 1958). Rather than aiming for statistical generalization, the study seeks to gain in-depth insights into a relatively underexplored phenomenon and to lay the groundwork for future theoretical development and empirical testing. The choice of an interpretivist approach reflects the study's aim to understand how organizational actors construct meaning around EB within their institutional contexts. Accordingly, research privileges depth, context and subjective experiences of the participants. The study is based on qualitative data derived from the analysis of documents composed of 17 semi-structured interviews analyzed using NVivo software, a qualitative data analysis software that facilitates the coding, categorization and visualization of unstructured textual data. (Hilal and Alabri, 2013). This tool is particularly useful for ensuring greater transparency and analytical traceability of data and for identifying recurring patterns among interviews (Allsop et al., 2022).

3.2 Research phases and analysis tool

The exploratory research followed an approach divided into four phases:

3.2.1 Theoretical analysis

The first phase consisted of a comprehensive review and synthesis of the existing literature on EB, particularly in the context of public administration. This analysis enabled the identification of key conceptual dimensions and highlighted notable gaps in the literature, particularly the lack of context-sensitive studies on how EB is understood and applied in public sector organizations.
This phase established the theoretical foundation for the subsequent empirical investigation.

3.2.2 Identification of the problem

Based on the insights gained during the theoretical framing phase, the authors identified the problem they intended to address. Consequently, this study contributes to the current literature by adopting a qualitative documentary analysis approach (Bowen, 2009) to explore the EB strategies adopted within Italian central and local public administrations. Rather than trying to test predefined hypotheses, the study aimed to explore this question inductively, generating insights that could inspire more structured future research.

3.2.3 Analysis of secondary sources

The text material was selected in February 2025 and consists of 17 semi-structured interviews conducted during a national conference dedicated to the topic of PA modernization and innovation,held in May 2024.The interviews were selected through purposive sampling (Patton, 2002) based on the strategic role of the participants—who belong to central and local Italian public administrations—in the areas of human resources, organizational development, or institutional communication. The sample includes n. 7 executives, n. 6 managers, n. 2 policy makers and n. 2 civil servant.
The interviews were transcribed verbatim and analyzed using NVivo. A hybrid coding strategy was adopted, combining deductive codes – derived from the theoretical framework (e.g., attraction, retention, brand identity) – with inductively generated codes, which emerged through an iterative interaction with the data.
Four main thematic areas were finally identified: (1) *attraction and retention*, (2) *brand identity*, (3) *upskilling and reskilling*, and (4) *hybrid work.* To strengthen the validity of the interpretation, the analysis followed a two-step process of decontextualization and recontextualization: "decontextualization involved extracting semantically meaningful segments of text to identify emerging

themes. Recontextualization then reassembled these segments within a new conceptual framework, ensuring internal coherence and alignment with the broader research questions" (Coppola, 2011).

3.2.4 Direction for future research

Finally, the steps for future research to be conducted on the basis of previously acquired knowledge were identified.

4 Findings

The insights provided by the participants reflect a multidimensional understanding of how EB is perceived and operationalized within organizations. The key themes identified are outlined below.

4.1 Attraction and Retention

EB was consistently associated with its capacity to enhance both attraction and retention of talent. Respondents described how a clearly defined and well-communicated employer brand can generate a competitive advantage in increasingly dynamic and talent-scarce labor markets. In fact, as reported by one of the interviewees:

["…*being attractive means presenting the organization as capable of meeting the expectations of potential candidates, who must see it as a fundamental professional opportunity, valuing above all the motivational factor*…"].

Again, another respondent argues:

["…*when we talk about attractiveness we should act on the language, which should be closer to that of the younger generation*…"].

A particularly important issue in attraction and retention is that of organizational well-being. In fact, it emerged that:

["…*there is also a great attention to the issues of corporate welfare, work-life balance, benefits that can be an additional attractive and distinctive element of one organization over another*…"].

Another relevant factor is related to PSM and public values. One of the interviewees said:

["…*the interest working in public administration by these younger generations was not only related to the permanent position, stability, but to the sense of serving a community, serving the country and having a strong sense of belonging, mission and role*…"].

Several interviewees emphasized the role of storytelling, social media presence, and employee advocacy in shaping perceptions of the organization prior to formal hiring.

4.2 Brand Identity

A second major theme concerns the formation and communication of a strong and coherent brand identity. Respondents emphasized that EB should reflect the true values and purpose of the organization, rather than being merely a marketing façade. Authenticity and consistency between internal practices and external messages were regarded as essential to building trust. Indeed, as reported in one of the interviews:

["…*we need to have the ability to put a new face on public administration, to communicate mission and vision and public value*…"].

The employer brand was seen as a narrative space where leadership values, diversity and inclusion practices, ethical commitments, and organizational purpose converge to shape a meaningful identity. Discrepancies between brand promise and employee experience were perceived as damaging, not only to attractiveness but also to credibility and internal morale.

4.3 Upskilling and Reskilling

The development of employees' skills—both technical and relational—emerged as a salient factor contributing to the perceived strength of the employer brand. Respondents pointed out that investments

in digital training, lifelong learning and soft skill development are increasingly recognized as indicators of a forward-looking, people-oriented employer. One respondent claims that:
["…*regarding the skills of public staff, especially in this period of strong reorganization and also organizational change, the skills most to be developed for staff, through training actions by the administration to which they belong, should be geared toward reskilling soft skills*…"].
Again, with reference to new recruits:
["…*good initial training is vital, but it must be accompanied by ongoing training over time, with a view to the lifelong learning we often hear about*…"].
Respondents highlighted how investments in digital education, lifelong learning, and soft skill development are increasingly recognized as indicators of a forward-thinking and people-oriented employer. Training, coaching, mentoring and reverse mentoring programs and access to customized learning platforms were often cited as key components of an attractive value proposition. In this sense, EB was seen to intersect with talent development and human capital strategies, reinforcing the organization's image as a place where individuals can grow, innovate, and adapt in a rapidly evolving context.

4.4 Hybrid Work

Lastly, the adoption of hybrid work models was recognized as a transformative factor in EB. The ability to offer flexibility, autonomy, and individualized work arrangements was consistently mentioned as a differentiating feature of contemporary employers of choice. Respondents reported that hybrid work not only supports better work-life balance but also signals an organization's capacity to innovate and respond to employees' evolving needs. In fact, one respondent says:
["…*administrations must also attract young people into the administration through regulated and expanded smart working*…"].
In several interviews, hybrid work was linked to greater trust, empowerment, and job satisfaction, thereby enhancing both the internal experience and the external perception of the organization. Moreover, flexible work arrangements were framed as inclusive policies, able to accommodate diverse personal circumstances and life stages.

In summary, the findings suggest that EB is a dynamic and integrative construct that encompasses identity, strategy, culture, and human resource practices. Its effectiveness depends not only on what is communicated externally, but also on how it is embodied and experienced internally. The themes emerging from the interview point to the increasingly strategic nature of EB as both a symbolic and operational tool in contemporary organizations.

5 Discussion and conclusion

5.1 Theoretical Implications

This study contributes to the emerging literature on EB in the public sector by offering an understanding and interpretation of the emerging phenomenon in public administrations and how branding strategies are perceived, constructed and put into practice in Italian public administrations. While EB has been extensively theorized in private-sector contexts (Ambler & Barrow, 1996; Theurer *et al.,* 2018), this research confirms and extends recent efforts to explore the distinctiveness of EB in public organizations, especially in light of the sector's unique institutional, normative, and organizational constraints (Weske *et al*., 2020; Keppeler and Papenfuß, 2021).
The findings emphasize the central role of authenticity, public value, a sense of belonging and employee development in building a compelling EB in the public sector. The convergence between individual motivation (particularly PSM) and organizational identity emerged as a crucial theoretical junction that distinguishes public sector EB from its private counterpart.
Moreover, the integration of human resource practices such as upskilling, mentoring, and flexible work arrangements into the broader EB discourse suggests the need for a more holistic and multidimensional

theoretical framework—one that positions EB at the intersection of strategic HRM, organizational communication, and change management. In addition, the study enriches interpretive perspectives on EB by drawing attention to sensemaking processes within organizations. The role of storytelling, narrative alignment, and perceived consistency between internal and external messaging offers new insights into how EB functions as a cultural artifact and a symbolic resource, rather than solely a recruitment tactic.

5.2 Practical implications

The results offer several actionable insights for practitioners and decision-makers in public administration.

First, they underscore the urgency of redefining the public sector's value proposition in a labor market characterized by intense competition, aging workforces, and increasing expectations around purpose and flexibility. Public administrations must move beyond generic or bureaucratic narratives and invest in constructing an authentic, engaging, and inclusive brand identity that resonates with contemporary job seekers—particularly younger generations.

Second, the emphasis on training, reskilling, and digital upskilling highlights the importance of aligning EB strategies with career development and employee growth pathways. By demonstrating a tangible commitment to professional advancement and continuous learning, public employers can enhance both attraction and retention, while simultaneously responding to the need for organizational transformation.

Third, the study illustrates how hybrid work arrangements can function as a strategic component of EB. Rather than being framed solely as operational or logistical solutions, flexible work models should be integrated into broader narratives of trust, innovation, and employee well-being. T his requires not only updated policies but also careful attention to internal communication, leadership styles, and performance evaluation frameworks. Finally, the research underscores the importance of co-creating employer brands with employees themselves. Promoting internal ambassadors, involving staff in storytelling, and leveraging social media for authentic employee advocacy can reinforce alignment between the experienced and projected image of the organization.

5.3 Limitations and future research

While this study offers meaningful insights into the dynamics of EB in the Italian public sector, it also presents several limitations that should be acknowledged. First and foremost, the exploratory nature of the research, based exclusively on a limited number of qualitative interviews, does not allow for statistical generalization.

Second, although the use of semi-structured interviews enabled an in-depth exploration of perceptions and experiences, the sample size and composition may have restricted the diversity of perspectives. Future research could broaden the empirical base by including a wider range of public sector professionals—such as candidates not yet employed, senior executives, or representatives from different levels of government—thus enriching the analysis and capturing additional nuances.

Third, the study primarily investigates EB from an internal perspective, focusing on how it is interpreted and experienced by organizational actors. Future studies could extend the scope by incorporating external viewpoints—such as those of job seekers, citizens, or media actors—to explore how public employer brands are perceived from outside the organization and how these perceptions influence attractiveness and legitimacy.

Moreover, future research could benefit from longitudinal and comparative approaches, for instance by tracing how EB strategies evolve over time in response to political, demographic, or technological changes, or by comparing different public institutions (e.g., central vs. local authorities, or different policy sectors such as health, education, and justice).

Lastly, integrating mixed methods designs, particularly quantitative approaches such as surveys or experimental methods, could complement the qualitative findings and allow for hypothesis testing on the relationships between EB strategies and measurable outcomes like employee engagement, recruitment success, or organizational commitment.

This study has shed light on the strategic relevance of EB within the public sector, highlighting how it can support talent attraction, employee engagement, and organizational transformation. By adopting an exploratory qualitative approach, the research has provided valuable insights into how Italian public administrations perceive and implement EB strategies. While further empirical investigation is needed, the findings underscore the importance of fostering an authentic and value-driven employer identity as a lever for renewal and resilience in contemporary public organizations.

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TEMPORAL STORYTELLING IN RESPONSE TO ORGANIZATIONAL STIGMA:

NEGATIVE AND POSITIVE SENSEMAKING OF CHANGE IN SICILIAN PUBLIC EMPLOYMENT SERVICES

Short Paper

Sofia Casà, University of Palermo, Palermo, Italy, sofia.casa@unipa.it
Sanne Frandsen, Lund University, Lund, Sweden, sanne.frandsen@fek.lu.se
Raimondo Ingrassia, University of Palermo, Palermo, Italy, raimondo.ingrassia@unipa.it

Abstract

This paper aims to investigate if and how organizational stigma influences positive or negative temporal storytelling on image change, inefficiency, and financial scandals. Qualitative data have been collected in two Sicilian Public Employment Services (PES) through field observations, individual interviews, and focus groups, analyzed following a qualitative abductive approach, and coded through narrative analysis. PES employees' temporal storytelling shows the alternation of positive perceptions of "nostalgia" and "postalgia", and negative perceptions of "nostagonia" and "postagonia". In case of core stigma, organizations are more prone to use postalgia, a positive future orientation through agency, and nostagonia, a rejecting and detaching attitude towards past stigma associations. Conversely, in the case of event stigma, it is more likely to observe on the one hand both nostagonia and nostalgia, due to the traumatic event stigma, and on the other hand, postagonia, a pessimistic attitude towards the future. In both organizations, we observe agency responses.

Keywords: Organizational stigma, Temporality, Storytelling, Image change, Public Employment Services

1 Introduction

Public service organizations often face persistent stigmatization for being slow, inefficient, and bureaucratic. How employees make sense of this stigmatization can help nuance our understanding of endurance or change in such contexts. This is particularly relevant in Sicilian Public Employment Services (PES), operating in a disadvantaged regional labor market and perceived as ineffective organizations (Ingrassia, 2024). However, recent public investments are explicitly aimed at supporting PES by increasing the number of employees, improving their skills, and promoting a positive organizational image (Ingrassia, 2024). In such a context, we seek to examine how PES' employees make sense of the organizational stigma and act towards changing the negative image.

Organizational stigma is typically either connected to the organization's core business, routines, and procedures (core stigma) or a scandalous and episodic event (event stigma) (Hudson, 2008). In both cases, literature usually takes the perspective of stigmatizing audiences, overlooking how employees make sense of their experience (Dong et al., 2023; Tracey and Philips, 2016; Wiesenfeld, Wurthmann, and Hambric, 2008). One exception is Frandsen, Svane, and Humle (2023), highlighting the role of employees' temporal sensemaking in fostering organizational change. Indeed, temporal sensemaking allows the attribution of causes to negative events and creates future paths of actions, dealing with emotional responses of nostalgia (past-oriented) (Gabriel, 1993; 2000) and postalgia (future-oriented) (Ybema, 2004).

Studies on the audience's temporal sensemaking on stigma focused mostly on event stigma and stigma transfer, neglecting the temporal sensemaking of core stigma (Dong et al. 2023; Frandsen, Svane, and Humle, 2023), and its long-term impact on the organization and its employees (Jensen and Sandström, 2015; Tracey and Philips, 2016).

This study examines employees' temporal sensemaking of the past and the future to change in the present in response to core and event stigma through an ethnographic study in two Sicilian PES organizations, a job center (JB) and a public training institution (PTI), facing very different challenges. The job center is affected by a persistent and omnipresent core stigma, while the public training institution faces an event stigma due to its involvement in past financial scandals.

We propose a temporal storytelling approach to study how PES employees describe their response to organizational stigma and if and how core and event stigma impact positively or negatively on their past, present, and future perceptions of image change (Boje, 1991).

Our study contributes to the literature on organizational stigma by helping to extend the knowledge on how core and event stigma influence differently prospective and retrospective storytelling, considering the negative counterparts of nostalgia and postalgia in the case of organizational stigma, and how the temporal sensemaking creates agency to deal with image changes.

2 Theoretical background

2.1 Core and event stigma in temporality

Organizational stigma is "a label that evokes a collective group-specific perception that an organization possesses a deep-seated flaw that discredits the organization" (Devers et al., 2009, p. 155). Based on these characteristics, Hudson (2008) distinguishes between two main types of organizational stigma: core and event.

Core stigma is related to the core business, routine, conduct, and customers of the organization (Hudson, 2008). Since these attributes are usually the reason why an organization exists, core stigma is pervasive and not easy to remove (Hudson, 2008).

Conversely, event stigma has an episodic and often unpredictable nature, as seen in cases such as scandals, accidents, crises, and bankruptcies (Hudson, 2008; Hudson & Okhuysen, 2009). Because of this, event-stigmatized organizations can manage the stigma more easily by claiming the episodic nature of the misconduct or reframing their responsibility (Frandsen, Kärreman, and Grant, 2025). However, event stigma could also be a source of permanent stigmatization if stigmatizing stakeholder groups perceive the event not as episodic and uncontrollable, but as a stable and intentional behavioral orientation the organization pursues repeatedly (Devers et al., 2009; Hudson, 2008).

According to this, recent branches of organizational stigma studies have started focusing on internal responses to organizational stigma to change public perception (Frandsen and Morsing, 2022) and temporal sensemaking (Dong et al., 2023). However, these perspectives need theoretical integration, since studies on internal responses to organizational stigma have overlooked temporality, its implications on employees' sensemaking, and how temporality changes beyond scandals, such as in the case of core stigma (Dong et al., 2023; Wiesenfeld, Wurthmann, & Hambric, 2008).

Accordingly, we propose to examine the relationship between organizational stigma and temporality from an internal perspective, considering how organizational stigma, both event and core stigma, influences the narration of temporal dimensions of past, present, and future.

2.2 Temporality beyond organizational change and crisis

Temporality is the subjective and non-linear "ongoing relationship between past, present, and future" (Dawson, 2014; Schultz & Hernes, 2013, p. 1). Employees usually use temporality in storytelling to respond to organizational crises and changes (Dutton and Dukerich, 1991; Ybema, 2010). Temporal sensemaking strategies can be retrospective, as nostalgia (Gabriel, 1993; 2000), and prospective, as

postalgia (Ybema, 2004). Organizational nostalgia refers to a sentiment of bitter-sweet loss for the past that is framed as a "golden age" (Gabriel, 1993; 2000), whereas postalgia is a sentiment of desire and anxiety for a better future condition, like a "promised Eden", often concomitant with anxious doubts if the future will even come into being (Bednar et al., 2020; Ybema. 2004; 2010).

So far, temporality in employees' sensemaking of organizational stigma remains understudied. This is problematic for three main reasons. Firstly, threatening events like crises have an event stigma potential that could determine a collapse of meaning between the past and the present, but also a stimulation for future trajectories of sensemaking (Bednar et al., 2020; Roux-Dufort, 2007).

Secondly, studies on temporality and organizational stigma have focused mainly on identity work related to crisis associated with event stigma (Bednar et al., 2019; Dong et al., 2023; Frandsen, Svane, and Humle, 2023; Tracey and Phillips, 2016), not considering how core stigma shapes employees' temporality in permanent conditions of contestation. Moreover, little is known about the relationship between temporality and the present (Bednar et al., 2019) in stigmatized contexts not only damaged by scandals but also by enduring core stigma (Dong et al, 2023).

Finally, we propose that organizational stigma may help us to understand different nuances of temporality beyond nostalgia and postalgia. Indeed, little is known about the negative side of the past and future in contested contexts.

Accordingly, we intend to examine how the temporal dimensions of past, present, and future assume a positive or negative value depending on the perception of organizational stigma and image change.

2.3 Storytelling between organizational stigma and temporality

We adopt storytelling as a bridge between organizational stigma and temporality. Boje argues that "in organizations, storytelling is the preferred sensemaking currency of human relationships among internal and external stakeholders" (1991: 106). We explore storytelling as a temporal sensemaking practice through which employees respond to organizational stigma, and how organizational stigma influences the unmanaged, informal temporal storytelling among employees (Gabriel, 2000). Particularly relevant to our study of temporal storytelling in response to stigma are the poetic modes of nostalgia and postalgia in organizations (Gabriel, 2000).

We propose that the way employees engage in image change varies depending on the type of stigma the organization suffers and how it influences temporality. In case of an event stigma, employees can be more prone to repair the negative image (Frandsen & Morsing, 2022; Paetzold, Dipboye & Elsbach, 2008), but it the management of the event stigma fails, it can result in organizational trauma and negative retrospective temporal narratives (Bednar et al., 2020; Tracey & Philips, 2016).

Conversely, in the case of core stigma, employees may not be interested in repairing the image, since it is perceived as intrinsically negative (Devers et al., 2009). However, there are some cases in which employees could embrace their stigmatized identity to propose a new narrative of the stigma (Jensen & Sandstrom, 2015; Paetzold, Dipboye & Elsbach, 2008). Indeed, just as in the case of event stigma, core stigmatized organizations are also subject to changes over time (Tracey & Philips, 2016).

According to this, connecting organizational stigma and temporality through storytelling helps us to identify how the temporal perception of stigma influences actions and emotions aimed at changing the organizational image.

3 Methodology

The paper adopts a qualitative and interpretative ethnographic approach (Bate, 1997). By doing so, we use different data sources, such as shadowing, participant observations, individual interviews, and focus groups, to deepen employees' perceptions of organizational stigma (Frandsen and Morsing, 2022).

Data have been collected in two public administration offices through field observations, interviews, and focus groups. Both organizations refer to the Work Department of the Regione Siciliana Government and engage in PES. All interviews were recorded and transcribed, except for one for which notes had been taken.

In 2024, the first author conducted a six-month observation period during an internship at a public training institution (PTI) from January to June. Subsequently, she conducted a one-month participant observation in the job center (JB) in June.

After field observations, from July 2024 to September 2024, we conducted 8 semi-structured interviews of 46 minutes on average with 8 employees of both organizations (PTI=2; JB=6), and 6 in-person focus groups (PTI=4; JB=2) of 73 minutes on average from July to September 2024. We used the same semi-structured interview protocol adopted in single interviews. Individual interviews and focus groups aimed to deepen topics related to employees' perception of the organizational image and how it had changed over time, their experience as workers, and their opinions on the future of the organization.

Data material was analysed through an ethnographic and inductive approach. Formal and informal data emerging from interviews, focus groups, and participant observation were coded through ATLAS.ti by adopting visual, thematic, and performative narrative analysis approaches (Riessman, 2008).

4 Findings

In the following, we examine how the PES employees make sense of organizational stigma. We focus first on the temporal storytelling of event stigma in the public training institution; then, we move on to the job center to examine the temporal storytelling of the core stigma of inefficiency.

4.1 Event stigma as an organizational trauma between nostalgia and nostagonia

In the aftermath of the financial scandal, causing event stigma, employees construct nostalgic stories to interpret the past. Nostalgia is a bittersweet longing for a past, perceivable organizational Golden Age before the event. Here, nostalgia is a sensemaking device that allows employees to return to a time when the organization was respected. At the same time, there is an emotional undertone of regret, as they describe the loss of the organization's original mission:

"(…) Guys trained by the PTI were immediately hired and had the doors open everywhere. Times were different. Yes, but let's say that the PTI from the point of view of training was a flagship for professional training, it was a guarantee when a trainee came from the PTI" (Max, PTI employee)

In this context, nostalgia is used to reinvoke the positive image of the past and highlight the organization's former importance, even as its current image remains tainted in the present.

Employees' retrospective sensemaking changed drastically when they were asked about a critical period they had faced. Employees reported the financial scandal of 2012-2013 as the most damaging and threatening event they had faced. Whereas in the storytelling of the past, before the event stigma, employees used mostly nostalgia and a sense of loss of a glorious past, the financial scandal added a nuance of unresolved grief to employees' retrospective storytelling. We define this unresolved grief as "nostagonia", a form of negative retrospective sensemaking we detected in PES employees' storytelling. The ancient Greek term "αγωνία" (agony) meant competition, conflict, and struggle, whereas today the term "agony" is used to describe the pain that anticipates death. Similarly, nostagonia evokes a negative past people wish to forget, but whose traumatic wounds still burn:

"In 2012, the catastrophe happened: they shut down the PTI, defunded it, and then the struggle continued until December 2013. (…) It wasn't easy to be accepted and to accept ourselves" (Alex, PTI employee)

Here, the temporal storytelling of the past assumes the negative tone of nostagonia, in which no more space is left to nostalgic memories. Since the scandal "cued" the organization with the ghost of a traumatic scandal, its negative consequences still haunt the image of the organization.

In sum, employees' temporal storytelling of organizational event stigma combines nostalgia and nostagonia to make sense of the disruptive events in the past. The temporal storytelling constructs the past before the event stigma as positive, eliciting nostalgia for the lost Eden, while storytelling of the past after the event brings forward the stigmatizing consequences permeated by nostagonia.

4.2 Postagonia as a reaction to event stigma trauma

Due to the event stigma, employees' storytelling of the future is marked by fear of organizational death. This fear is the emotional undertone of postagonia. Whereas postalgia implies that people are still able to imagine a better future, in the case of postagonia, employees struggle to envision a better future and adopt a disenchanted attitude, asking themselves: "When will judgment day come?". Postagonia makes employees choose metaphors of life and death to describe the life cycle of the public training institution:

"We are here, ready to do anything to defend our jobs first of all, and then why not…I mean, it would be a pity because the public training institution has a beautiful story(…) It was amazing being born with a beautiful, important story" (Noel, PTI employee)

And then:

"Let's say, the public training institution has a positive image, because the entity is alive, that is, we are there, and we could be ready for anything. We would also be ready to manage training if they gave us the chance (…). The public training institution exists, and as long as we are there... we wouldn't want it to die, that's it" (Noel, PTI employee)

According to this, in employees' storytelling, postagonia makes the organization "stuck" in nostalgic memories, whereas the future is constructed as bleak as the organization is moving towards the supposed end of its organizational life. The co-existence of postagonia and nostalgia in the prospective sensemaking is the consequence of the "trauma" of the event stigma, causing employees to fill the collapse of future sensemaking through their positive past image and anxiety towards a possible organizational death. However, in the postagonic storytelling, employees claim a second chance to live again, to reclaim a purposeful future, to avoid the decline and the recurrence of traumatic event stigma.

4.3 "Maintenance agency" responses to stay in equilibrium between past and future

Although the trauma of the event stigma in the public training institution, it is possible to observe positive and atypical "agency responses in the storytelling connecting past, present, and future through "maintenance agency" responses. Maintenance responses explain how employees survived and resisted in the present by engaging in training planning activities, proving their worth, but accepting the possibility of a postagonic future. This agency allows employees to make a positive sensemaking despite the nostagonia of the event stigma, and to identify as survivors who still resist with pride, honor and gratitude:

"I would do everything we've done so far all over again. Without taking anything away, because what others have doesn't matter to us, we are aware of what we've done and what we're doing, and we're proud of what we're still doing." (Sam, PTI employee)

Here, Sam links past, present, and future through maintenance agency responses against the negative consequences of the event stigma. Maintenance responses to the event stigma enable employees to integrate negative and positive sensemaking in a coherent narrative: by embracing nostalgia for their positive image, recognizing nostagonia for the scandal, and giving value to how active and careful they had been in the present. Thanks to agency responses, postagonia is counterbalanced by postalgia as regards the involvement of the public training institution in high-quality projects:

"As regards the future, (…) I was worried because I thought that years were passing, but we were left with just a handful of people (…). But today, I am much more optimistic (…). I believe that sooner or later, even within the public training institution, there will have to be new hires, bringing fresh energy. As a result, I think the public training institution needs to continue to live because, I repeat, both the administrative and political sectors know that it has been and continues to be useful (…)" (Sam, PTI employee)

Here, postagonic metaphors of life and death are replaced with postalgic metaphors as "fresh energy" and the optimistic belief that the public training institution "needs to continue to live" not because it had a positive story, but because it showed its value in the present and deserves to have a future.

4.4 Nostagonia as a stigma detachment strategy

Compared to the public training institution, the job center has negative image issues related to the core stigma of organizational inefficiency. To positively change users' impressions, employees emphasize generational shifts and increased agency in the workforce. Namely, employees' storytelling in the job center is permeated by "nostagonia" for the core stigma, as something distant to detach from emotionally and temporally to achieve something better in the future:

"It's a generational issue (...) And then, let's say, there's also a shift from the so-called regional mindset, which, let's say, rides on the clichés of a person who, well, doesn't show much interest in making an effort" (Blair, JB employee).

So, core stigma influences the use of nostagonia as a detachment strategy not only from negative perceptions of the organizational image, but also from the inefficiency stigma of the regional public employment. However, employees referred that the job center was not as inefficient as many people thought. Indeed, employees kept things running to the best of their abilities:

"There are 120 of us now, but before, we were only 19. I've handled four roles in one. So even the managers themselves couldn't promote the office, the ones who were here before, because if you don't have the staff, how can you promote yourself?" (Jesse, JB employee).

As we can observe, in the job center, employees use nostagonia to dissociate themselves from the negative consequences of the inefficiency core stigma and to anticipate organizational renaissance in the present and in the future.

4.5 Postalgia as the positive future of image change

Employees' storytelling in the job center is permeated by "postalgia", a positive prospective modality of storytelling, involving optimism towards the future and anxiety for reaching the "Promised Land". In the job center, employees describe satisfaction indicators that confirm the achievement of a positive image change, in contrast with the past negative image caused by the core stigma of inefficiency:

"The positive reviews on Google, which I think are an incredible indicator, show the difference clearly; it's plain to see. You can check by yourself: from an extremely low 2.2 rating a year ago, we've gone up to 2.5 with 5-star reviews. (...) This showed us that our contribution has made a difference, one way or another" (Blair, JB employee)

This positive orientation towards the future is due to recent changes in management, new hires, and image promotion. By doing so, employees' storytelling aims to emphasize that changing the core inefficiency stigma is possible, motivating employees to manage the core stigma by working on users' stigmatizing attitudes and agency in the job search:

"It is always something in progress, because the only limit is imagination. Because we could do anything and more, until we completely defeat unemployment (...) Or maybe I won't defeat unemployment, but no one will come here and tell us we haven't tried" (Chris, JB employee)

In the postalgic future, employees feel confident in challenging the core stigma of inefficiency. Whereas the core stigma elicited nostagonia as a detachment strategy towards organizational inefficiency, external positive conditions (for instance, funds and new hires) enabled employees to imagine a postalgic future in which the job center wouldn't deal with a negative image anymore.

4.6 Agency responses in the present as a vehicle of image change from nostagonia to postalgia

How do employees in the job center narrate their present situation? Employees consider the present as a transition phase between the past core stigma and the future positive image. If the postalgia prospects a rebirth, the here and now represents a necessary "gestation" during which employees challenge core sources of organizational stigma through agency responses aimed at change. According to this, in the here and now, employees actively stress the role of procedures to guarantee a fair and good service and to respond to the stigma of inefficiency:

"We all help each other and then, even in our small way, we also get compliments, and users thank us for our patience" (Casey, JB employee)

In this context, agency responses aim to establish a collaborative relationship with users, who appear surprised and show gratitude for the help they receive, despite initial prejudices towards PES. By doing so, employees seem to succeed in challenging the inefficiency core stigma and building a new positive image:

"Currently, the majority trend we are seeing is people coming in with their hats in their hands, asking for information humbly, and they almost feel uncomfortable asking for it. Then they leave with a smile because everything has been explained to them from A to Z" (Blair, JB employee)

In Blair's storytelling, agency responses against inefficiency core stigma highlight that users and employees must perform complementary roles to make the service work. Employees' storytelling in the present shows how agency responses can support a positive image change by managing the core stigma, increasing internal processes, and establishing alliances with stigmatizing users. Agency responses enable employees to promote a coherent narration between nostagonia for the core stigma and postalgia as the realistic and optimistic change of the core stigma in the present and future.

5 Discussion

These findings contribute to the literature on organizational stigma and temporality in three ways. First, we extend the knowledge on organizational stigma and temporality beyond event stigma by emphasizing the role of core stigma and how core and event stigma are managed differently through prospective and retrospective storytelling.

Second, we challenge the traditional temporal storytelling categorization by extending the concepts of nostalgia and postalgia to their negative counterparts, nostagonia and postagonia, in the case of organizational stigma, creating a new vocabulary for temporal sensemaking.

Third, we advance knowledge about stigma management and storytelling, emphasizing how the temporality of organizational stigma reflects organizational agency and positive implications for organizational image and change.

Further research should explore temporal storytelling in other organizational and regional contexts. Moreover, since we limited our study to employees' perceptions, we didn't compare whether temporality in organizational stigma is constructed differently across other audiences, such as the media, users, politicians, and partners.

6 Conclusions

Our article seeks to contribute to the literature on stigmatized organizations and the literature on temporality by adopting a temporal storytelling perspective on organizational stigma management aimed at image change. We highlight the positive and negative sensemaking of temporality in response to organizational stigma. The ambivalence between positive and negative storytelling of the organizational image change adds to the knowledge of a temporal dimension of organizational stigma in two ways: 1) core stigma brings a positive storytelling of PES image change alternating nostagonia and postalgia, making the core stigma manageable through agency to detach from the past negative image; 2) event stigma fosters a negative but emotional storytelling of PES image change in the present, through which agency responses aim to organizational maintenance combining nostalgia and postagonia.

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DOCTOR-MANAGERS INNOVATIVE WORK BEHAVIOUR: DOES NARCISSISTIC PERSONALITY MATTER?

Research Idea

Manuela Paolini, University of Studies of L'Aquila, L'Aquila, Italy, manuela.paolini@univaq.it

Simona Leonelli, University of Modena and Reggio Emilia, Modena, Italy, simona.leonelli@unimore.it

Fausto Di Vincenzo, University of Studies "G. d'Annunzio" of Chieti-Pescara, Pescara, Italy, f.divincenzo@unich.it

Abstract

Managerial innovative work behaviour (IWB) is particularly relevant in highly complex and knowledge-intensive organizations, such as the healthcare ones. Here, middle managers IWB is particularly salient, given their dual role of doctor-managers. Rooted in the literature on the drivers of IWB, this study explored the positive influence of doctor-managers' narcissism on their IWB. A questionnaire was used to collect data on a convenience sample of Italian doctor-managers. Anova methodology and regression analysis were performed to test the research hypothesis. Preliminary results showed a significant positive relationship between the different levels of narcissism and IWB. The results of the regression analysis highlighted a U-shaped relationship, thereby suggesting that extreme expressions of narcissism may foster doctor-managers' creativity and boldness. Such evidence adds to the literature on the individual determinants of IWB in knowledge-intensive organizations, by providing relevant insights on the drivers of middle managers IWB in the healthcare context.

Keywords: Innovative work behaviour, Narcissism, Middle managers, Doctor-managers

1 Theoretical Background and Relevance of the Study

Innovative work behaviour (IWB) encompasses a set of individual behaviours aimed at intentionally generating and implementing new ideas, products, services, processes or technologies within the organization (De Jong & Den Hartog, 2010). The role of management in this regard is particularly salient, as their attitude to innovate has the potential to drive the organizations towards innovative outcomes (Damanpour & Schneider, 2009), which are able to enhance the organizational capability to navigate environmental challenges (Damanpour & Wischnevsky, 2006; De Vries et al., 2016).

In this perspective, managerial IWB has become increasingly relevant for knowledge workers fields such as the healthcare one, due to their high complexity and knowledge-based processes. Mostly, IWB plays a crucial role for healthcare middle managers, given their dual role of 'doctor-managers', which requires them to cope with both clinical-professional and managerial issues (Paolini et al., 2025).

Among the generalist studies investigating the drivers of IWB, relevant attention has been devoted to individual-level variables, such as workplace satisfaction (De Vries et al., 2016), creativity (Kessel et al., 2012), knowledge sharing and engagement (Alfes et al., 2013), while less attention has been dedicated to individual attributes and personality traits, mainly in terms of conscientiousness (Woods et al., 2018), openness (Mustafa et al., 2021), and resilience (Cäniels et al., 2022). Within the handful of studies that have sought to examine the individual-level factors that induce IWB in healthcare organizations, Di Vincenzo & Iacopino (2021) explored the impact of professional networks on physicians' IWB; Oppi et al. (2020) investigated the positive influence of middle managers perceived

creative self-efficacy and creative collective efficacy. Nevertheless, no studies have yet examined the potential of narcissism in positively affecting healthcare middle-managers' IWB.

2 Research Objective and Hypothesis

The term 'narcissism' refers to a self-centred method of managing self-esteem (Leonelli et al., 2022). This implies that individuals with narcissistic traits often perceive others merely as extensions of themselves, thereby displaying an excessive amount of self-love and admiration. Additionally, narcissists are marked by a deficiency in empathy, a feeling of superiority, and an exaggerated sense of their own importance (Leonelli et al., 2022). Given this, narcissists are more likely to hinder collaboration and knowledge sharing within organizations. They may overvalue their own ideas while dismissing external contributions, creating barriers to collective innovation (Liu et al., 2022).
However, narcissists often exhibit inflated self-view, confidence and desire of recognition, which can drive them to take bold actions and initiate organizational change (Leonelli et al., 2019). In this sense, this trait can foster creativity and innovation, as narcissists are motivated to stand out and prove their superiority through unconventional ideas and strategies (Leonelli, 2024). Additionally, narcissists may promote ambitious innovation strategies, due to their optimism and risk tolerance, benefiting technological advancements (Wang et al., 2023).
Based on this reasoning, this study aimed to explore the relationship between healthcare middle managers' narcissism and their IWB, hypothesizing a positive influence of doctor-managers' narcissism on their IWB.

3 Research Methodology

To explore this path, primary data were collected by administering a questionnaire to a convenience sample of Italian doctor-managers, that is hospitals' heads of operational units, who attended mandatory academic managerial courses aimed at supporting them in effectively managing their operational units. The survey allowed to collect data on doctor-managers' attributional characteristics, IWB and narcissism. IWB was measured using a 9-item scale developed by Janssen (2000). Narcissism was measured using the single item scale derived from the work of Konrath et al. (2014). Age, gender, tenure in managerial position, and clinic specialization were used as control variables (Di Vincenzo & Iacopino, 2021; Oppi et al., 2020).
This fieldwork approach provides with an in-depth understanding of the phenomenon being studied, emphasizing the role of social and cultural context.
The survey is still ongoing. Respondents are currently 63, but we are confident that the response rate will increase as new classes will start in the next months.
The anova methodology and regression analyses were performed to test the research hypothesis.

4 Results and Contribution

Preliminary results showed the existence of a significant positive relationship between the different levels of narcissism and IWB. To further explore the relationship between narcissism and IWB, two regression analyses were conducted. The first regression is a linear model that includes the five predictors (i.e., narcissism and the control variables); however, none of them were significant. In the second regression, a quadratic term of narcissism was included to examine potential non-linear effects; the results showed that both the quadratic term and the linear term for narcissism are statistically significant (respectively, β=0.622, p=0.018; β=-2.490, p=0.024), thereby suggesting the presence of a U-shaped relationship between narcissism and IWB. These findings means that IWB tends to be higher at very low and very high levels of narcissism, whereas it decreases at moderate levels of narcissism. In other words, doctor-managers with either minimal or pronounced narcissistic traits exhibits greater engagement in IWB, while those with moderate levels of narcissism show a reduced IWB. This nuanced relationship highlights the complex role of narcissism in influencing workplace innovative behaviours and suggests that extreme expressions of this trait may foster creativity and boldness in the healthcare setting.

This study contributes to provide new insights into the determinants of IWB in knowledge-intensive organizations, such as healthcare organizations. In doing so, it adds evidence to the ongoing discussion on the individual attributes enhancing doctor-managers' IWB by unleashing the potential of narcissism.

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GOING HYBRID: EMPIRICAL EVIDENCE ON WORKERS' PREFERENCES FOR HYBRID WORK ARRANGEMENTS

Short Paper

Enrico Carlet, University of Padova, Padova, Italy, enrico.carlet@unipd.it
Martina Gianecchini, University of Padova, Padova, Italy, martina.gianecchini@unipd.it

Abstract

As hybrid work becomes an increasingly prevalent model, tensions persist between organizational policies and workers' expectations concerning flexibility. This study investigates Italian workers' preferences for hybrid work arrangements, focusing on three interrelated dimensions: place, time, and technology. Drawing on Social Exchange Theory, we conceptualize job acceptance as a transactional moment in which flexibility emerges as a novel exchange resource. Using a Discrete Choice Experiment (DCE) with 202 participants, we estimate workers' willingness to pay (WTP) for specific work attributes. Results show a strong preference for spatial flexibility, with workers willing to trade salary to access remote or hybrid work options. Temporal flexibility—especially flexible scheduling—is also valued. Preferences for lower technological intensity further shape job choices. Importantly, individual and organizational characteristics influence these preferences, highlighting flexibility as a context-sensitive resource. These insights offer practical implications for organizations seeking to attract and retain talent through adapted hybrid work designs.

Keywords: Hybrid work, Discrete Choice Experiment, Work flexibility, Remote work.

1 Introduction

Hybrid work—defined as a combination of traditional and non-traditional forms of where, when, and how work is performed—has become the "new normal". By late 2024, 43% of organizations had adopted hybrid models, more than doubling early-year figures (Q4 Flex Index Report). However, companies such as Amazon and Zoom have recently reinstated full in-office mandates, highlighting ongoing tensions in hybrid work policies.

Tensions in the employer–employee relationship often stem from mismatched expectations regarding time and location flexibility. These tensions may first manifest at the pivotal moment of job offer acceptance. This initial exchange sets the foundation for the employment relationship: while workers provide availability and human capital, employers offer a specific set of job conditions. Understanding workers' preferences regarding flexibility is therefore crucial for organizations to attract talent, in a context marked by skilled labor shortages (Manpower Group, 2023).

Drawing on hybrid work literature (Gratton, 2021; Lauring and Jonasson, 2025), this study investigates Italian workers' preferences across three dimensions: location (e.g., remote vs. in-office), temporality (e.g., flexible hours), and modality (i.e., technology use intensity). We adopt Social Exchange Theory (SET) to frame job choice as a "flexibility-for-availability" transaction, where workers trade part of their wage for increased flexibility and employers offer flexible conditions to secure talent.

Our research question is: What are workers' preferences regarding hybrid work arrangements?

To address this, we conducted a Discrete Choice Experiment (DCE) with 202 Italian workers, estimating their willingness to pay for different hybrid work arrangements.

This short paper will briefly outline the theoretical background, the methodology employed, the results and a conclusive discussion.

2 Theoretical Background

2.1 Hybrid work

Work flexibility—"the ability of workers to make choices influencing when, where, and for how long they engage in work-related tasks" (Hill et al., 2008, p. 157)—encompasses arrangements that depart from traditional schedules and locations (de Menezes and Kelliher, 2017).

Hybrid work has emerged as a synthesis of traditional and flexible models (Bloom et al., 2022; Gratton, 2022). Lauring and Jonasson (2025, p. 15) define it as "ongoing switches between interrelated traditional and non-traditional work modes in relation to modality, location, and temporality".

Designing effective hybrid models requires organizations to navigate both benefits and challenges across three interconnected dimensions: place, temporality, and technology (Farivar et al., 2024).

2.1.1 Place

In hybrid work, "place" refers to the multiple locations where work is performed, typically combining home and office settings (Gilstrap et al., 2022). This spatial flexibility affects coordination and management practices. Post-pandemic research highlights both advantages and challenges of remote work. On the positive side, it supports work-life balance by aligning work with personal needs (Williamson et al., 2022), reduces commuting time and costs (Barath and Schmidt, 2022), and can enhance productivity when home environments offer privacy and minimal distractions.

However, remote work can also cause professional isolation and limit informal interactions (Hoornweg et al., 2016), weakening relationships and career development opportunities (Cooper and Kurland, 2002). Reduced in-person collaboration may hinder knowledge exchange and overall productivity (Gibbs et al., 2021).

2.1.2 Time

Although traditional 9-to-6 schedules remain common, many workers now adopt non-standard hours (Craig and Powell, 2011). Temporal flexibility includes working outside regular hours, or adopting flextime and compressed workweeks (Groen et al., 2018). Hybrid work shifts the focus from fixed schedules to output-based performance (Buick et al., 2024).

Flexible hours improve work-life balance and overall well-being by allowing better alignment between work and personal responsibilities (Hall and Parker, 1993). However, constant digital connectivity can create expectations of 24/7 availability, increasing risks of exhaustion and health issues (Wöhrmann and Ebner, 2021). Remote workers in dispersed teams may also extend their working hours to signal engagement and compensate for reduced visibility (Delfino and Van der Kolk, 2021).

2.1.3 Technology

Technology is essential to enabling hybrid work, shaping collaboration (Lauring and Jonasson, 2025): digital tools enhance coordination and productivity by supporting flexible arrangements (Gratton, 2021).

However, technology use can also induce technostress—when digital demands exceed individual coping capacity. Key stressors include techno-complexity, insecurity, overload, and uncertainty, all of which are associated with burnout, anxiety, decreased productivity, and increased turnover (Nastjuk et al., 2024).

2.1.4 Social Exchange Theory and Flexible Work Arrangements

Social Exchange Theory (SET) conceptualizes job acceptance as the initiation of a reciprocal relationship (Blau, 1964; Cropanzano et al., 2017). Traditionally used to explain job satisfaction and loyalty, SET emphasizes "exchange resources" such as love, status, information (Cropanzano and Mitchell, 2005), which sustain relational dynamics.

While most applications focus on the post-entry phase, even in the context of hybrid work (Hartner-Tiefenthaler et al., 2023), we apply SET to the moment of job acceptance—the foundational exchange where workers offer availability and skills, and employers offer compensation and conditions. At this stage, work arrangement flexibility emerges as a relevant benefit influencing job choice.

We propose flexibility as a new *exchange resource* (Cropanzano and Mitchell, 2005) within SET. Unlike symbolic resources, it is quantifiable and often traded for wage, as evidenced by willingness-to-pay studies. For instance, Mas and Pallais (2017) found that workers would forgo 20% of wages to avoid irregular, employer-controlled schedules, while remote work was valued at an 8% wage trade-off. Maestas et al. (2023) confirmed that workers valued schedule autonomy and telecommuting at 9% and 4% wage equivalents, respectively.

These preferences illustrate that flexibility functions as a negotiable resource—an exchange resource that initiates and shapes the employment relationship.

2.1.5 Research gap

This paper addresses a gap in the literature: the limited availability of empirical studies offering a fine-grained analysis of hybrid work. Specifically, we jointly examine its three foundational dimensions—modality, location, and temporality—considering their interactions, responding to the call by Lauring and Jonasson (2025).

3 Data and Methods

We employed a Discrete Choice Experiment (DCE), a method used to study workforce preferences in health and labor economics (Merlo et al., 2020; Mandeville et al., 2014; Soekhai et al., 2019). DCEs are grounded in random utility theory, which assumes that individuals aim to maximize utility by choosing the most beneficial option among hypothetical alternatives.

Participants were presented with 12 choice sets, each containing two job alternatives defined by varying attributes and levels. Respondents selected the most preferred or opted out. Following Ryan et al. (2012) and Sarikhani et al. (2021), we defined the attributes and their levels as follows:

- Working place (attribute): in-office, hybrid, or fully remote (levels);
- Daily working hours: fixed (9:00–18:00), fixed time range with flexible scheduling, or fully flexible hours and workload;
- Commuting distance: under or over 35 minutes (one way);
- Use of technology: low, medium, or high intensity;
- Income: current salary, −10%, or −20%.

Choice sets were generated using a fractional factorial design. A choice set example is shown in Figure 1.

Job characteristics	Alternative A	Alternative B
Working place	Remote	Hybrid
Daily working hours	Flexible, when you prefer	Fixed, when you prefer
Commuting distance	Over 35 minutes	Over 35 minutes
Income	-20% of your current salary	-10% of your current salary
Use of technology	High	High

* 12. Based on the previous table, which option would you choose?

◯ Alternative A

◯ Alternative B

◯ None of the previous ones

Fig. 1. Presentation of a choice set.

Data were collected via an online questionnaire administered in Italian through SurveyMonkey. We obtained 202 complete questionnaires from Italian respondents aged 25–64, all residing in Italy. This exceeds four times the minimum sample size required by the experimental design (Sarikhani et al., 2021). The average completion time was approximately 15 minutes.

3.1 Statistical analysis

Following data transformation into long format—where each respondent contributes multiple observations—we estimated a mixed logit model (Merlo et al., 2020; Cleland et al., 2016; Mandeville et al., 2014; Pestana et al., 2024), treating attribute levels as independent variables (Ryan et al., 2012). Positive coefficients indicate a higher likelihood of choice for the corresponding attribute level.

We also tested interaction effects to assess whether individual characteristics influence preferences. Finally, we calculated Willingness to Pay (WTP) estimates by dividing the coefficient of each attribute by that of the cost attribute (i.e., wage reduction).

3.2 Results

Table 1 exhibits the estimated coefficients for the mixed logit (MXL) model.

All coefficients in the MXL model were statistically significant ($p < 0.05$). The strongest preference was for remote work ($\beta = 0.86$, $p < 0.01$), followed by hybrid work, which increased choice probability by 1.61 times ($\exp(\beta) = 1.607$, $p < 0.01$).

Regarding temporality, flexible start/end times ($\beta = 0.44$) and fully flexible schedules ($\beta = 0.39$) were preferred over fixed 9–18 hours (both $p < 0.01$). Commuting time had the weakest yet significant effect.

Low ($\beta = 0.44$) and medium ($\beta = 0.54$) levels of technology use were both positively associated with choice ($p < 0.01$). As expected, wage reductions decreased utility ($\beta = -0.042$). Standard deviation estimates confirmed heterogeneity in preferences.

VARIABLES	MXL Coefficient mean estimates	MXL SD estimates	Odds Ratios based on the MXL
Wage_reduction	-0.0419***		0.959***
Place_hybrid	0.474***	0.574***	1.607***
Place_remote	0.863***	1.020***	2.369***
Time_fixed_when_preferred	0.440***	0.914***	1.553***
Time_flexible	0.388***	1.207***	1.474***
Commuting_time_under35min	0.180**	0.315*	1.198**
Low_use_of_technology	0.443***	0.353**	1.558***
Medium_use_of_technology	0.540***	0.0408	1.716***
Number of observations	7,272	7,272	7,272
Number of respondents	202		
AIC	4584.815		
BIC	4688.192		
LL	-2277.408		

Table 1. MXL coefficient estimates.

3.3 Individual factors influencing the preferences

To explore the heterogeneity observed in the MXL model, we estimated five additional models including interaction terms between attribute levels and five individual and organization-related factors.

Specifically, we considered personal characteristics (age, educational level), family-related characteristics (parental and marital status), and firm characteristics (organizational size), as these may influence flexibility preferences through differences in work-life balance needs.

Our results identified several individual characteristics that shape preferences across different flexibility dimensions. Family-related characteristics (e.g., parental and marital status) were associated with a higher valuation of time-related flexibility, particularly among unmarried individuals and those with children under the age of 14. These factors, however, did not significantly affect preferences regarding work location, offering a nuanced view of how work–life balance needs vary across groups (Williamson et al., 2022).

By contrast, place-related flexibility was especially valued by younger workers (under 45) and those with at least a bachelor's degree. Given that location is the most valued attribute overall, this finding highlights the importance of tailoring job offers to attract highly educated and younger talent by emphasizing spatial flexibility.

3.4 Willingness to pay estimates

We estimated the willingness to pay (WTP), i.e. the monetary value that workers assign to specific job attributes.

All WTP values were positive, and all the 95% confidence intervals excluded 0, indicating that workers were willing to forgo a portion of their salary to obtain a change in all attributes. Remote work yielded the highest WTP, as workers were willing to sacrifice 20.58% of their salary for this option.

4 Discussion and conclusion

This study contributes to research on hybrid work arrangements (Gratton, 2021, 2022; Lauring and Jonasson, 2025). Adopting a fine-grained approach, it is among the first empirical investigations to jointly examine the three core dimensions of hybrid work: place, time, and technology.

First, our findings indicate that, within the Italian context, all flexibility dimensions are valued by workers. Among all attributes, place-related flexibility was most valued—remote work being the top preference, and hybrid work following. Temporal flexibility, such as flexible start and end times, was appreciated but to a lesser extent.

Interestingly, full autonomy over the number of working hours was less appreciated than having flexibility within a fixed daily workload. This suggests that workers do not pursue maximum flexibility indiscriminately; rather, they may anticipate potential downsides such as exhaustion or difficulty signalling engagement—particularly when performance is assessed solely based on output rather than on hours worked (Buick et al., 2024). Reduced commuting time, while positively evaluated, appears to be the least influential attribute in shaping job preferences.

Second, our WTP estimates reveal that workers are willing to trade a portion of their salary in exchange for increased flexibility. This indicates that, despite the organizational challenges of implementing hybrid models, part of these efforts can be offset by salary adjustments. The magnitude of the WTP values underlines the centrality of flexibility in job attractiveness.

Finally, by applying Social Exchange Theory (SET) to job acceptance, we introduce flexibility—particularly in terms of time and place—as a new *exchange resource* in employment relationships. Our findings support this proposition, showing that flexibility has measurable economic value for workers. At the initiation of the employment relationship, organizations possess a novel set of currencies—flexibility attributes—which they can leverage to attract talent. Importantly, our results show that the value of this currency is not homogeneous: it varies based on individual characteristics and organizational context. For instance, employees in larger organizations assign greater value to remote work and flexible scheduling compared to those in smaller organizations. In this sense, we contribute to the application of Social Exchange Theory (SET) in the context of hybrid work arrangements (Hartner-Tiefenthaler et al., 2023)—a defining feature of the new work era (Chernyak-Hai and Rabenu, 2018)—by focusing on the very beginning of the employment relationship and theorizing flexibility as a distinct, context-dependent exchange currency.

Overall, these insights can support organizations in designing hybrid work arrangements that align with employees' preferences, enhancing both talent attraction and retention in increasingly competitive labor markets.

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THE HR FUNCTION AS A KEYSTONE OF ORGANIZATIONAL TRANSFORMATION: THE ROLE OF AI INTEGRATION

Short Paper

Haiat Perozzo, LIUC – Cattaneo University, Milan, Italy, hperozzo@liuc.it
Aurelio Ravarini, LIUC – Cattaneo University, Milan, Italy, aravarini@liuc.it

Abstract

This paper explores the transformative impact of AI on organizations, with a particular focus on the evolution of both workers and Human Resources management. The paper discusses how HR professionals can navigate the complexities introduced by AI and highlights the need for new competencies beyond their traditional HR skills. The systematic literature review (based on a social network analysis approach) led identifying a map showing the dimensions of work environments that are the subject of each HR professional role. This map represented the framework to - on one hand - identify the impact of AI (and prospectively: Generative AI) on the work environment, and on the other hand to explore the necessary evolution of HR professionals in achieving organizational alignment and fostering a culture of innovation and resilience in the face of rapid technological change.

Keywords: HRM, Worker, HR professional, Work environment, Artificial Intelligence

1 Introduction

In the rapidly evolving landscape of modern workplaces, the advent of artificial intelligence (AI) has precipitated significant transformations, especially in the domain of human resources management (HRM). This paper seeks to explore the profound changes in the role of HRM as a consequence of workers' adoption of AI technologies. The central research question guiding this inquiry is: "What is the evolution of the HRM role following the adoption of AI by workers?"

To address this question, our study undertakes a systematic literature review to map out the key factors affecting workers for which HR managers are responsible. This comprehensive review spans both academic and grey literature, drawing from peer-reviewed journals, industry reports, and practitioner insights to provide a holistic view of the current state of HRM in the AI-infused workplace.

Our research contributions are twofold. Firstly, we conduct a systematic literature review of the workers' factors that HR managers are tasked with overseeing. This review identifies and categorizes these factors, highlighting how they are influenced by the integration of AI into daily work routines. Through this approach, we elucidate the dynamic interplay between technology and human factors, as noted in studies like those by Shahreki & Lee (2024), Heriyati et al. (2023), and Kononenko et al. (2024), which underscore the impact of working conditions, work-life balance, and technological adoption on worker outcomes.

Secondly, our study rs. Traditionally, research has generalized the role of HR managers without distinguishing between the diverse responsibilities they hold in various contexts. By integrating practitioner insights, we pinpoint roles such as Employee Relations Manager, Talent Manager, and HRIS Manager, each tasked with specific aspects of workers' factors management, as outlined in the foundational work by Komm et al. (2021) and Marler & Boudreau (2017).

In sum, this paper aims to shed light on the evolving role of HRM in the age of AI, offering a nuanced understanding of the challenges and opportunities that arise as technology reshapes the workplace. By combining academic rigor with practical insights, we provide a comprehensive framework for HR professionals to navigate this new terrain, fostering a workplace that is both innovative and supportive of its human capital.

2 Material and Methods

The adopted SLNA method has the objective to identify the factors characterizing a work environment that are considered (by the scientific literature) as mainly influencing the HR manager roles.

This approach integrates the Systematic Literature Review (SLR) method with bibliographic network analysis and is structured into two stages (Colicchia et al., 2019). The initial stage is the SLR, which is defined as a precise methodology that identifies, selects, evaluates, analyzes, and synthesizes data from existing studies (Denyer and Tranfield, 2009, p. 671). Such methods are designed to minimize bias and ensure thoroughness, repeatability, and substantial results (Kembro et al., 2014). The primary steps of this method include (Colicchia and Strozzi, 2012):

Analysis scope. To pose the research question and establish an accurate literature review, Denyer and Tranfield (2009) recommended addressing questions concerning Context, Intervention, Mechanism, and Outcome (CIMO).

Identification of studies ("keywords, time, type of documents, language") using suitable resources (e.g., databases).

Selection and assessment of studies by defining inclusion criteria (Kembro et al., 2014).

A collection of selected papers will result from this process. The data for this study were sourced from the Scopus database, the most extensive collection of abstracts and citations covering peer-reviewed literature, including scientific journals, books, and conference proceedings, with over 57 million records (www.elsevier.com/engb/solutions/scopus). An exploration of the ISI Web of Knowledge database for paper retrieval was also conducted. However, in our situation, it yielded fewer works, all of which were already included in the Scopus selection. Therefore, we chose to solely utilize Scopus.

The methodology's second phase involves bibliographic network analysis and visualization, generating a citation network and a keywords network in this study. Citation Network Analysis (CNA) depends on the references in journal articles or other scholarly outputs, pointing to prior works that have influenced research progress. It is believed that citations indicate the extent of influence a cited work has on a new study by an author (Zhao and Strotmann, 2015). While citations are recognized as an indicator of publication significance, it's important to note that highly cited papers do not always reflect impactful or top-tier research (Dawson et al., 2014). However, it's clear that citations alone cannot perfectly represent a research field. Papers may be omitted from the analysis if they are uncited, regardless of their content's relevance, or they may have few citations due to recent publication. Thus, additional tools like keywords analysis and citation score analysis are used to address these limitations.

For constructing bibliographic networks, various software packages were utilized. VoS viewer (www.vosviewer.com/) is a software for analyzing bibliometric networks, used here to create a keywords network using the VoS clustering methodology (Van Eck and Waltman, 2009) and to construct citation networks subsequently analyzed with Pajek software. Pajek (De Nooy et al., 2011) is a software that performs Social Network Analyses and was employed to visualize the citation networks.

2.1 First phase of SLNA methodology: SLR

This section details how the initial phase of the chosen methodology is applied to the field being studied. The steps shown on the left-hand side of Figure 1 (SLR) are executed, and an explanation of the process is offered (Colicchia et al., 2019).

2.1.1 Scope of the Analysis

This step is crucial for eliminating uncertainty in the review by defining and formulating the review questions (Ali et al., 2017). Denyer and Tranfield (2009) introduced the CIMO-logic to establish the scope of the literature review and to create the questions. Implementing this logic in the field being examined marks the beginning of our literature review:

- Context: Evolution of the worker's role. The rise of new technologies, applications, and paradigms compels companies and employees to harness the benefits of adopting new digital technologies like AI, aiming to tailor the working role to their requirements.
- Intervention: Deviation from objectives and deskilling. Concurrently, there is an increasing awareness that embracing new digital technologies, such as AI, leads to greater vulnerability to significant risks associated with these technologies' potent impact on workers' knowledge component. These risks are becoming more prominent in the current environment.
- Mechanism: Human Resource Management. Given that the adoption of digital technologies based on Generative AI affects all members of an organization—both directly and indirectly—it's essential to provide a practical framework for HR Managers to determine the appropriate times and methods for addressing the potential effects of Generative AI on the workforce they manage.
- Outcome: Enhanced resilience. The capacity to handle information risks at the human resources level will empower companies to achieve greater resilience, resulting in improved security and defense against threats linked to AI use.

2.1.2 Locating studies

Numerous keywords associated with the areas defined by the CIMO-logic and the goal of this study were pinpointed. These were then further refined and discussed with a panel of experts from both academic and industrial sectors. The selection of keywords is vital, as it can influence the results if diverse sets of keywords are utilized. One way to mitigate this issue (besides using focus groups to pinpoint keywords through the interaction of various members from the academic and industrial sectors to minimize personal bias) is the use of tools to extract information from a collection of papers and to evaluate outcomes considering contextual factors (e.g., government actions, published policies). Keywords facilitate the emergence of concepts, issues, and trends through the application of different bibliographic analysis tools. Similar to other systematic reviews (Ali et al., 2017; Pereira et al., 2014), the identification of keywords was conducted with the end goal of this article in mind, leading us to prioritize the organizational role as a central reference keyword, to discern the most frequent and significant factors of workers linked to this job role. The resulting research string was: (“Human Resource Management” OR “HRM*” OR “Human Resources Management” OR “HR Management”).

2.1.3 Study selection and evaluation

A number of inclusion criteria were identified to ensure transparency of the process and to evaluate the relevance of the papers to be selected (Table 1).

Inclusion criteria	**Rationale**
Published in peer-reviewed journals	Peer-reviewed journals are generally regarded as being of superior quality compared to articles that have not undergone peer review.
Selection of papers with restriction on publication year	The worker factors that are affected have changed over time as a result of the changing environment and society in which they live. For this reason, publications starting from 2020 have been selected.
Selection of papers with restriction on the Search Field, that is, “Title-Abstract-Keywords”	Chosen articles are of significant relevance, as the keywords need to appear in the articles' title, abstract, or list of keywords.

Published in English	English is the dominant language in the field of HR management research.

Table 1. Inclusion criteria for study selection and evaluation (adapted from Ali et al., 2017).

Initially, the search focused on papers published in peer-reviewed scientific journals. This decision rests on the belief that restricting the search to peer-reviewed journals enhances the quality of search results due to the thorough review process articles undergo before being published in such journals, as discussed by Newbert (2007), Pereira et al. (2014), and Ali et al. (2017). The use of the Scopus database guaranteed that this criterion was met. Moreover, there was a limitation on the year of publication: the factors affecting workers have evolved over time due to changes in the environment and society. Consequently, publications from 2020 onward were selected. This approach enabled the identification of all worker factors for which HR Managers are accountable, independent of the digital technologies implemented. This choice provided the broadest possible time frame for the study, aiming to focus on the evolutionary perspective of the field without setting a subjective start date for the analysis. In other words, the choice to consider articles from 2020 ensures the study captures the most recent factors affecting workers, reflecting recent societal and environmental changes, which is crucial for understanding the evolving responsibilities of HR Managers.

The identified keywords were utilized as a search string in Scopus in mid-May 2024, yielding 30,182 articles. The selection process was then refined by limiting the search to "Title-Abstract-Keywords." This inclusion criterion ensured that the chosen articles were highly relevant to the field of study (Ali et al., 2017), by requiring that at least three keywords from the search string appear in the articles' title, keywords, or abstract. Given the broad nature of the research area, the field was further narrowed by selecting specific subject areas and keywords, ensuring better alignment with the study's final objectives. Thus, subject areas and keywords related to chemistry, medicine, physics, and astronomy were excluded, as publications from these fields often focus on resource management rather than human aspects. This alignment criterion effectively ensured that the selected papers were concentrated on the subject under investigation (Pereira et al., 2014). Table 2 displays a sample of the subject areas and keywords that were selected.

Subject Area
Engineering
Decision-making
Business
Key words
Training
Work Engagement
Human Capital
HR Practices
Ethics

Table 2. Key words and Subject Area example selected.

Finally, only papers published in English were selected, as English is the dominant language in the field of Human Resource Management research. This led to obtaining 1,373 works as a final search outcome, dated from 2020 to 2024. Table 3 presents the list of top journals ranked according to the number of retrieved papers published in each of them. The top ten journals account for 270 papers, equal to 19.6 per cent of the total retrieved contributions.

Junior	**No. of Articles**
International Journal Of Human Resource Management	74
Human Resource Management	35
Employee Relations	35

Human Resource Management Journal	24
Human Resource Management Review	22
Personnel Review	20
International Journal Of Manpower	19
Problems And Perspectives In Management	16
SA Journal Of Human Resource Management	14
Evidence Based HRM	11

Table 3. The number of papers by source (top 10)

2.2 Second phase of SLNA methodology: bibliographic network analysis

In this section, we present the application of the second phase of the adopted methodology. In particular, we present the performed bibliometric network analyses.

2.2.1 Citation Network Analysis (CNA)

A citation network consists of nodes representing papers and links denoting citations (Colicchia et al., 2018). Arrows connect the nodes, indicating the flow of knowledge from cited to citing papers. Figure 3 illustrates the citation network pertinent to this study. Within this network of 1,373 nodes, 1,000 are isolated, and the rest form connected components, where a connected component is a group of nodes linked by citation connections. The size of these components varies, with some consisting of just a few nodes and others encompassing many, depending on the citation links. As noted, Citation Network Analysis (CNA) is a methodology reliant on citations and, thus, is applicable only to connected components. Consequently, "isolated" nodes are omitted from this initial analysis (Colicchia et al., 2019). The volume of information derived is greater when connected components have numerous nodes; therefore, CNA yields optimal results when analyzing large, connected components (Strozzi et al., 2014). Based on these insights, our study concentrated exclusively on the largest connected component of the citation network.

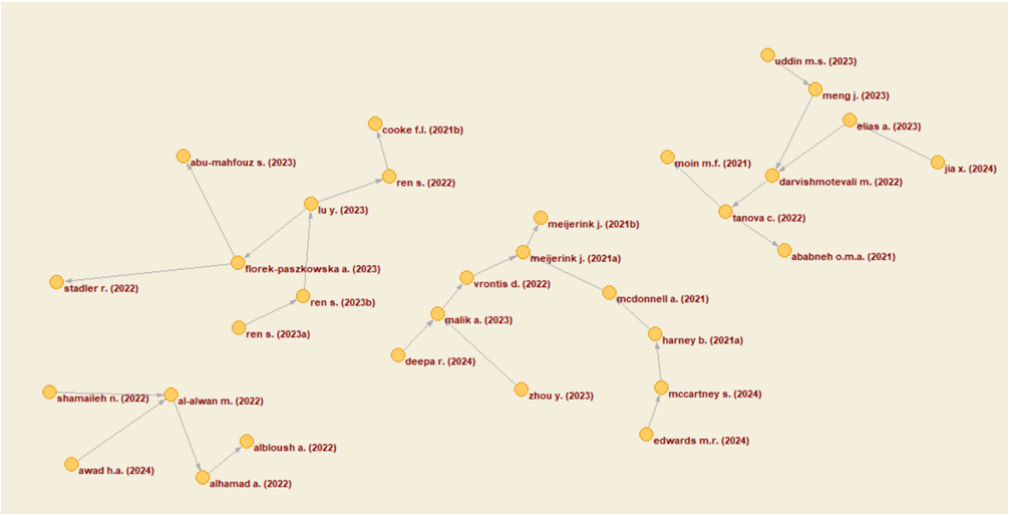


Figure 1. Connected components.

The biggest component is made of 9 nodes. The layout of the nodes is obtained through the Kamada Kawai algorithm (Kamada and Kawai, 1998) available in the Pajek software package. This algorithm is force-directed and it aims to reduce the edge crossing in a graph taking into account the weights of the various links. This algorithm can be used to visualize the nodes that are connected by stronger links near to each other to detect correlated works and, consequently, the main emerging themes.

2.2.2 Author Keyword Analysis (AKA)

The analysis of the author keywords can help in detecting main research areas and research trends extracted from all papers included in a citation network. Based on Ding et al. (2001), we studied the keywords of the whole set of works retrieved.

To conduct an analysis of the authors' keywords, it is essential to construct a co-occurrence (or co-word) network (Callon et al., 1991). In this paper, the nodes of the co-occurrence network represent the authors' keywords from the 1,373 papers, and the link weights reflect the frequency with which words appear together in the same papers. This analysis operates under the premise that the authors' keywords in a paper accurately reflect its content or its relevance to the subject being studied. Frequent co-occurrences of the same word (or word pairs) may indicate a research theme and can also uncover patterns and trends within a specific research area (Ding et al., 2001). The VOSviewer software package (Van Eck and Waltman, 2010) was utilized to analyze the co-occurrence keywords network.

By analyzing the author keywords of the 1,373 papers, fourty nine clusters of keywords were built and analyzed. As this represents the number of publications in the sample of selected papers using the keywords, this table provides an additional view of the contribution of the papers to the development of the field.

2.3 Discussion of the Findings

2.3.1 Work environment factors: attributes and dimensions

Combining the analyzes done for the CNA and the AKA, we have therefore identified the main work dimensions for which HR Managers are responsible. Table 4 shows (in the second column) a set of work environment dimensions that the scientific literature we analysed (the references are in the third column) found influenced by a specific set of work environment attributes (listed in the first column).

These attributes/dimensions represent the factors of the work environment for which HR managers are responsible.

Work environment attributes	**Work environment dimensions**	**Reference**
Working conditions	Quality of work	Shahreki & Lee, 2024; Heriyati et al., 2023; Kononenko et al., 2024
Work-life balance		
Job rotations		
Motivation		
Job stress		
Work hours	Job satisfaction	Heriyati et al., 2023
Work-life balance		
Job rotations		
Working conditions		
Work-life balance	Job stress	Shahreki & Lee, 2024; Heriyati et al., 2023; Kononenko et al., 2024
Job rotations		
Working conditions		
Technologic Adoption Factors	Employee Performance	Nyathi & Kekwaletswe, 2024; Shahreki & Lee, 2024; Kononenko et al., 2024
Job motivation		
Job stress		
Employee Engagement	Employee Turnover	Alsakarneh et al., 2024; Shahreki & Lee, 2024; Kossyva et al., 2024; Kossyva et al., 2024
Technologic Adoption Factors	Creativity	Shahreki & Lee, 2024

Teamwork & Autonomy		De Koeijer et al., 2024

Table 4. Work environment factor.

In the context of human resources management, understanding the interdependencies among various worker factors is crucial for effective strategy development and implementation. This chapter delves into how certain variables influence others, forming a network of dependent and independent factors that shape the work environment and employee experience.

Starting with working conditions, these are foundational to the quality of work employees can produce. The studies by Shahreki & Lee (2024), Heriyati et al. (2023), and Kononenko et al. (2024) have shown that when working conditions are optimized—encompassing physical, psychological, and social aspects—employees experience an enhanced quality of work. This is because conducive environments foster greater focus, creativity, and satisfaction, leading to higher productivity and reduced stress.

Work hours are another critical independent variable impacting job satisfaction. As demonstrated by Heriyati et al. (2023), when work hours are balanced and respectful of personal time, employees tend to report higher job satisfaction. This relationship is vital for HR managers to consider, as excessive or poorly scheduled hours can lead to burnout and disengagement, negatively affecting overall job performance.

The balance between work and personal life directly influences job stress (Shahreki & Lee, 2024; Heriyati et al., 2023; Kononenko et al., 2024). Proper work-life balance policies reduce job stress by providing employees with the necessary time and space to recover from work demands. This balance is essential for maintaining mental health and ensuring sustained employee engagement and productivity.

Technological adoption is another pivotal factor influencing employee performance. Research by Nyathi & Kekwaletswe (2024), Shahreki & Lee (2024), and Kononenko et al. (2024) illustrates that when organizations strategically integrate technology, it enhances employee performance by automating routine tasks and providing tools that support decision-making and creativity. This relationship underscores the importance of HR in facilitating training and adaptation to new technologies.

Moreover, employee engagement has a profound effect on turnover rates. Studies by Alsakarneh et al. (2024), Shahreki & Lee (2024), and Kossyva et al. (2024) have established that engaged employees are less likely to leave their jobs. Engagement is fostered through meaningful work, recognition, and opportunities for growth, all of which are influenced by the overarching HR strategies and practices.

Lastly, the adoption of technology not only boosts performance but also ignites creativity within the workforce (Shahreki & Lee; 2024). This creativity arises from the freedom and tools provided to explore new ideas and innovate, which are dependent on the supportive culture and resources made available by HR.

2.3.2 HRM Roles and Work Environment Factors: Analysis Of the Grey Literature

The articles analyzed, because of the SNA (from which we identified the main dimensions/attributes) do not identify which are the specific HR professional roles (belonging to the HR function) that are responsible of each attribute, but generally refer to "HR managers". However, the same articles provide a definition of the term “HR manager” that varies, depending on the dimension/attribute analyzed in such articles.

For this reason, in line with the contribution that this article intends to offer, we have analyzed articles from the grey literature, to identify the precise HR roles responsible for each dimension/attribute.

3 Proposed Framework: HR professional roles responsibilities on work environment attributes

The worker's dimension/attribute, as seen above, are related to each other by relationships of dependence and/or independence. The following framework (Table 6) therefore proposes a view that has along the columns the worker's dimension/attribute that emerge from the literature, and along the rows the HR's roles that have the responsibility.

	Employee Relations Manager	Talent Manager	HR Compliance Manager	HR Manager	Employee Wellness Manager	HRIS Specialist	HR Trainer	HR Director	Compensation and Benefits	HR Development Manager	Change Management	Internal Communication	Performance Management
Working conditions			X										
Work-life balance				X			X						
Job rotation		X											
Job motivation	X				X				X				
Job stress	X		X		X								
Technologic Adoption Factors					X						X	X	X
Employee Engagement		X					X		X				
Teamwork & Autonomy							X			X			
Job satisfaction	X				X	X	X						
Employee Performance		X		X		X	X	X					X
Creativity						X							
Quality of Work			X	X	X		X						
Employee Turnover							X	X					
Work hours			X										
Motivation	X				X				X				

Table 6. Proposed HRM framework: HR professional roles responsibilities on work environment attributes

Within the realm of human resources management, employee well-being and the work environment are highlighted by two critical variables: quality of work life and working conditions. The quality of work life is a dependent variable shaped by factors such as working conditions, work-life balance policies, job rotation practices, and work pressure. The HR Compliance Manager, HR Manager, Employee Wellness Manager, and HR Trainer collectively ensure strategies that promote optimal workplace environments.

This primary dimension, quality of work life, encapsulates the overall well-being of employees within their workplace environments, including aspects like working conditions and policies for work-life balance. Effective management of these aspects involves various quality management and planning strategies. The HR Manager specifically implements these to ensure work-life balance, flexible working schedules, skill diversification, and optimization of the workplace environment.

Working conditions form another critical variable—a mix of physical, psychological, social, environmental, economic, and ergonomic factors at work. These conditions are the independent variables influencing the dependent variable of employee satisfaction and well-being, with the HR Manager playing a key role in maintaining these conditions.

Job Satisfaction is a dependent variable influenced by factors such as work-life balance practices, job rotations, and the overall work environment, including technological advancements. The Employee Relations Manager, Employee Wellness Manager, HRIS Specialist, and HR Trainer manage these independent variables, enhancing job satisfaction by boosting productivity and facilitating easier management of organizational changes.

Stress, as a dependent variable, is impacted by job rotations, working conditions, and workplace pressure. The Employee Relations Manager, HR Compliance Manager, and Employee Wellness Manager are responsible for addressing these independent variables, implementing strategic organizational policies to reduce stress and enhance employee happiness.

In the domain of workforce dynamics and employee engagement, job rotation is an independent variable managed by the Talent Manager. This practice alleviates job monotony, enhances skills, and fosters learning and multiskilling. The linkage between work hours and various factors like job satisfaction and work pressure has significant effects on employee well-being and job satisfaction.

Employee Engagement is a dependent variable significantly influenced by HR practices, including recruitment, selection, training, development programs, compensation, and performance evaluations. The Employee Relations Manager, HR Trainer, and Compensation and Benefits Manager oversee these independent variables. A performant information system also plays a crucial role in enhancing engagement by improving work-life balance and fostering creativity.

Performance and Productivity are multidimensional constructs and dependent variables influenced by the implementation of new technologies. The Talent Manager, HR Manager, HRIS Specialist, HR Trainer, HR Director, and Performance Management Specialist manage these variables. Creativity, a key component of performance, is fostered by the HRIS Specialist, who ensures systemic and technological support to boost employee inventiveness.

Employee Turnover, a critical dependent variable, is inversely related to the level of employee engagement. The HR Trainer and HR Director manage this variable by fostering a conducive work environment that enhances employee retention and reduces turnover rates.

Creativity in the workplace is seen as a collective effort where systemic, technological support, and HR practices play pivotal roles. The HRIS Specialist is responsible for this variable, focusing on the direct and indirect effects of information systems on work-related outcomes that support creativity and engagement.

In conclusion, understanding the relationships of dependence and independence among worker factors enables us to discern which HR roles interact or need to be engaged for decision-making about the workers' factors for which they are responsible. For example, to improve job satisfaction, the Employee Relations Manager might collaborate with the HR Trainer to align work-life balance practices with training programs. Similarly, to manage stress effectively, the Employee Wellness Manager might work closely with the HR Compliance Manager to adjust working conditions and ensure compliance with ergonomic and psychological safety standards. These examples show how interconnected the roles are and how collaboration among them is essential for addressing the needs of the workforce effectively

4 The Influence of Artificial Intelligence on Worker's attributes and dimensions

About the independent workers' factors, Technological Adoption Factors have become a central element in shaping job motivation and stress levels. As workers embrace AI technologies, they encounter a dual-edged sword. On one side, these technologies can enhance their productivity and creativity by automating routine tasks and providing data-driven insights. On the other side, the rapid pace of change and the need for constant upskilling can lead to increased stress if not managed with adequate support and training. This phenomenon underscores the importance of aligning technological adoption with comprehensive training programs and support systems to balance the scales between productivity gains and stress management (Alavi et al., 2023).

Work-Life Balance has been notably impacted by the flexibility that AI tools offer, such as remote work and flexible hours enabled by cloud computing and other AI-enhanced systems. However, this same flexibility can blur the boundaries between personal and professional life, potentially leading to increased stress and burnout. Effective HR management must, therefore, involve the development of policies that help maintain these boundaries and support a healthy balance, promoting employee well-being and job satisfaction (Davenport et al., 2020).

Job Satisfaction and Engagement see a transformative effect with AI's capacity to automate mundane tasks, which theoretically should allow employees to focus on higher-value and more creative activities. Yet, this transition is not automatic. If AI deployment is misaligned with employees' skills and expectations or if changes are introduced without adequate training and communication, it can lead to disengagement and decreased job satisfaction. Here, HR's role in facilitating smooth technology integration and ensuring that AI tools are perceived as enablers rather than disruptors becomes crucial (Brynjolfsson et al., 2023).

Considering the impact on dependent workers' factors, it is possible to see that Employee Performance is significantly enhanced through the use of AI, which offers predictive analytics and automated decision support. These tools enable employees to make more informed and efficient decisions, contributing to overall organizational effectiveness. The challenge for HR in this context is to ensure that performance metrics and expectations are adjusted to reflect the new capabilities and to provide ongoing training so that all employees can leverage these AI-driven insights effectively (Bughin et al., 2018).

Creativity in the workplace is being redefined as AI tools provide new ways to approach problems and stimulate innovative thinking. For HR, the task is to create an environment where employees are not only trained in using these tools but are also encouraged to explore and experiment with AI-enhanced processes. This involves fostering a culture where technological support is seen as a partner in the creative process, not just a tool for efficiency (Raisch & Krakowski, 2021).

Employee Turnover can fluctuate with the introduction of AI, as shifts in job roles and responsibilities might not be universally welcomed. To manage this, HR must be proactive in communicating the benefits of AI, offering career development opportunities that align with the new technology landscape, and addressing any fears or uncertainties associated with these changes. The goal is to enhance retention by making jobs more engaging and reducing turnover by fostering a sense of security and opportunity (Knights et al., 2001).

5 The Influence of AI on HRM Roles

About the independent workers' factors, Technological Adoption Factors have become a central element As AI reshapes the workplace, HR roles must evolve to meet new demands and harness opportunities for managing an evolving workforce.

The HRIS Manager becomes a linchpin in the integration of AI within organizations, managing Human Resources Information Systems that are crucial for data, analytics, and AI tools. This role ensures these systems are updated, secure, and seamlessly integrated with other business systems, optimizing HR processes and ensuring data accuracy and security (Marler & Boudreau, 2017).

The Employee Relations Manager now has an expanded role, focusing on maintaining a positive work culture in an AI-enhanced workplace. They address conflicts arising from AI adoption, ensure that AI tools are used ethically, and work to promote a fair and inclusive work environment. Their responsibilities extend to initiating learning and development programs that help employees adapt to new AI tools and workflows (Budd & Colvin, 2008).

The Talent Manager is tasked with identifying and developing talent that is adept at working with AI tools. This includes strategic initiatives to attract skilled employees who are comfortable with AI and ensuring that employee growth aligns with organizational needs. Development and retention strategies are geared towards creating a positive employee experience throughout their career lifecycle (Collings & Mellahi, 2009).

The Employee Wellness Manager addresses the physical and mental health challenges that arise from AI adoption. Their role involves developing programs like stress management workshops and support for work-life balance, aimed at creating a healthier workplace. They also ensure that the physical and psychological impacts of working with AI are mitigated (Mills et al., 2013).

Finally, the Performance Management Specialist aligns individual employee goals with AI-driven organizational objectives. They set measurable goals, provide feedback, track performance, and support employee development through AI-enhanced training and feedback systems. This role is key to fostering a culture of continuous improvement and ensuring that the workforce is prepared to meet the challenges and opportunities presented by AI (Aguinis & Gottfredson, 2013).

The introduction of Artificial Intelligence (AI) in the workplace has fundamentally reshaped the landscape of work, prompting a reevaluation of various worker factors and the roles of Human Resources (HR) professionals. As AI integrates into daily operations, it amplifies the importance of technological adoption factors, highlighting the need for continuous skill updates and adaptability among workers. This shift has also brought into focus the critical balance between work and personal life, as the flexibility enabled by AI can blur these boundaries, necessitating more strategic interventions from HR to maintain employee well-being. Furthermore, the potential of AI to enhance job satisfaction and engagement through the automation of routine tasks is counterbalanced by the need for careful management to prevent disengagement due to rapid changes. Performance metrics, too, are evolving as AI-driven insights redefine what productivity looks like, making it imperative for HR to align assessment methods with these new standards. Additionally, the role of creativity is increasingly recognized as AI tools offer novel ways to solve problems and innovate, placing a premium on fostering an environment that supports creative endeavors. Lastly, the influence of AI on employee turnover underscores the necessity for HR to manage change effectively, ensuring that transitions are smooth and that the workforce remains stable and engaged. This dynamic environment calls for a nuanced understanding of how AI impacts worker variables and necessitates a strategic, integrated approach from HR to harness the benefits while mitigating the challenges.

6 Conclusions, limitations and further research

This research has illuminated the significant evolution of the HRM role in the context of workers' adoption of artificial intelligence (AI). Our systematic literature review and integration of practitioner insights have led to a comprehensive understanding of the multifaceted nature of this evolution, underlining the necessity for HR professionals to adapt and innovate in their approaches to workforce management.

Our findings reveal that the integration of AI in the workplace profoundly impacts workers' factors, necessitating a nuanced and dynamic response from HR managers. The identified workers' factors—such as working conditions, job satisfaction, work-life balance, technological adoption, employee engagement, and creativity—demonstrate the interconnectedness of employee well-being and organizational success. As shown by Shahreki & Lee (2024), Heriyati et al. (2023), and Kononenko et

al. (2024), these factors are not isolated but deeply interwoven with the fabric of daily work life, influenced heavily by the adoption of AI technologies.

Moreover, our research has bridged the gap between academic theory and practical application by pinpointing specific HR roles responsible for managing these factors. This approach challenges the traditional generalization of HR responsibilities, providing a clearer roadmap for HR professionals to follow. For instance, roles like the Employee Relations Manager, Talent Manager, and HRIS Manager each cater to specific aspects of the workers' factors, underscoring the importance of specialized roles in the effective management of AI-induced changes.

This study advocates for a proactive and strategic approach to HRM in the age of AI, where continuous learning, adaptability, and innovation are key. HR professionals must not only respond to the immediate challenges posed by AI but also anticipate future developments to ensure a resilient and thriving workforce. By fostering an environment where technology and human capabilities complement each other, HR can play a pivotal role in guiding organizations through this transformative era.

As a direction for further research, we aim to expand our framework to consider the effects of Generative AI more comprehensively. This expansion is essential as Generative AI represents a new frontier in AI technology, with potential impacts that could redefine worker roles, HR practices, and organizational dynamics even further. By incorporating Generative AI into our analysis, we hope to provide a more robust and future-proof guide for HR professionals navigating the complexities of a rapidly changing workplace landscape.

In essence, the evolution of the HRM role in response to AI adoption is both a challenge and an opportunity. It calls for a strategic reimagining of practices and policies to harness the full potential of AI while safeguarding and enhancing the human element within organizations. As we move forward, the insights from this research will serve as a foundational guide for HR professionals aiming to navigate the complexities of a rapidly changing workplace landscape.

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ARTIFICIAL INTELLIGENCE AND 'HUMANNESS': EXPLORING RECRUITERS' ATTITUDES TOWARD AI IN HIRING

Short Paper

Domenico di Prisco, ESSEC Business School, Cergy, France, diprisco@essec.edu
Marion Fortin, TSM-Research, University of Toulouse Capitole, Toulouse, France, marion.fortin@tsm-education.fr
Silvia Dello Russo, LUISS Guido Carli, Rome, Italy, sdellorusso@luiss.it

Abstract

Despite AI's potential to enhance HRM by streamlining decisions and reducing bias, its use remains limited to routine tasks. This study investigates why recruiters resist adopting AI for non-routine functions in hiring. Using a qualitative, inductive approach, we identify how algorithmic aversion stems from the perceived centrality of "humanness" to recruiters' occupational identity. Resistance arises either from AI's perceived inability to replicate human intuition and empathy or from anxiety that AI may emulate these traits too well, threatening both professional and human identity. These insights support strategies that frame AI-human collaboration as complementary rather than competitive.

Keywords: Artificial intelligence, Recruitment, Grounded theory, Identity, Humanness

1 Introduction

What is the potential of AI for improving HRM? In this paper, we contribute to the ongoing debate on this question, focusing on the specific context of recruitment, which is the primary area of application and investment for AI technologies in HRM (Hunkenschroer and Luetge, 2022). In this domain, AI technologies - understood as systems capable of autonomously carrying out tasks traditionally associated with human intelligence (Office for AI, 2019) - may be used to perform tasks such as updating job descriptions, candidate search, scoring CVs and enabling new forms of assessment through gamification (e.g. Campion and Campion, 2014; Stone et al., 2024). While these applications may carry a certain degree of risk, for instance concerning the potential perpetuation of bias due to the opacity of their decision models (Tambe, 2019; Burrell, 2016), current research suggests that machine learning algorithms can already predict some types of future work performance more accurately than humans (Bhargava and Assadi, 2024). AI applications can automate routine tasks and enable recruiters to focus on more self-rewarding activities (Raisch and Krakowski, 2021). Furthermore, their mathematical reasoning - if programmed accordingly - may reduce the influence of bias in the recruitment process. For example, AI technologies can be designed to select applicants without (directly) considering factors, such as gender, that have historically biased human assessments (e.g., Arvey and Campion, 1982).

Despite these opportunities, existing data show that recruiters are struggling to realize the potential values deriving from the adoption of AI technologies. In a recent report, the Society for Human Resource Management (2024) reveals that while a significant portion of HR professionals use AI technologies for generating job descriptions (65%) and customizing or targeting job postings (42%), only a small percentage utilize AI for conducting pre-screening interviews (7%) or analyzing applicants' interview performance (3%). Thus, recruiters appear to recognize that there is some potential deriving from AI use yet, up to date, they seem to limit its adoption to routine tasks, remaining hesitant to employ AI for the core aspects of candidate assessment. Regardless of whether AI should be used for these core aspects, it is of practical and theoretical interest to understand the reasons for such hesitation.

Interestingly, the current use of AI in recruitment reveals several similarities with the historical interactions between recruiters, as a subgroup of the HR occupation (Caldwell, 2003), and algorithms,

broadly understood here as "any evidence-based forecasting formula or rule" (Dietvorst et al., 2015, p. 114), encompassing both standardized procedures (e.g., structured interview approaches) and IT artifacts (e.g., HR analytics). Despite evidence of the unreliability of unstructured job selection methods (e.g., Dana et al., 2013; Kausel et al., 2016), recruiters have consistently resisted efforts to replace such techniques with algorithmic approaches (e.g., Arvey and Campion, 1982; Bhargava and Assadi, 2024; Wagner, 1949). Existing research explains these behaviors by referring to the sets of values and beliefs that recruiters hold (e.g., Highhouse, 2008), and which are linked with their shared occupational identity (Ashcraft, 2013). For instance, during assessments, recruiters tend to perceive intuition and creativity as valuable factors for predicting future behaviors of candidates, while considering structured approaches too simplistic to capture the complexities of human behavior (Greasley and Thomas, 2020; Highhouse, 2008). Together, these sets of beliefs shape how recruiters perceive technologies and their preferences regarding when and how to use them (Nelson and Irwin, 2014).

While researchers have offered valuable insights into the nature of these beliefs and their impact on the relationship between recruiters and technology, empirical studies that specifically investigate this issue in the context of AI technology are missing. Research suggests that the identity of recruiters and their established practices may contribute to skepticism toward AI applications (e.g., Van Den Broek et al., 2021; Mayer and Stritch, 2024). However, the motives underlying this link remain unexplored. Understanding recruiters' perceptions of AI is theoretically relevant as skepticism appears to persist even if: 1) AI does not impose modifications in the format of assessments (e.g., AI can analyze unstructured interview data). 2) AI could enhance the status of recruiters aligning their practices with the principles of evidence-based management. From a practical standpoint, perceptions of technology shape its use (Zammuto et al., 2007). Consequently, we pose the following research questions:

How do recruiters perceive the use of AI technology in candidate selection? Which motives drive their perspectives?

We address these questions through a qualitative, inductive research design that leverages multiple data sources. This research makes several contributions to theory and practice. First, we contribute to the research on AI in HRM by unpacking recruiters' perceptions of using AI technology in the hiring process. Additionally, we extend the current understanding of the HR occupation by showing how the concept of humanness (Haslam and Loughnan, 2014; Leyens et al., 2000) is intertwined with the occupational identity of recruiters. Furthermore, we contribute to the research on algorithmic aversion (Dietvorst et al., 2015) by providing evidence that occupational identity and perceived humanness of a task act as boundary conditions that help explain individual reactions and intentions regarding the use of AI technology.

2 Methodology

This research design is based on the principles of grounded theory (Strauss and Corbin, 1990). We relied on semi-structured interviews as primary data source to delve into recruiters' values, practices, and beliefs regarding AI. A total of 30 interviews were conducted with recruiters from 28 distinct companies across Europe, between September 2023 and April 2024. All the interviewees had at least one year of experience as recruiters and were still active in the role at the time of the interview. To provide a baseline understanding of less common applications of AI in the field of recruitment, a demonstration of an AI-based job interview assessment tool was shown to participants during the interview.

To integrate the interview data, 21 hours and 40 minutes of observational research were conducted by the first author, who attended nine recruitment and technology-related events organized by professional associations and consulting companies. Both formal presentations and informal interactions at these events provided further insights into the community's established beliefs and the practical challenges of integrating AI into hiring processes. This triangulation of data from interviews and observations aimed to enhance the validity of the findings, providing a comprehensive understanding of the recruiters' perceptions regarding the use of AI in recruitment processes.

Our data analysis relied on the prescription of the "Gioia methodology" (Gioia et al., 2013) to ensure a rigorous process of data analysis and to support our theorizing. Our data analysis process utilized Nvivo to construct a data structure that included first-order codes, second-order themes, and aggregate dimensions. We started by transcribing, anonymizing, and translating each interview into English, followed by iterative data collection and analysis. Coding was performed in multiple rounds, each initiated after every five interviews. Regular feedback sessions between the first two authors facilitated continual refinement of the coding scheme. The third author joined at the conclusion of the analysis to critically evaluate and further refine the data structure. The analysis began with multiple cycles of open coding to identify first-order concepts directly from the raw data. Second-order themes were developed to link these categories into more abstract themes tied with existing theory. Finally, three aggregate dimensions were identified: "identity of recruiter," "recruiting practices," and "framing and enactment of recruiters-AI relationship," which provided a framework for discussing the impact of AI in recruitment processes.

3 Findings and discussion

This study contributes to the discourse on recruiters and technological integration by examining recruiter reactions to AI in hiring processes and the underlying motives behind these reactions. The findings indicate a general openness among recruiters to adopt AI for tasks considered peripheral to their occupational identity, such as administrative and repetitive functions. However, there is marked skepticism toward deploying AI in candidate evaluations, particularly for job interviews, which are perceived as central to recruiters' occupational identity.

Resistance to AI adoption was especially evident in relation to interviews, which recruiters commonly view as requiring human judgment, intuition, and relational sensitivity. These results are consistent with prior literature emphasizing how occupational identity shapes individual responses to technology (Nelson and Irwin, 2014; Pratt et al., 2006; Vough et al., 2020). In particular, the paradox of expertise (Nelson and Irwin, 2014) suggests that individuals embedded in identity-rich roles often struggle to accept the idea that core tasks can be performed effectively by machines. In the case of recruitment, AI's data-driven approach was seen as incompatible with the intuitive, interpretive, and adaptive nature of human interviews. This perceived incompatibility raised concerns that algorithmic tools might overlook candidates who, while not fitting neatly into standardized evaluation metrics, might otherwise be considered suitable through human judgment.

This study extends the empirical literature on AI's impact in HR (Mayer and Stritch, 2024; Trocin et al., 2021; Van den Broek et al., 2021), suggesting that recruiter attitudes toward AI are strongly mediated by the perceived centrality of tasks to professional identity. Notably, the data revealed that resistance to AI did not decrease when recruiters recognized AI's potential to match or surpass human performance. On the contrary, such recognition often intensified their concerns. The idea that AI could perform even creative or emotionally nuanced tasks led to increased anxiety and reinforced perceptions of a threat to core human attributes.

This reaction is consistent with theories of humanness (Haslam and Loughnan, 2014; Haslam et al., 2005; Loughnan and Haslam, 2007), which emphasize the symbolic and practical significance of qualities such as empathy, intuition, and emotional sensitivity. Recruiters frequently associated these traits with their professional identity, interpreting AI's encroachment into these domains not only as a threat to their occupational relevance, but also as part of a broader societal shift. This broader framing points to the ways in which technological change in the workplace can provoke existential concerns about the appropriate role of human beings in professional and social contexts.

These findings underscore the importance of considering multiple identity perspectives when analyzing algorithmic aversion. Technological integration in professional domains can provoke identity threats, leading individuals to defend and rearticulate their sense of self in relation to their work. In professions closely linked to distinctly human attributes, this adaptation is especially complex, as it may challenge not only occupational identity but also foundational understandings of human distinctiveness. The

resulting resistance, therefore, cannot be reduced to technophobia or conservatism, but reflects deeper struggles over identity, meaning, and societal values.

4 Limitations, future avenues of research and conclusions

While this study advances debates on recruiters' attitudes toward AI, it is subject to important boundary conditions that point to directions for future research. First, our focus on recruiters as an occupational group does not fully capture how AI is used and experienced in specific organizational contexts. Ethnographic studies could examine how AI use, organizational environments, and recruiter attitudes evolve over time. Second, future research could use quantitative methods to test the generalizability of our findings. Third, given recruiters' concerns about delegating "human" tasks to AI, future work should explore when prioritizing efficiency in AI applications may conflict with preserving the meaningfulness of work.

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EXPLORING TRENDS IN ARTIFICIAL INTELLIGENCE AND EMPLOYEES' WELL-BEING

Short Paper

Filippo Ferrarini, University of Modena and Reggio Emilia, Modena, Italy, filippo.ferrarini@unimore.it

Simona Leonelli, University of Modena and Reggio Emilia, Modena, Italy, simona.leonelli@unimore.it

Abstract

Artificial Intelligence (AI) is becoming a global phenomenon. In this extent, companies are currently investing in artificial intelligence to automate job tasks, optimize business process and enhancing value creation. This brings radical changes in how work is organized with direct repercussions on workers' wellbeing. In this study, a bibliometric analysis is carried out to examine the trends of AI applications and their impact on workers' wellbeing thought the lens of complementarity and substitution view of technology. Both advantages and disadvantages of AI on wellbeing are considered. The results outline that there are leading themes that are guiding research on AI such as deep learning and machine learning, while others such as AI and employee wellbeing need to be further expanded. At the same time, the use of AI has both advantages and risks for workers' wellbeing, suggesting the need to adopt a human-centered holistic approach to AI in the workplace.

Keywords: artificial intelligence, wellbeing, employee, bibliometric analysis

1 Introduction

Nowadays, work organization is changing rapidly. In fact, thanks to the opportunities provided by digital devices, spurred by the recent Covid-19 pandemic, work through digital technologies is expanding quickly (Chakraborty & Kar, 2021; Fukumura et al., 2023). In this extent, companies are fostering investments for workforce management through digital technologies, especially those referred to artificial intelligence (AI). Artificial intelligence "is an umbrella term that refers to the use of computing machines to solve problems traditionally requiring human intelligence" (Jetha et al. 2023, p.816).

Along this vein, scholars affirm that AI is not only changing work organization, but it also has repercussions on employees' wellbeing (García-Madurga et al., 2024). In fact, recently, the literature has started to recognize not only the benefits but also the risks associated with the use of AI in people management (Ibarra et al., 2018). This is in line with the complementarity and substitution view of AI (Siaw & Ali, 2024) which is used as theoretical framework in the current paper. On the one hand, AI can act as a complement to employees' activities by increasing their effectiveness and efficacy, on the other hand, when AI is used as a substitution tool it acts as a substitution effect. In the paper we highlight that these two views can be associated with both risks and advantages for employees' wellbeing depending on AI use.

For example, for the advantages Izumi et al. (2021) affirm that the use of machine learning algorithm can help to determine people's optimal levels of well-being in order to take corrective actions to prevent potential burdens (complementary view). Likewise, AI can be used to monitor those workers who have a high probability of fatal accidents and provide suggestions to improve their work safety (Koc et al. 2022). At the same time, Loureiro et al. (2022) show that AI algorithms can substitute employees

(substitution view) in boring tasks, giving them the opportunity to work on more creative activities with an increase in their job satisfaction.

Regarding the downsides, scholars highlight that AI can entail potential threats toward employees' wellbeing. For instance, when AI is incorporated in the workplace (complementarity view) it can enhance workload and work intensification, as workers may perceive higher pressure on work control and performance (Jetha et al., 2023). At the same time, when AI is used to replace human activities (substitution view) it can generate anxiety as workers can develop fear of substitution on AI (Loureiro et al., 2022).

Along this vein, so far little research has been devoted on understanding how the use of artificial intelligence affects workers' wellbeing with a clear theoretical framework (García-Madurga et al., 2024). At the same time, academics recognize how studies on artificial intelligence and employees' wellbeing are still in their infancy, so advancements are encouraged (Jetha et al. 2023). Moreover, contributions are fragmented spacing from contributions on AI and work-related risks factors or workload (Aouadni & Rebai, 2017), psychological effects (Chalfin et al., 2016), work related injures (Lazzerini & Pistolesi, 2017).

Therefore, given the importance of the topic and the fragmentation of the literature on this theme, it is crucial to understand which are the literature trends on AI and workers' wellbeing, in order to the potential advantages and risks associated with its use.

Therefore, the current study aims to address the following research questions:

RQ1 What are the benefits of the use of artificial intelligence on employees' wellbeing?

RQ2 What are the risks of the use of artificial intelligence on employees' wellbeing?

To answer our research questions, we use a bibliometric approach to map the state of the art on AI and employee's wellbeing of the last 10 years. In this extent the aims of this manuscript are: first, to provide an overview of the trends of artificial intelligence and employees' wellbeing, second, to outline the main advantages and disadvantages of AI use to workers' wellbeing at the light of complementarity and substitution view of AI. Along this vein, the results are helpful to (a) guide future research on the effects of AI on the workplace; (b) make an overview of a fragmented literature (c) make suggestions to managers for a proper use of AI in the workplace (Pereira et al. 2023).

2 Data and methods

We use a bibliometric analysis to examine the research field of interests. In this research, we used the Vosviewer and Bibliometrix package of R programming. The sample of articles was retrieved from Scopus databases for the period from 2015 to 2024 as we wanted to identify trends and studies of the last 10 years. The search strategy followed different steps: we started our search with a single key term, "artificial intelligence", while we then refined our search with additional synonyms, such "AI" or "machine learn*" following prior scholars (Jetha et al., 2023). In addition, we refined the analysis by applying several key items by using Boolean terms such as AND or OR referred to our research interests. For instance, the term "wellbeing" or "well-being", and the terms "risk*" or "cons" or terms such as "advantage*" or "opportunit*" were included. In addition, the terms "worker*" or "employee were considered. Moreover, we applied several filters, such as English language, sources (i.e., articles, book chapters etc.) and early field of research (i.e., business, health and medicine etc.).

The final sample of articles extracted was composed of 354 documents. Duplicates were then removed, and a double-blind review was carried out, through which more than half of the articles were deleted as not strictly referred to the themes of interests, such as articles that focused on artificial intelligence but not on wellbeing or those that focused on wellbeing but not on AI, or not referred to workers. The final sample was composed of 114 articles.

3 Results and discussion

Table 1 shows the descriptive statistics of the articles reviewed. The timespan covers an 8-year period, from 2017 to 2024. In this, the 114 documents retrieved come from 87 different sources. Most of the sources come from conference papers (42%), while articles are the 33%, followed by book chapters, reviews and books. The annual growth rate is 9.05%, highlighting a substantial good trend on this topic. Generally, there are 3.38 authors per document, while single authors documents are relatively low at 8%. Substantial is also the international co-authorship, at 22.81%.

Figure 1 shows the articles published annually on AI and employee wellbeing. The trend shows a sharp increase after 2022, the year of ChatGPT release; this trend underlines a substantial importance that the theme is currently covering.

The scientific production is somehow global as different countries are publishing research on AI and employee wellbeing. However, the leading countries are the USA (78 articles), followed by India (62 articles), Italy (25 articles), Germany (24 articles), China (20 articles), the Netherlands and the UK with 18 articles.

Description	**Results**
Time period	2017-2024
Sources (Journals, Books, etc)	87
Documents (articles, book chapters etc)	114
Author's key words	396
Authors	410
Single-authored docs	10
Authors per document	3.38
Annual growth rate	9.05%
International co-authorships %	22.81

Table 1. Descriptive statistics.

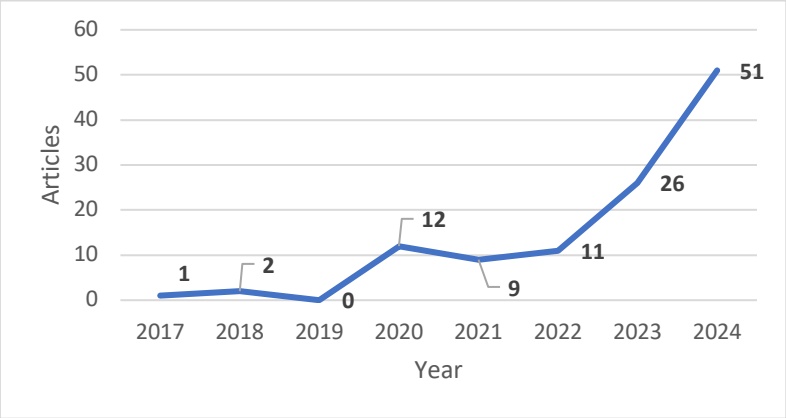


Figure 1. Articles published annually

Figure 2 presents the investigation of keyword co-occurrence analysis depicted through a network illustrating the interconnections among these keywords. This analysis reveals the existence of four distinct clusters dealing different AI application and impact on workers' wellbeing which are discussed below.

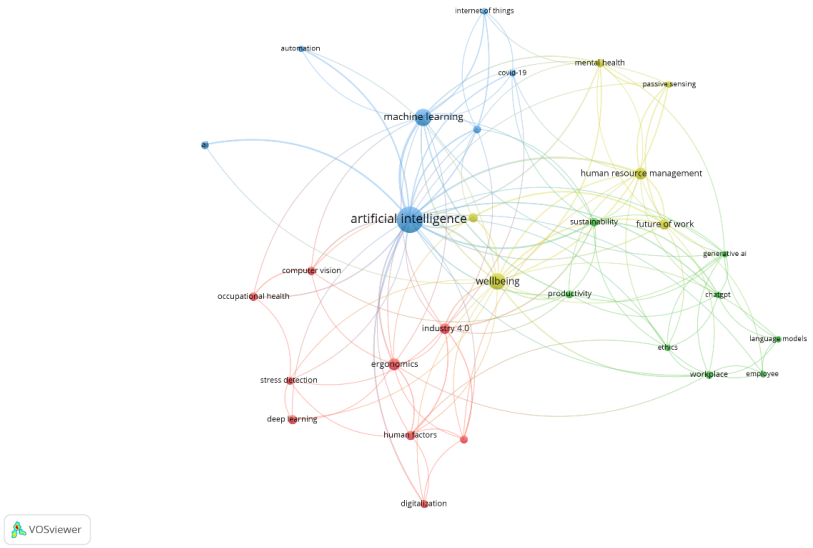


Figure 2 Keywords co-occurrence analysis

3.1 First cluster: direct AI applications

The first thematic cluster (blue) concerns with studies that present direct AI applications for workers' wellbeing. For example, Mishra et al. (2024) use an AI-driven models in order to support sport medicine and sport management. The study reveals that AI helps in predicting injury risks of athletes by means of health and wellbeing monitoring systems to deliver tailored interventions. Similarly, Naughton et al. (2024) highlight that the application of digital twin technologies help to give insight to athlete wellbeing and performance. However, the high use of AI in sports is likely to deskill workers' value, with repercussions their individual wellbeing. At the same time, AI-driven portable medical assistant can collect and monitor real time data (oxygen, blood, pressure) of workers to examining their health status and their risks of explosion to harmful conditions in order to prevent negative consequences (Ajoor & Al Mubarak, 2023) such as increased stress or exhaustion. In this extent, the use of AI for the integral assessment of harmful conditions (i.e., gas concentration), helps in protecting workers of risky occupations (i.e., miners) to prevent hazards and supporting the implementation of effective safety protocols and warning systems (Alam et al., 2024). Moreover, AI applications can be targeted to address ergonomic assessment to identify those ergonomic factors which contribute to musculoskeletal disorders. This reduces assessment time and improves workplace conditions, thereby enhancing the quality of service and reducing human errors (El Hassani et al., 2023; Kumar et al., 2023).

3.2 Second cluster: ergonomic assessment and human-AI collaboration

The second thematic cluster (red) concerns with studies that present applications of AI on ergonomic assessment as well as human collaboration. Regarding the application of AI on ergonomic assessment, Pistolesi et al. (2024) introduced an AI smartwatch that can track the posture and physical strain of workers to detect bad posture habits in order to suggest optimal working postures. These kinds of ergonomic applications of AI can reduce the chances of musculoskeletal disorders. Similarly, Ogunseiju et al. (2021) highlight that real time information about workers' postures can enhance their ability to control their exposures. Moreover, Shah & Mishra (2024) outline that AI use is helpful for detecting hazardous situations such as mis-use of protective equipment or non-application of health protection measures. In this extent, AI can help organization in monitoring the effective implementation of safety protocols by workers. In addition, computer vision-based tools are fundamental on the one hand, to estimate physical workload and address intervention measures (Egeonu & Jia, 2025). On the other hand,

for monitoring workers' stress by processing facial and body expressions in order to early detect stressful situations and suggest rapid interventions (Manikandan et al., 2024).

Regarding the human-AI collaboration, Moraru (2024) outlines that the interaction between humans and machines, in some cases, is part of the daily working activities which can affect physical and mental state. Therefore, workers need to be safeguarded from potential risks, for instance through the implementation of health and safety protocols. Along this vein, Gualtieri et al. (2024) recommend the constitution of clear protocols and guidelines in order to assure that AI-driven machines are designed to better respond to the safety of those workers involved in AI-human collaboration.

Nevertheless, in relation with the utilization of AI for ergonomic assessment and human-AI collaboration, there some certain disadvantages that should be considered. For example, AI applications can generate psychological and physical burdens as the interpretation data can increase mental workload. At the same time, AI-driven alarm systems may cause stress and fatigue especially when they require human interventions (Hayden et al., 2022).

3.3 Third cluster: AI for workers' stress and mental health

The third thematic cluster (yellow) concerns with studies that mainly relate to AI application in the assessment and monitoring of workers' mental health and stress.

The articles show that generative artificial intelligence helps to predict mental health issues as well as identifying risk-associated factors such as fatigue, stress, burnout, and workload (Levin et al., 2024). For instance, AI chatbots, which can monitor and analyze the physical, mental and emotional states of workers to identify individual stress and anxiety (Davila-Gonzalez & Martin, 2024). Similarly, sensing technologies (i.e., emotion recognition systems) may support the management of mental health problems, thereby enhancing the quality of care (Rogan et al., 2024).

However, the use of these systems can also amplify mental health issues as they increase the sense of abandon and loneliness of workers. In addition, such kinds of technologies in some cases are less effective than traditional techniques, especially if workers do not have the necessary skills to use and interpret such kind of technologies (Rogan et al., 2024).

In this extent, the constant monitoring of workers activities can have negative repercussion on their psychological and mental health, as AI exposure can generate stress or anxiety due to constant surveillance (Niehaus et al., 2022). The constant surveillance reduces workers' autonomy and control over their work activities which can exacerbate technology unacceptance (Fisher et al., 2023). This is true especially low skilled workers who are more likely to be substituted by AI or relegated to low value tasks. These kind of situations can have negative repercussion on mental health and psychological wellbeing of workers (Tamers et al., 2020).

3.4 Fourth cluster: AI language models and negative effects of AI

The fourth thematic cluster (green) concerns with studies that address AI language models. Many of them highlight the negative consequences of AI implementation. For example, Das Swain & Saha (2024) highlight that AI language models, such as chatbots, help to analyze workers' behaviors to assess their wellbeing and prevent accident at work. However, AI applications also outline significant challenges such as misleading data analysis with erroneous or unpracticable suggestions or the impossibility to implement the suggested actions.

Along this vein, the potential negative implications of these kinds of information systems relate to the reduction of workers' value, as companies may rely more on technological devices rather than workers' competencies in delivering organizational outcomes. Therefore, this trend can deskill workers' competences as in situations, there is a decrease in workers' value and expertise. The final results is that employees will see reduced their area of intervention with negative consequences on their individual wellbeing and job satisfaction (Gausen et al., 2024). In addition, AI technologies entail the risk of generating ineffective solutions to problems, creating tension between employer and employees (Kawakami et al., 2023). In this extent, it is necessary to promote a human centric solution for the design

of AI in the workplace, in order to mitigate potential harmful effects of the incorrect use of AI (Corvite et al., 2023).

4 Discussion

The current bibliometric analysis outlines how currently artificial intelligence is a growing and promising topic. The application of such new breakthrough technologies encompasses different sectors and fields (Pereira et al., 2023). In the workplace, AI is changing how the work is organized and delivered with a substantial influence on employee's wellbeing (García-Madurga et al., 2024). The keyword network analysis reveals four main clusters of topics such as direct AI application to support wellbeing, use of AI for ergonomic assessment, AI and work-related stress, and AI language models and negative implications of AI.

The current analysis aims not only at fostering both theoretical and knowledge advances in a highly growing field, but also it aims at filling literature gaps which currently are not much addressed by researchers, such as the positive and negative implications of AI for workers (García-Madurga et al., 2024; Jetha et al., 2023; Koc et al. 2022).

From a theoretical perspective, this bibliometric analysis enhances our understanding of how AI can offer substantial benefits to employees in the workplace. However, it also draws attention to crucial issues that require resolution. On the one hand, AI is an innovation that can bring tremendous advantages to improve productivity, value, and wellbeing; on the other hand, it can be harmful if not compressively addressed, giving rise to the segregation of workers with severe impact on their health. In this, it is necessary to promote a human-centric solution that places the workers at the center as ultimate beneficiary (Corvite et al., 2023). To this extent, managers should not introduce and apply AI without considering the potential repercussions on workers; therefore, they should implement a bottom-up process to share the desire and concerns of workers to collectively address the topic.

One of the main limitations of the current work is certainly the fact that data exclusively comes from a Scopus database which can limit the magnitude of the findings. Future research could consider incorporating other alternative databases, such as Web of Science, to provide a more comprehensive analysis of the theme.

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WHAT IS 'DIVERSITY, EQUITY, AND INCLUSION' FOR? INSIGHTS FROM HR PROFESSIONALS AND NEW HIRES IN CONSULTING FIRMS

Short Paper

Daniela Aliberti, Università Cattolica del Sacro Cuore, Milan, Italy, daniela.aliberti@unicatt.it

Rita Bissola, Università Cattolica del Sacro Cuore, Milan, Italy, rita.bissola@unicatt.it

Barbara Imperatori, Università Cattolica del Sacro Cuore, Milan, Italy, barbara.imperatori@unicatt.it

Abstract

The recent backlash against Diversity, Equity, and Inclusion (DEI) in the US calls for HR scholars to reflect on DEI's trajectory. While such context has been extensively studied, European branches of US firms remain underexplored, offering an opportunity to examine what aspects of DEI are failing. Through semi-structured interviews, this paper analyzes the perspectives of HR professionals and Gen Z new hires in Italian branches of US Professional Service Firms to understand their concerns, trust (or mistrust) in DEI, and interpretations of inclusion. Building on critical management and neo-institutional literature, we show that while HR professionals recognize discrimination, they often ignore it, citing meritocracy or the pressures inherent in PSF practices. New hires value DEI but already show distrust in its effectiveness, with young men more easily accepting systemic inequality when it benefits them. Such differences appear shaped less by generational factors and more by individual awareness and organizational positions.

Keywords: Diversity, Equity, Inclusion; Professional Service Firms; Generations

Introduction and Theoretical Background

What we have been witnessing in recent months—the backlash against Diversity, Equity, and Inclusion (DEI) measures and the shifting perspectives of North American corporations on discrimination (e.g., Murray & Bohannon, 2025)—calls on us, as HR scholars, to reflect on the trajectory of DEI in organizations. While the US case has been extensively analyzed, the situation in European branches of North American firms remains underexplored—and this context presents a valuable opportunity to analyze what aspects of DEI are failing.

In this paper, we examine the perspectives of HR professionals and Generation Z new hires in the Italian branches of North American Professional Service Firms (PSFs). We build on critical management literature exploring HR's role in implementing inclusion practices that address systemic discrimination—a literature that often finds HR functions to be complicit in reproducing inequalities (e.g., Guerci et al., 2023). We also draw on neoinstitutional scholarship examining how corporate and HR practices reinforce inequality (e.g., Amis et al., 2020; Bapuji et al., 2020). For example, Guerci and colleagues (2023) note how recruitment, selection, and development practices often reproduce class-based inequality, a systemic dynamic that HR rhetoric tends to obscure.

HR is responsible for designing, implementing, and communicating DEI initiatives—including recruitment targets, trainings, and networking events (e.g., Leslie, 2019). Scholars have explored both intended and unintended consequences of these efforts (e.g., Nkomo & Hoobler, 2014), while critical

perspectives have exposed their superficiality and alignment with corporate interests (e.g., Litvin, 2006). In practice, HRM often prioritizes the equal distribution of resources, neglecting the structural nature of inequality. Furthermore, DEI initiatives frequently rely on a bias-avoidance framework, assuming that awareness alone will mitigate discrimination—an assumption long debunked. Studies show that many DEI interventions fail to meet their objectives and can even reinforce exclusion (Leslie, 2019).

Recent work identifies a growing sense of DEI ambivalence—a blend of uncertainty, scepticism, and reluctance toward DEI (Creary, 2025). This ambivalence stems from contradictions in corporate discourse, where inclusion efforts are limited by financial imperatives and client demands, and emotional tensions surrounding DEI themes. Aliberti and others (2024) show how such emotion work helps individuals manage negativity while advancing their careers, even in non-inclusive environments—fuelling disillusionment with DEI as meaningful change seems unlikely. Building on Creed and others (2022), these scholars argue that individuals' level of concern, awareness, and sensibility about systemic discrimination plays a crucial role.

Despite increasing critiques of mainstream DEI approaches, generational perspectives remain scarce—especially the voices of younger professionals. While much research has focused on senior employees and the role of HR rhetoric in preserving organizational inertia (e.g., Streb et al., 2008), we know little about how Gen Z perceives and reacts to these initiatives. This is important, as younger employees are presumed to hold strong expectations around inclusion, shaped by their upbringing in socially diverse environments (e.g., Seemiller & Grace, 2016). Yet, we do not fully understand how HR professionals themselves engage with real inclusion, or how they perceive their role beyond formal DEI frameworks.

Over time, many professionals become aligned with dominant business logic, particularly as they gain seniority. Generation Z—those born after 1997—are now entering organizations with high expectations for diversity. They are typically described as purpose-driven and socially conscious, with values distinct from previous generations (Seemiller & Grace, 2016). However, referencing generational differences should not lead to stereotypical assumptions (Parry & Urwin, 2021). Instead, the topic of generations helps us understand varying sensibilities and motivations regarding diversity in the workplace (Janssens & Steyaert, 2019).

Thus, analyzing the perspectives of both HR professionals—who manage DEI initiatives—and newly hired Gen Z employees is crucial. We aim to understand their respective concerns, their trust (or mistrust) in DEI's potential to drive real change, and their interpretations of inclusion in the corporate setting.

Accordingly, our overarching research questions are the following: What do HR professionals think of the DEI practices they advocate for in their firms? How do they contribute, through their work, to making organizations more inclusive? How are their efforts perceived within a business logic by younger Gen Z new hires?

Method

To address our research questions, we conducted 18 interviews with HR professionals across various roles—such as recruiting, training, career development, and diversity—and with newly hired employees. The HR professionals represented different areas within the strategic HRM domain, and all participants worked at Milan-based Italian branches of US professional service firms (PSFs) specializing in strategy and accounting consulting. All interviews were conducted prior to Trump's election.

The research context is shaped by the intersection of PSF corporate norms and mainstream DEI approaches—largely driven by the business case rationale (e.g., Dobbin & Kalev, 2017; Muzio & Faulconbridge, 2013)—within the specific Italian cultural and organizational landscape (e.g., Murgia & Poggio, 2014; Ravazzani, 2016). Table 1 summarizes the profiles of the interviewed professionals.

Our interview questions for HR professionals explored their involvement in DEI practices, their understanding of inclusion, and their awareness of discrimination occurring within their firms. New hires were asked similar questions to assess perceptions of DEI's effectiveness. Interviews lasted approximately 45 minutes, were mostly conducted online, recorded, transcribed, and translated into

English. Data analysis focused on participants' perceptions of DEI and HR's role, employing an intersectional lens that considered gender, ethnicity, age, class, and parental status (Holvino, 2010). We also categorized HR professionals by their functional roles (Parry, 2011).

N.	Role in the PSF	Gender
1	HR – Career Transition	Female
2	HR – Talent Attraction and Employer Branding	Female
3	HR – Diversity, Equity and Inclusion	Female
4	HR – Talent Attraction	Female
5	HR – Operation and Compensation	Female
6	HR – Operation and Compensation	Male
7	HR – Talent Acquisition and Attraction	Female
8	HR – Talent Attraction Coordinator	Female
9	HR – Learning and Development	Female
10	HR – Talent Attraction Coordinator	Female
11	HR – Operation and Compensation	Female
12	Audit – Intern	Female
13	Strategy – Junior Associate	Male
14	Audit – Intern	Female
15	Audit – Junior Associate	Male
16	Audit – Intern	Female
17	SAP – Junior Consultant	Male
18	Audit – Intern	Female

Table 1: characteristics of interviewees' sample

Findings

Contradictions in the HR Role(s)

Our findings highlight how HR functions primarily as a spokesperson for leadership messages that emphasize the company's inclusivity, global outlook, and international character. This mantra is consistently reiterated across all interviews.

Onboarding: Recruiting & Talent Attraction. Recruiters' experiences reveal how the concept of merit often serves as a justification—a mechanism extensively critiqued in HR literature. While recruiters openly acknowledge their biases, they simultaneously affirm the firm's inclusivity, engaging more in rhetoric than genuine reflection on structural inequalities. For example:

> "Our recruitment process is truly based on skills—[…], we genuinely focus on competencies. […] Of course, I step in for the attitudinal aspect, covering presentation, profile, and standing, as well as the objective evaluation of technical skills. […]" (#2 Talent attraction & employer branding, woman)

Another HR professional adds:

> "In the world of consulting, appearance is the key issue—if I had to sum it up, that's the fundamental point. […] A person might be the perfect candidate, but if they show up to the first interview wearing a tie and then, for some reason, don't wear it to the second, we risk throwing away months of selection work." (#3 DEI professional & former recruiter, woman, non-Caucasian origin)

These statements highlight how "standing" (dress code, professional presence) plays a critical role, effectively enforcing an ideal worker model aligned with traditional, often masculine, norms.

The client's role in project onboarding further reinforces exclusion. While some individuals are filtered out during recruitment, others enter but remain sidelined from projects, creating a two-step exclusion process.

Development, Training & Learning. Training initiatives can unintentionally foster exclusion, for instance, when non-Catholic holidays aren't acknowledged or training is conducted mainly in Italian, disadvantaging non-Italian speakers:

> "The course was scheduled to coincide with a Jewish holiday, Yom Kippur, in early October. Of course, we did not mean to discriminate anyone, but… […] We also deliver all the training in person in Italian. […] There was the case of two foreign girls, who didn't speak any Italian at all, who were hired specifically to work on international projects; […] these girls participated in the course and were supported by colleagues to try to understand something." (#9 Learning and development specialist, woman)

Such initiatives show how non-Italian and culturally non-conforming employees often lack access to key developmental resources, an issue acknowledged but downplayed by HR as unintentional.

Rewarding: Operation & Compensation. Compensation professionals highlight disparities related to age and hierarchical level:

> "One particular case stood out—especially one woman who came to Italy quite late. Her limited knowledge of the Italian language was noticeable. […] I wouldn't call it outright discrimination, but in certain contexts, she was more isolated than others, likely because she struggled to express herself well. […] And also, in terms of tasks, I joined that team and left that team, and I never saw her change roles." (#5 Operations and compensation, woman)

This reflects how the ideal worker model excludes older professionals, compounded by language barriers and other diversity factors, especially for non-Italian-speaking women.

Career Management. One HR professional responsible for offboarding shares insights on gender and motherhood:

> "I support professionals who are considered, let's say, 'low performers' or no longer strategic figures for advancing within [Company Name]'s hierarchy. […] Ninety percent of these individuals are women at a 'critical' stage of life—young mothers returning from their first or even second maternity leave. […] Their availability changes—both in terms of time and, at least initially, energy […] This happens regardless of the type of support that individuals, young mothers, may have in their daily lives because it is fundamentally a physiological transition that is not tolerated or accepted—it simply does not align with the business logic of this company." (#1 Career Transition Professional, woman)

This reveals structural discrimination affecting mothers returning from maternity leave, who face exclusion from career progression despite no explicit policy enforcing it.

DEI Professionals. Our sample includes a DEI professional—a woman of non-Caucasian ethnicity holding dual citizenship—who links her experiences of bias to intersectional identity factors such as skin-color, foreign-sounding surname, and religion. She uniquely highlights systemic inequalities:

> "What I observe the most at a structural level—so, something definitely systemic—is the lack of space for celebrating different religions and cultures. […] For example, someone might say, 'I don't care about staying home for Christmas. What matters to me is having time off for [another religious celebration] because that's what I truly value, and it allows me to visit my family in my country of origin.' […] I think this is a major issue for those with family abroad. If I could travel to [her country of origin] for a week without having to leave on December 25th—when it costs me two thousand euros, as happened to me this past Christmas—I would actually be able to go." (#3 DEI professional, woman, non-Caucasian origin)

DEI in the Words of HR Professionals and New Hires

HR Professionals and DEI: Two Worlds Apart. Perspectives from HR specialists reveal a gap between formal DEI initiatives and lived realities:

> "Today, we are well-informed on this topic. Using the tools we have at our disposal—such as email or even a spokesperson—we also have the company portal. We are involved in various initiatives, which are fairly well explained. […] The rest is available on the portal, as a side initiative. So, overall, this is how DEI is present in the company." (#2 Talent attraction, employer branding, woman)

By contrast:

> "Yes, there are a lot of nice words—it's harsh to say, but that's the reality. Maybe I'm not deeply involved, and there are colleagues in the Diversity & Inclusion team who handle it better and are more knowledgeable. But personally, I don't know… […] That kind of communication ends up being meaningless. When you're buried under 1,500 emails a day, you get those too." (#10 Operation and Compensation, woman)

This highlights scepticism about DEI's effectiveness, perceived as superficial and poorly integrated into everyday work.

New Hires' Conceptions of DEI. New hires acknowledge the company's inclusive image but also point to subtle and explicit exclusions:

> "I don't know how to put it, […]. I clearly heard some colleagues talking about hiring preferences… […] that the name sounds Italian—meaning that it is an Italian name. You know that, this way, they will surely speak the language well. And sometimes, they told me that when certain names were proposed, there was some hesitation… like, they would take an extra step to question whether the person actually had all the skills needed to communicate effectively and contribute to the work environment. […] Team building would slow down quite a bit. I really believe this—if I had to speak English… and I'm quite fluent in English, enough to handle all my work conversations in that language. But my humour, my personality, my way of doing things—maybe not. Maybe I'd be a bit more hesitant and insecure because I'd have to translate everything in my mind first. I wouldn't be exactly myself; I'd still have the same personality, but it would take more effort." (#13 Junior associate, male)

Another new hire reflects on inclusion's theoretical nature:

> "It's true that [the firm] is an informal company in the sense that there are many young people, so it's not a rigid environment. However, that doesn't necessarily mean there is true inclusion.

> In my opinion, inclusion should be more implicit, more natural, but instead, it seems to remain somewhat theoretical—something that exists 'on paper'. Yes, there are initiatives, yes, diversity is promoted, but in reality, it doesn't seem to be fully present. As a result, ethnic minorities or foreign professionals might struggle to integrate into an environment that is already highly competitive and intense." (#18 Intern, female)

These accounts reveal that discrimination persists in various forms and that DEI is often seen as superficial and ineffective. New hires bring fresh ideas, yet they quickly encounter a business culture that leaves little room for meaningful inclusion efforts.

Both HR professionals and new hires emphasize the critical role of leadership and organizational culture. Many HR professionals note that inclusion is not yet a priority at senior levels, and the generational gap hinders its translation into everyday leadership behaviors:

> "It starts right from the board, so from the partners at the leadership level as a priority. I also spoke with the [DEI] Manager about these topics to distribute them generally to all the partners in the company. But I believe that beyond starting the message from the top, initiatives a bit beyond meetings or webinars that can be organized—an initiative should start from the top, so from them, as they are the first to bring a culture. However, having more targeted initiatives at all levels could definitely be useful. Of course, we are many, and there are a lot of people, so it depends a bit on priorities." (#9 Learning & Development, woman)

While HR's role is often peripheral and DEI initiatives are frequently ignored in daily work, immediate supervisors have a strong influence on young consultants. Inclusion depends on leaders who guide and model inclusive behaviors—something that does not always happen. Gen Z hires rapidly adapt to demanding business environments but often become disillusioned with DEI, with notable differences in how male and female hires respond.

Discussion

In this paper, we highlight several promising contributions to the literature on HR and diversity management in organizations, while offering a critical and systemic perspective on HR's role in addressing systemic inequality. Specifically, we explore the gap between DEI in organizations and its perception across different generations of workers—focusing on the contrast between new hires (Gen Z) and HR professionals, who come from older generations and possess more experience both within the company and the professional services firm (PSF) sector.

One key contribution concerns the role of HR in the DEI discourse: various HR roles remain distant from and minimally engaged with DEI practices, subordinating them to business priorities, as noted in prior research (e.g., Guerci et al., 2023). Our study adds to this by examining how discrimination manifests differently across HR functions, and how professionals, despite acknowledging it, often overlook these issues—justifying them through appeals to meritocracy or the demanding nature of PSF working conditions.

A second contribution is the disconnect between HR rhetoric and the perspectives of new hires. While new hires demonstrate awareness of DEI's importance, they also express early scepticism about its effectiveness. Notably, young men appear more accepting of systemic inequality, likely because they benefit from it. This insight contributes to the literature on generational differences related to DEI and HR roles, revealing that these differences are shaped not only by generational factors but also by individual experiences, awareness of systemic discrimination, and hierarchical position within the organization (e.g., Parry & Urwin, 2021). We complement this with a framework centered on individual sensitivities and awareness among both HR professionals and new hires, to better understand how these experiences inform organizational social agency (Aliberti et al., 2024; Creed et al., 2022).

Finally, we contribute to the DEI ambivalence framework (Creary, 2025). The current state of DEI practices in Western corporations reflects what Creary terms an "intractable diversity conflict"—a

widespread negative sentiment toward DEI at the organizational level. We expand on this by highlighting an important dynamic: emotions around DEI are rarely openly expressed in corporate settings. The sole exception we observed was a non-Caucasian female professional who integrates DEI advocacy into her work as a personal mission. Among other HR professionals—regardless of gender or age—there was no notable sense of outrage; discrimination was acknowledged in a detached way, while the inefficacy of DEI initiatives was more directly criticized.

This paper reinforces a longstanding argument in the literature: despite its touted strategic and sustainable importance, HR remains largely ineffective in fostering genuine inclusion strategies or driving cultural change within organizations. While this offers an initial interpretation, it also underscores the need for further research to deepen and expand the discussion initiated here.

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FAIRNESS, BIAS, AND EMPLOYEE TRUST IN AI USED IN HRM. A SCOPING REVIEW

Short Paper

Giorgia Moretti, University of Genoa, Genoa, Italy, giorgia.moretti@edu.unige.it
Teresina Torre, University of Genoa, Genoa, Italy, teresina.torre@unige.it

Abstract

Purpose: This scoping review investigates how Artificial Intelligence (AI) is applied in Human Resource Management (HRM), with attention to ethical concerns such as fairness, bias, and employee trust.

Design/methodology/approach: Following PRISMA-ScR and JBI guidelines, 54 peer-reviewed articles (2015–2025) were identified through Scopus. Data were analyzed using thematic synthesis and a bibliometric approach with Biblioshiny.

Findings: Key themes include: algorithmic bias, perceptions of fairness and transparency, and the role of human oversight. Most studies focus on AI in recruitment, though other HR areas also appear. Trust is influenced by how transparent and controllable systems are perceived to be.

Originality/value: This review highlights conceptual fragmentation and limited geographical diversity, with a notable lack of Italian contributions. It emphasizes the need for more inclusive, employee-focused AI governance in HRM contexts.

Keywords: Artificial Intelligence, Human Resource Management, Fairness, Bias, Employee Trust

1 Introduction

1.1 Rationale

Artificial Intelligence (AI) is rapidly becoming a part of everyday practice in Human Resource Management (HRM), with increasing use of tools incorporating it in recruitment, performance evaluation, training, and workforce planning. Often promoted with the promise to enhance objectivity and efficiency, these tools are transforming the way HR decisions are made (Tambe, Cappelli, & Yakubovich, 2019; van Esch & Black, 2019). As adoption increases, so do concerns about the unintended consequences of algorithmic decision-making. Research highlights that systems trained on biased or incomplete data can replicate existing inequalities without full awareness and reduce transparency in processes that deeply affect people's careers (Binns, 2018; Raghavan et al., 2020). At the same time, there is a growing interest in how employees perceive and experience these systems.

Trust, fairness, and a sense of being treated ethically are now seen as fundamental to the successful integration of AI in the workplace (Leicht-Deobald et al., 2019). Despite the increasing number of studies, the academic debate on AI in HRM remains fragmented. Various fields approach the topic from technical, ethical, or psychological angles, but rarely in an integrated manner. What is still lacking is a clear framework for understanding how AI is shaping employee experiences and ethical decision-making in HR contexts. This scoping review aims to address this gap by mapping the academic literature on AI in HRM, with a focus on fairness, bias, and trust. Following the frameworks proposed by Arksey and O'Malley (2005), Levac et al. (2010), and the JBI Manual (Peters et al., 2020), the review explores how these themes appear in scientific publications and research projects. A bibliometric analysis using Biblioshiny, the web interface of the Bibliometrix R package (Aria & Cuccurullo, 2017), is also included to help identify key research clusters and trends. Together, these methods offer a broad yet focused understanding of how AI technologies are transforming HRM and how organizations might move toward more transparent, accountable, and human-centered practices.

1.2 Objectives

Guided by the Population–Concept–Context (PCC) framework recommended by the JBI Manual for Evidence Synthesis (Peters et al., 2020), this review focuses on:

Component	Definition	Application in this review
Population	The population or subjects under investigation	Human Resource Management (HRM) practices, tools, systems, and actors (e.g., recruiters, employees, HR departments)
Concept	The key phenomenon, innovation, or topic being explored	Artificial Intelligence (AI) and Machine Learning (ML) applications in HR processes
Context	The setting or environment in which the concept is applied	Ethical concerns, transparency, employee reactions

Table 1. PCC Framework-Authors' elaboration

The review is structured around the following research questions:

RQ1: In what ways does AI in HRM promote, hinder, or reshape fairness and ethical decision-making?

RQ2: What are the dominant employee perceptions of AI systems in HR contexts, particularly regarding trust, discrimination, and transparency?

2 Methods

2.1 Protocol and registration

This review was conducted following the methodological framework developed by Arksey and O'Malley (2005), enhanced by Levac et al. (2010), and operationalized through the JBI Manual for Evidence Synthesis (Peters et al., 2020). The review adheres to the PRISMA-ScR reporting guidelines (Tricco et al., 2018). No formal protocol was registered prior to conducting the review.

2.2 Elegibility criteria

To ensure the relevance and focus of the review, the inclusion criteria were defined as follows:

- Peer-reviewed articles published between 2015 and March 2025.
- Language: English or Italian.
- Studies focusing on the use of AI or machine learning in HRM domains.
- Studies explicitly addressing at least one of the following aspects: fairness, bias, ethics, transparency, or employee perceptions.

The exclusion criteria included:

- Studies with a purely technical or engineering focus not related to HR decision-making.
- Articles outside organizational contexts (e.g., healthcare, education).
- Conference abstracts, editorials, white papers, and grey literature.
- Articles not available in full text.

2.3 Information sources

The database Scopus was used to retrieve relevant studies, chosen for its extensive coverage of interdisciplinary and peer-reviewed literature in the fields of management, social sciences, and organizational studies.

2.4 Search

A structured search string was developed and iteratively refined to capture relevant combinations of concepts related to AI, HRM, and ethics and trust.

The final query was:

("artificial intelligence" OR "AI" OR "machine learning") AND ("human resource management" OR "HRM" OR "recruitment" OR "hiring" OR "performance appraisal") AND ("fairness" OR "bias" OR "discrimination" OR "equity" OR "trust" OR "ethics" OR "employee perception" OR "acceptance")

Filters applied: article and review, open access, 2015–2025, English or Italian.

Subject area: business, management and accounting / social sciences / economics, econometrics and finance / psychology / multidisciplinary

2.5 Selection of sources of evidence

After removing duplicates, all retrieved records were screened in two stages:

(1) title and abstract screening, followed by

(2) full-text review for eligibility.

A second reviewer verified 10% of the records to ensure consistency. Disagreements were resolved through discussion and by referring to the predefined inclusion criteria.

2.6 Data charting process

A standardized Excel spreadsheet was used to extract relevant information from each included article. The data charting template was developed based on preliminary readings and refined throughout the process to capture both descriptive and thematic variables. Data were manually entered into a table, with random checks on a subset to verify accuracy.

2.7 Data items

The following data items were extracted from each included source of evidence, based on their relevance to the research questions and guided by prior literature on AI, HRM, and ethics and trust:

ID | Author(s) | Year | Title | Document Type | Study Objective | Methodology | HRM Area | Type of AI | Ethical/Fairness Focus | Employee-Centric Perspective | Trust-Related Insights | Key Findings | Identified Risks | Mitigation Strategies

2.8 Critical appraisal of individual sources of evidence

In accordance with the aims and scope of this review, no formal critical appraisal of individual sources was conducted. This decision aligns with the JBI guidelines for scoping reviews, which recommend excluding quality assessments when the objective is to map the breadth and nature of the evidence rather than evaluate its rigor (Peters et al., 2020). However, during the thematic synthesis, reported limitations of each study - such as small sample sizes, limited generalizability, or reliance on self-reported data - were noted and taken into consideration.

2.9 Synthesis of results

The extracted data were analyzed through a twofold approach:
(1) A descriptive mapping, classifying the studies by year of publication, methodology used, HRM domains, and type of AI employed;

(2) A thematic synthesis, which identified three recurring dimensions:

- Fairness and algorithmic bias: Numerous studies highlighted the risk of discrimination due to biased training data, opaque decision-making criteria, and a lack of algorithmic accountability (Raghavan et al., 2020; Binns, 2018).
- Employee trust and acceptance: Trust in AI was closely linked to transparency, perceived procedural justice, and the presence of human oversight (Leicht-Deobald et al., 2019).
- Mitigation strategies: Responses to ethical concerns included algorithmic audits, improved explainability, and employee-centered interventions such as AI literacy and participatory design (Floridi et al., 2018; Jobin, Ienca & Vayena, 2019).

This synthesis was complemented by a bibliometric analysis using Biblioshiny, which offered broader insights into research trends and thematic clusters in the field (see Figure 5 for full results).

3 Results

3.1 Selection of sources of evidence

The database search initially yielded 199 records from Scopus. After removing potential duplicates, titles and abstracts were screened, leading to the exclusion of 114 records. A total of 58 articles were selected for full-text review. Of these, 4 articles were excluded. Specifically, the exclusions were due to the following reasons:

- Reason 1 (n = 2): the study had a purely technical focus (e.g., algorithm development) and lacked any discussion of HRM applications or ethical implications.
- Reason 2 (n = 1): the article was framed within an organizational setting but did not involve AI tools in any HRM function, thus falling outside the scope of the review.
- Reason 3 (n = 1): the publication discussed ethics and bias broadly but was not based on empirical research or theoretical analysis relevant to HRM or employee experience.

The final review sample consists of 54 studies, all of which addressed at least one core theme: algorithmic fairness, bias, or employee trust. The selection process is illustrated in the PRISMA flow diagram.

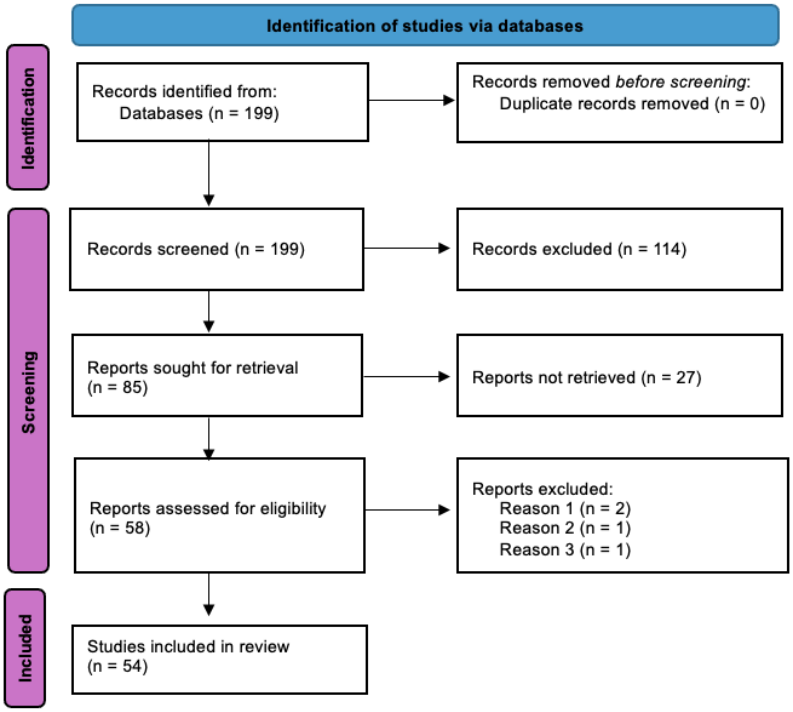


Figure1. PRISMA diagram

3.2 Characteristics of sources of evidence

The 54 included studies span a publication period from 2015 to 2025, with a notable increase in volume starting in 2020. Most contributions focus on recruitment and selection, followed by performance evaluation, training, and employee monitoring. The studies were conducted in various contexts, with the most represented regions being the United States and Western Europe (Figure 6).

In terms of methodology, the sample includes empirical studies (quantitative, qualitative, or mixed methods); conceptual/theoretical articles; literature reviews. The types of AI analyzed range from rule-based systems and machine learning classifiers to generative AI tools, such as language models used in recruitment processes. A full summary of characteristics is provided in Figure 2.

3.3 Critical appraisal within source of evidence

As this is a scoping review, no formal quality appraisal was conducted. However, common limitations reported by the authors of included studies were noted, particularly:

- Small sample sizes or limited generalizability;
- Reliance on hypothetical scenarios;
- Conceptual ambiguities around fairness and trust.

These limitations were considered in interpreting and synthesizing findings.

3.4 Results of individual sources of evidence

Figure 2 includes a selection of five studies that stand out for their relevance within the current debate on the ethical use of AI in HRM. These works were identified as particularly significant because they offer a clear and detailed focus on ethical concerns - such as fairness, bias, and transparency - while also incorporating the perspective of employees, either directly or indirectly. Moreover, each study highlights specific risks associated with algorithmic systems and suggests potential strategies for mitigating these risks. Taken together, the selected studies illustrate the complexity of applying AI in HR contexts and reflect a range of technologies, HRM areas, and research approaches.

Author(s)	Year	Title	HRM Area	AI Type	Ethical Focus	Employee Perspective	Key Findings
Abdelhay S.; AlTalay M.S.R.; Selim N.; Altamimi A.A.; Hassan D.; Elbannany M.; Marie A.	2024	The impact of generative AI (ChatGPT) on recruitment efficency and candidate quality: The mediating role of process automation level and the moderating role of organizational size	Recruitment and candidate selection	Generative AI (ChatGPT), natural language processing (NLP), and machine learning technologies	Bias reduction through consistent, data-driven screening; fairness not deeply theorized.	Efficiency and accuracy improve candidate quality; user familiarity influences outcomes.	AI enhances recruitment efficiency, accuracy, and bias reduction when automation is high.
Böhmer N.; Schinnenburg H.	2023	Critical exploration of AI-driven HRM to build up organizational capabilities	Cross-functional HRM processes	Broad definition encompassing machine learning, neural networks, NLP, predictive analytics, algorithmic screening, and RPA (robotic process automation)	Fairness implied via ambiguity; ethics indirectly addressed via risks in algorithmic opacity.	Highlights worker uncertainty and capability gaps from ambiguous AI implementation.	AI-HRM introduces four types of ambiguity; strategic clarity is needed for capability gains.
Hilliard A.; Guenole N.; Leutner F.	2022	Robots are judging me: Perceived fairness of algorithmic recruitment tools	Recruitment and candidate assessment	Algorithmic recruitment systems including resume screening algorithms, game-based assessments, and asynchronous video interviews, often powered by machine learning	Explores perceptions of procedural fairness; concern for objectivity vs. empathy balance.	Candidates report less control and lack of social presence; human warmth is missed.	Fairness perceptions hinge on control and social presence; fairness seen as procedural.
Do H.; Chu L.X.; Shipton H.	2025	How and when AI-driven HRM promotes employee resilience and adaptive performance: A self-determination theory	Training and development, job design, performance appraisal, recruitment	Broad conceptualization of AI-driven HRM practices – not limited to a single tool, but includes collaboration with AI systems, AI-enhanced learning environments, algorithmic assessment tools	Trust moderates outcomes, framed as operational confidence more than ethical judgment.	Exploration is key for resilience; AI trust increases adaptive behaviors and confidence.	AI-HRM drives resilience/adaptability via exploration; trust in AI strengthens the effect.

Nain V.; Shyam H.S.	2024	EMPIRICAL ANALYSIS OF THE ROLE OF ARTIFICIAL INTELLIGENCE IN HUMAN RESOURCES RECRUITMENT AND SELECTION	Recruitment and candidate selection	Algorithmic screening tools, AI-based chatbots, applicant tracking systems (ATS), and predictive analytics frameworks	Mentions bias and ethical concerns, especially transparency and algorithmic dependence.	AI improves candidate experience through automation, but human judgment still valued.	AI streamlines recruiting and reduces bias; success depends on ethical implementatio n and oversight.

Figure2. Relevant studies-Authors 'elaboration.

3.5 Synthesis of results (Bibliometric Analysis)

The bibliometric exploration provided a quantitative mapping of the 54 documents included in the review, enabling a deeper understanding of structural patterns and conceptual developments in the field.



Figure3. Global mapping-Bibliometrix

The most cited countries were Israel (166 citations) and Germany (148), followed by China, USA, and the United Kingdom. In terms of authorship, five scholars emerged with two publications each: Andalibi N., Hilliard A., Leutner F., Roemmich K., and Roumbanis L.

Keyword Analysis and Thematic Clusters:



Figure4. Most frequent words-Bibliometrix

Three major conceptual clusters emerged:

- Ethics & Bias Cluster (e.g., fairness, discrimination, cognitive bias, behavioral research)
- Decision-making Cluster (e.g., algorithmics, explainability, affective computing)
- Employment Cluster (e.g., hiring, employment, economic and social effects)

These clusters align with the thematic findings from the qualitative synthesis and confirm the central role of fairness, perception, and algorithmic governance in current debates.

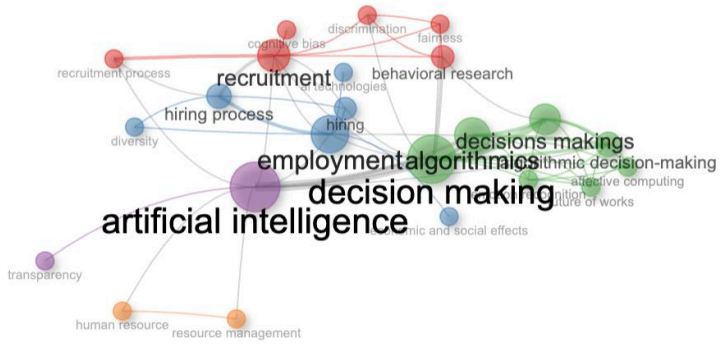


Figure5. Clustering by Coupling-Bibliometrix

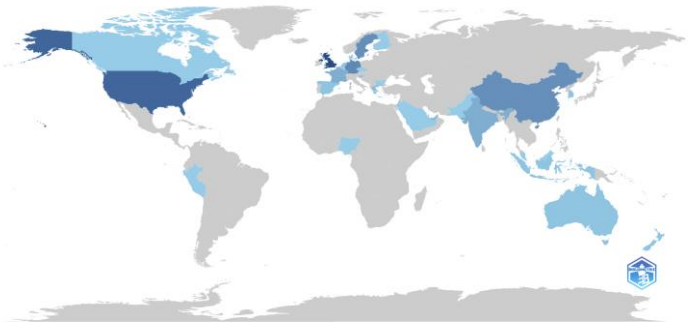


Figure6. Country scientific production-Bibliometrix

As shown in Figure 6, the international distribution of publications on AI, ethics, and HRM spans across multiple continents. The highest concentrations are observed in:

- North America (especially the USA),
- Western Europe (notably the UK, Germany, and the Netherlands),
- East Asia (China and related regions),
- and Oceania (with Australia and New Zealand contributing significantly).

Italy is not represented at all among the countries contributing to this field in the selected sample. This absence is, surprisingly, particularly striking given Italy's strong academic tradition in both business ethics and AI research. It suggests a significant gap in scholarly engagement with the ethical implications of algorithmic decision-making in HR within the Italian context. Future research may benefit from addressing this void by fostering interdisciplinary dialogue among Italian scholars in law, management, and data science. Overall, the bibliometric analysis complements the thematic synthesis by confirming the fragmentation of the field, the recent surge in interest (2020–2024), and the central role of fairness, trust, and governance. Most authors contributed a single publication, and the co-authorship network remains relatively sparse, indicating that the field is still emerging and interdisciplinary, but lacks strong epistemic consolidation. The convergence of themes around recruitment, algorithmic bias, and employee perception mirrors the patterns identified in the qualitative review. However, the data also reveal underexplored areas, including: long-term employee reactions to AI, culturally situated understandings of fairness, and comparative policy approaches to algorithmic transparency.

These insights underscore the need for deeper and more globally distributed research efforts, especially in countries currently underrepresented in the discourse.

4 Discussion

4.1 Summary of evidence

The review identified 54 studies addressing AI use in HRM, with emphasis on fairness, bias, and trust. Most focused on recruitment, though performance evaluation and employee monitoring also emerged. Findings reveal recurring concerns about transparency and explainability, and highlight the importance of human oversight. Ethical risks - such as algorithmic bias - are frequently noted, while trust and acceptance depend on perceived procedural justice. The need for employee involvement and accountable AI governance appears across disciplines and methodologies.

4.2 Limitation

This review is limited to Scopus-indexed, peer-reviewed articles in English or Italian. Grey literature and other languages were excluded. No formal critical appraisal was conducted, in line with scoping review methodology. As such, findings map the field broadly but do not assess the quality or robustness of individual studies.

4.3 Conclusion

The integration of AI into HRM raises ethical challenges tied to bias, fairness, and employee trust. This review shows growing academic attention but also fragmentation and geographic imbalance-Italy notably absent. Transparency, human oversight, and inclusive design emerge as key to responsible AI. Future research should focus on cross-cultural perceptions and long-term effects of algorithmic decision-making in organizations.

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FROM ATTRACTION TO RETENTION: DIGITALLY ENABLED EMPLOYER BRANDING IN THE ITALIAN RETAIL SECTOR

Research Idea

Ilaria Mastrangelo, University of Naples Parthenope, Naples, Italy/Giunti al Punto S.P.A, Florence, Italy, i.mastrangelo@giunti.it

Aizhan Tursunbayeva, University of Naples Parthenope, Naples, Italy, a.tursunbayeva@uniparthenope.it

Irene Gargano, Giunti al Punto S.P.A, Florence, Italy, i.gargano@giunti.it

Abstract

This study aims to explore how employer branding (EB), enhanced through digital technologies, can improve recruitment effectiveness, reduce turnover, and enhance employee experience (EX) in the retail sector, with a focus on the Italian company Giunti al Punto S.P.A. Adopting a two-phase mixed qualitative approach, the research includes a scoping review of literature on EB, EX, and Human Resource Management (HRM), a netnographic analysis of employee-generated content on Glassdoor, and interviews with candidates and employees. Anchored in Backhaus and Tikoo's (2004) EB framework and recent advances in digital employer branding, the study seeks to identify HRM practices and future-oriented strategies for talent attraction and retention. The findings will reveal the role of EB not only in attracting talent but also in EX, providing evidence-based recommendations for HR practitioners in retail and contributing to the understanding of the intersection of EB, EX, and HRM in the Italian context.

Keywords: Employer branding (EB), Employee experience (EX), Human Resource Management, Employee turnover, Retail sector, Technological innovation.

1 Purpose

This research investigates how employer branding (EB), enhanced by digital technologies, can improve recruitment effectiveness, reduce employee turnover, and enhance employee experience (EX) in the retail sector, specifically focusing on the Italian company Giunti al Punto S.P.A. The study aims to identify human resource management (HRM) practices and develop future-oriented strategies for talent attraction and retention through the strategic integration of EB and technological innovation.

2 Design/ Methodology/ Approach

The study adopts a two-phase mixed qualitative approach: (1) a scoping literature review conducted via the Scopus database to synthesize existing evidence on the relationship between EB, EX, and HRM; (2) a netnographic analysis of employee-generated content on Glassdoor related to Giunti al Punto S.P.A.; (3) interviews with Giunti al Punto S.P.A. candidates and employees. The research builds on the

employer branding framework by Backhaus and Tikoo (2004), and incorporates recent contributions on digital employer branding (e.g., Bharadwaj, 2024).

3 Results

Preliminary findings indicate that while EB is widely recognized for attracting talent, its role in enhancing employee retention and experience remains underexplored. The review will identify key dimensions of EB and retention drivers, which will then be operationalized and applied in the qualitative analysis of online reviews and employee interviews to assess the real-world perception of Giunti al Punto's employer brand and how EX can be strengthened through HRM practices.

4 Limitations

The literature to date provides limited insights into how organizational-level EB and HRM strategies translate into individual-level EX outcomes, especially within the under-researched Italian retail context. Moreover, the role of digital platforms and employee-generated content in shaping EB remains insufficiently examined.

5 Research/ practical implications

Findings will support HRM professionals in designing evidence-based, digitally informed employer branding and HRM strategies aimed at improving EX and reducing turnover in retail environments.

6 Originality/ value

Grounded in a real-world challenge faced by Giunti al Punto S.P.A., this study provides novel interdisciplinary insights at the intersection of organizational studies, HRM, and digital technologies, offering both academic and practical contributions to the field.

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A SOCIO-TECHNICAL APPROACH TO EXPLAINABILITY IN GENERATIVE AI: EXPLORING USER TRUST AND DECISION SELF-EFFICACY

Doctoral Consortium Abstract

Marco Smacchia, University of Chieti-Pescara, Pescara, Italy, marco.smacchia@unich.it

1 Research idea description

The rapid evolution and diffusion of Generative Artificial Intelligence (GenAI) tools such as ChatGPT and Claude have significantly reshaped interactions between users and technology, demonstrating remarkable capabilities across numerous sectors and tasks (Banh & Strobel, 2023; Qin et al., 2023). Despite their potential, these advanced AI models often function as "black boxes," characterized by computational opacity, making it challenging for users to understand the decision-making processes behind their outputs (Barredo Arrieta et al., 2020). This lack of explainability can diminish user trust and confidence, particularly when decisions carry significant consequences, raising significant ethical issues related to fairness, transparency, and accountability (Shin, 2021; Zuiderwijk et al., 2021).

Considering what is stated, this abstract aims to propose a research idea to investigate the role of explainability in shaping user interactions with GenAI systems. The research seeks to answer two primary questions:

RQ1: How does explainability influence user perceptions and trust in Generative AI systems, and how do these perceptions shape engagement and AI decision self-efficacy?

RQ2: How does AI literacy influence the way users interact with and respond to explainable Generative AI systems?

Building on Shin's (2021) conceptual framework, this abstract proposes a comprehensive model (Figure 1) examining the relationships between causability (users' ability to understand explanations), explainability (clarity and comprehensibility of AI explanations), and key user perception variables: transparency, fairness, and accountability. According to the literature, these perceptions significantly influence user trust and engagement with AI systems (Shin & Park, 2019; Ehsan et al., 2021). Trust and engagement, in turn, are hypothesized to foster AI decision self-efficacy (the user's confidence in making informed decisions based on AI-generated outputs) (Chen et al., 2025). Additionally, the moderating role of AI literacy (user knowledge and competence regarding AI systems) is considered relevant, influencing the strength of the relationship between transparency, fairness, accountability, and trust (Huang & Ball, 2024).

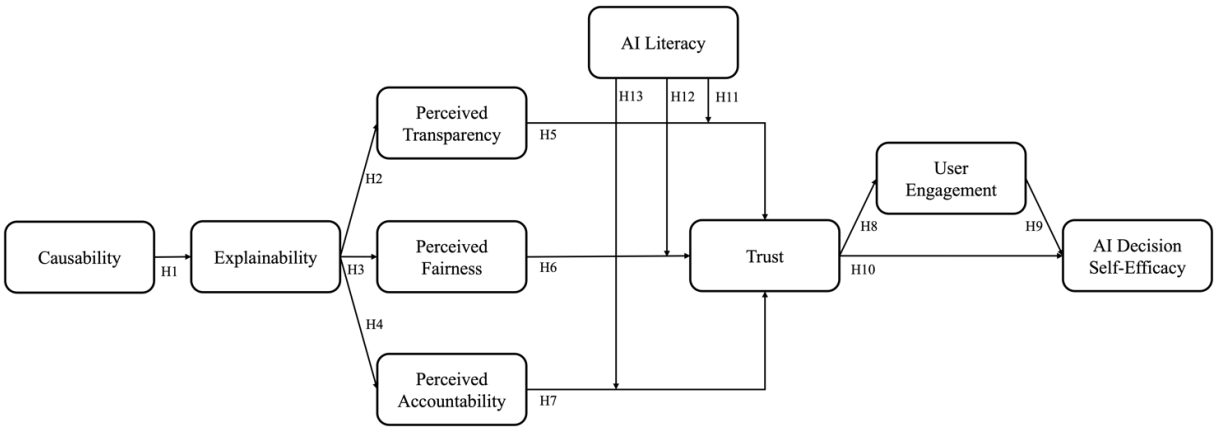


Figure 1. The Influence of AI Explainability on Users' AI Self-Efficacy

Methodologically, the study adopts a quantitative, cross-sectional design employing Partial Least Squares Structural Equation Modeling (PLS-SEM), a suitable approach for testing complex theoretical models involving multiple interconnected constructs (Hair et al., 2019). Data collection involves an online survey targeting professionals with practical experience using GenAI tools. Measures employed in the survey are adapted from validated scales, including those from Shin (2021), O'Brien et al. (2018), Wang & Chuang (2024), and Lee & Park (2024).

This study contributes to the evolving literature on Explainable AI (XAI) by extending existing frameworks to the emergent context of Generative AI. It incorporates the novel outcome of AI self-efficacy, providing practical implications for designing user-centric, transparent AI systems and developing interventions aimed at enhancing users' confidence and effectiveness in AI-supported decision-making. Insights from this research will guide practitioners and policymakers in fostering responsible and ethical AI integration into professional and societal contexts.

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THE TRANSFORMATIVE POTENTIAL OF AI IN CYBERSECURITY AUDITING

Doctoral Consortium Abstract

Alessandra Di Giacomo, Luiss Guido Carli University, Rome, Italy, adigiacomo@luiss.it

The acceleration of cyber threats and the growing sophistication of corporate digital ecosystems are engendering an unprecedented transformation in cybersecurity auditing, catalyzing the emergence of Technology-Enhanced Cybersecurity Auditing (TECA) as a revolutionary paradigm. TECA systematically integrates artificial intelligence and advanced technologies to radically redefine the effectiveness, precision, and timeliness of assurance processes. Modern supply chains constitute complex and highly digitalized ecosystems in which every stage - from production to distribution - is interconnected through information networks and technological platforms. While such interconnectivity enables unprecedented levels of efficiency and innovation, it simultaneously introduces vulnerabilities and structural weaknesses that expose organizations to a multitude of cybersecurity threats, ranging from sophisticated cyberattacks aimed at disrupting operations to data breaches designed to compromise sensitive information (Adenekan, Ezeigweneme & Chukwurah, 2024). The consequences of such threats extend beyond individual entities within the chain, potentially propagating across multiple nodes and resulting in significant financial losses, erosion of stakeholder trust, and, in extreme cases, implications for national security (Okoli et al., 2024). In response to this evolving risk landscape, regulatory authorities worldwide have promulgated comprehensive policies and rigorous compliance standards to ensure the implementation of robust security controls. Within Europe, the regulatory framework has progressively expanded through the issuance of several pivotal directives and regulations: the Directive on Security of Network and Information Systems (NIS, Directive (EU) 2016/1148) and its revised counterpart, the NIS2 Directive (Directive (EU) 2022/2555); the General Data Protection Regulation (GDPR, Regulation (EU) 2016/679), governing privacy, data protection, and breach notification; the Cybersecurity Act (Regulation (EU) 2019/881), which establishes an EU-wide cybersecurity certification scheme; alongside numerous sector-specific requirements. This increasing regulatory stratification demands a holistic approach capable of harmonizing diverse mandates into a coherent operational framework, one that also accommodates internationally recognized cybersecurity standards. Notably, ISO/IEC 27001 and the NIST Cybersecurity Framework provide comprehensive guidance for the management and protection of information assets, including those embedded within supply chains. Within this context, cybersecurity auditing emerges as a pivotal mechanism for assessing the effectiveness of organizational security controls, identifying vulnerabilities, and ensuring compliance with multifaceted regulatory mandates. Moreover, the evolution of regulatory frameworks necessitates that cybersecurity audits adapt dynamically to reflect current risks and emergent technologies (Castka & Searcy, 2021; Santoso et al., 2021; Rahman et al., 2021). As regulatory demands intensify, organizations are compelled to transcend traditional checklist-driven models and adopt dynamic, real-time, risk-oriented methodologies, thereby reshaping the landscape of cybersecurity governance (Balios et al., 2020; Rahman et al., 2021). Recent innovations - such as AI-driven monitoring, continuous auditing, and integrated risk management systems - are already exerting a profound influence across industries, reinforcing compliance efforts while enhancing auditors' capacity to respond effectively to evolving cybersecurity challenges (National Cybersecurity Strategies, 2021). Indeed, the automation of assurance processes, enabled by intelligent algorithms and digital systems, transfers to technological artifacts functions traditionally performed by humans. Within this evolutionary scenario, organizations no longer appear as mere systems of interpretation (Daft & Weick, 1984), but as digital enactment systems in which technologies not only mediate but increasingly shape - and in some cases supplant - human action (Constantiou, Joshi & Stelmaszak, 2023). Against this backdrop, the present study investigates the transformative potential of Technology-Enhanced Cybersecurity Auditing (TECA) in

the evolution of organizational cybersecurity governance, with particular emphasis on the strategic integration of Agentic Artificial Intelligence (AI) as a catalyst for the transition from reactive control models to predictive and self-adaptive paradigms of cyber resilience. For the purpose of this research, Agentic AI is defined as an advanced technological architecture that combines autonomous decision-making with sophisticated reasoning capabilities and continuous learning mechanisms, thereby enabling the independent planning, execution, and optimization of complex auditing processes with minimal human oversight. Building upon this operational definition, the primary objective of this study is to examine how the strategic implementation of TECA solutions - calibrated against ISO/IEC 27001:2022 and the NIST Cybersecurity Framework - can enable a systemic approach to multi-regulatory compliance, ensuring simultaneous adherence to binding European regulations (e.g., GDPR, NIS2) through an integrated and technologically advanced operational framework. To achieve these objectives, the research develops along three interconnected analytical dimensions. First, it explores the potential of Agentic AI to enhance the predictive power and diagnostic accuracy of traditional auditing processes. Second, it investigates how TECA systems may function as an operational bridge between international cybersecurity standards and the complexity of European regulatory obligations, thereby facilitating the harmonization of compliance processes. Third, it evaluates the transformative impact of these technologies on the redefinition of corporate risk management and on the development of cybersecurity governance ecosystems characterized by dynamism and evolutionary self-adaptation. Through a methodology that combines systematic literature review, comparative analysis of existing frameworks, and critical assessment of emerging technological implementations, this study seeks to contribute an original perspective to the scholarly understanding of the transformative potential of Agentic AI in cybersecurity auditing. The paper delineates an evolutionary trajectory toward governance models that are more resilient, proactive, and attuned to the challenges of today's complex regulatory and technological environment.

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INTEGRATING BLOCKCHAIN TECHNOLOGY INTO PERFORMANCE MANAGEMENT SYSTEMS FOR AGRI-FOOD COMPANIES IN ITALY: A PATH TO SUSTAINABLE GROWTH.

Doctoral Consortium Abstract

Muhammad Mansoor, University of Chieti-Pescara, Italy, muhammad.mansoor@phd.unich.it
Lorenzo Lucianetti, University of Chieti-Pescara, Italy, lorenzo.lucianetti@unich.it

1 Introduction

Human civilization has historically relied on the agrifood sector as a foundation for economic stability and food security. However, contemporary challenges such as international food trade, food safety, transparency issues, and ecological concerns require innovative solutions. The agrifood sector, a significant driver of the Italian economy, is expected to grow substantially by 2030, fuelled by increasing consumer demand for high-quality goods, organic farming, and government support. Nevertheless, issues related to efficiency, safety, origin, and trust persist due to opaque supply chains and a general lack of understanding of Industry 4.0. The revolutionary solution for the increasing transparency, traceability and accountability in the agrifood sector, leading to sustainable growth, is offered by the Blockchain technology (BT) (Lenzi, 2022). BT adoption is challenging due lack of trust of stakeholders, organizational economic conditions and limited knowledge resources of BT in the supply chain of agrifood sector (Mirabelli & Solina, 2020). The primary issue must be resolved for the full beneficiary of the BT, skilled workers, financial limitations and most importantly, the support from the Government. This study will investigate the integration of BT with PMS in a way to fulfil the Agenda of the United Nations (UN) 2030 for the social sustainability development to enhance the usage of resources, increase productivity and support the sustainable Agrifood operations (Kumar et al., 2022). Recent studies show that although BT has grown quickly and has contributed to many scientific publications, there are still few real-world case studies and limited application of BT in agrifood. The current research examines how the integration of BT into PMS in the agri-food sector of Italy and potential outcomes, identify adoption barriers and propose a framework that strengthens transparency, trust, effectiveness and sustainability. Additionally, the current study investigates how the Agrifood sector can help achieve the Sustainable Development Goals (SDGs) by using BT-based PMS. To address concerns on transparency and explore the effects of BT on PMS, our investigation will utilize real-world case study data from the agri-food industry. In order to determine how effective BT is in various contexts, researchers have examined its adaptability in a variety of conditions (Patel et al., 2024). Our findings will offer best practices, theoretical frameworks, and empirical insights for enhancing the agri-food industry's sustainability, efficiency, and trust.

2 Literature Review

To explore the integration of BT with PMS for the sustainable growth of the Agrifood sector, he researcher employs the Task Technology Fit (TTF) theory as the conceptual framework to guide the investigation of the integration for sustainability. As TTF is first introduce for individuals (Goodhue & Thompson, 1995), it later began to be use in inter-organizational contexts. Through in-depth interviews and thematic analysis, the project aims to generate new theoretical insights into how task-technology alignment affects user engagement, system efficacy, and other characteristics.

3 Methodology

This study adopts an exploratory qualitative approach to gain in-depth insights into the integration of BT within performance management systems in the agri-food sector. The study emphasizes the need for in-depth and contextual understanding. As a result, those directly involved in the creation or application of BT in agri-food supply chains will be interview in a semi-structured manner. The population for this study consists of 85 agri-food companies in Italy that have adopted BT within their operations (Giannini et al., 2025). Purposive sampling will be use to choose pertinent practitioners and industry stakeholders in order to guarantee relevance and knowledge. People will be the unit of analysis in this cross-sectional study, which will gather data all at once.

4 Expected contribution:

This research contributes to the real-world agrifood sector by demonstrating how BT can enhance traceability, transparency, and efficiency in supply chain operations. The study provides empirical evidence on how well BT solutions align with key agri-food supply chain performance. By combining BT with PMS, this study has the potential to improve sustainability, efficiency, and transparency in the agri-food industry. BT can enhance data security and real-time monitoring, which will improve decision-making by tackling important issues, including food traceability, supply chain inefficiencies, and regulatory compliance. The findings add value to the existing literature on BT adoption in the agrifood sector while also developing a theory by validating its relevance in emerging technology contexts. Ultimately, this research offers practical insights for stakeholders seeking to implement BT solutions, ensuring better task-technology alignment for improved sector-wide PMS. Additionally, this study offers a road map for farmers, agribusinesses, and legislators to embrace cutting-edge digital solutions that guarantee sustainable farming methods, cut waste, and boost customer confidence in food safety.

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ARTIFICIAL INTELLIGENCE IN HUMAN RESOURCE MANAGEMENT: A BIBLIOMETRIC ANALYSIS

Doctoral Consortium Abstract

Riccardo Cerretani, University of Chieti-Pescara, Pescara, Italy, riccardo.cerretani@phd.unich.it

1 Introduction

This study aims to analyse the extent of scientific attention devoted to the use of artificial intelligence in the various HRM functions, with a specific focus on training and development practices and performance evaluation. Furthermore, the study seeks to assess whether the relevant literature reveals a prevailing view regarding the role of AI, framing it primarily as a tool for augmenting or replacing human activity in HRM practices. AI, defined as "a system's ability to interpret external data correctly, to learn from such data, and to use those learnings to achieve specific goals and tasks through flexible adaptation" (Haenlein & Kaplan, 2019), plays a key role in today's era of rapid technological innovation, influencing various aspects of society and business. According to some studies, human capital is the most valuable asset for a company (Singh et al., 2023), regardless of the sector and the field in which it operates. HRM encompasses a set of practices and strategies designed to optimize the use of human capital within organizations (Ulrich, 1997). Numerous studies highlight that employees represent crucial strategic assets in modern businesses and that fostering trust and engagement between a company and its workforce can enhance the achievement of corporate goals (Vance, 2006). Therefore, HRM functions can be seen as a strategic driver for organizational success. HRM practices can be broadly categorized into five key functions: recruitment and selection, onboarding, training and development, performance management, retention and turnover. Each of these areas has seen an increasing integration of AI-based solutions (Lazazzara, Za, 2025). Today, some organizations, primarily large enterprises, are already integrating AI into HRM processes with promising results. For example, JP Morgan Chase developed an AI-based system for candidate assessment, first working with HR experts to make it reliable and free from bias, and then using it independently to improve fairness, consistency, and efficiency in the process (Raisch & Krakowski, 2021). However, the adoption of AI in HRM is not without challenges. Scholars emphasize the need for a balance between automation and human oversight, ensuring that AI does not replace but rather augments human decision-making (Jarrahi, 2018). This study aims to analyze how recent scientific literature has approached this topic, shedding light on AI's future role, challenges, and opportunities in HRM practices, laying the foundations for future research.

2 Research gap and expected contribution

Current scientific literature does not provide a detailed analysis of the state of the art regarding the application of Artificial Intelligence to individual HRM practices. There are also no studies on the existence of a dominant view in the scientific literature about the role AI should play in terms of "Augmentation" or "Substitution" of human activity in HRM processes, nor on whether there are processes more predisposed, or that should lean towards, the substitution or complementing of human activity by Artificial Intelligence. Based on these gaps, two research questions were formulated:

- Q1 Which HRM processes are considered most suitable for AI integration according to the literature?
- Q2 What is the prevailing perspective in the literature regarding the integration or replacement of human activity in HRM processes?

Having an overview of the existing scientific literature that analyzes which HRM practices are most studied in integration with Artificial Intelligence will help guide future research and identify any gaps

in the existing literature. Additionally, understanding the dominant view in the literature regarding the replacement or complementing of human activity in HRM processes will help clarify the direction the scientific community is moving towards and focus on the major challenges and opportunities arising from these changes. Defining the topic of "Augmentation or Substitution" will also have a practical and tangible impact on HR professionals, enabling them to better identify ongoing changes in their field and modify or update their skills, to better prepare for future challenges.

3 Methodology

To achieve the set objectives, this study will be based on a bibliometric analysis of the scientific literature related to artificial intelligence in human resource management (HRM) processes. The choice of this methodology is motivated by the aim to examine the evolution of research over time and to identify key trends, the most influential journals, the most active geographical areas, and the most cited papers in the field. To this end, a descriptive and thematic analysis of the data will also be conducted (Mehmood et al. 2025). The purpose of the bibliometric analysis is also to evaluate how research areas on AI in Training and Development and Performance Evaluation are positioned relative to research on other HRM functions. The Scopus platform will be used for the construction of the database due to its extensive availability of metadata, which makes it particularly suitable for bibliometric analyses (Filser et al. 2017). The construction of the database on Scopus will be carried out considering only articles and conference papers published in English, using the following keywords: "Artificial Intelligence" "Machine Learning", "Deep Learning", "Human Resources Management", "Recruitment and Selection", "Onboarding", "Performance Management", "Retention", " Turnover". Based on the results obtained by the data analysis, a subset of relevant documents will be selected for manual analysis, with the aim of further exploring the topics related to the two HRM functions on which the study intends to focus.

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Exploring the interplay between Artificial Intelligence and professionals' expertise: Qualitative evidence from healthcare

Doctoral Consortium Abstract

Marco Caggianelli, LUISS University, Rome, Italy, mcaggianelli@luiss.it
Daniele Mascia, LUISS University, Rome, Italy, dmascia@luiss.it
Elena Bruni, LUISS University, Rome, Italy, ebruni@luiss.it

Keywords: Healthcare Professionals, Artificial Intelligence, Expertise

1 Introduction

In a context marked by an estimated global shortfall of ten million healthcare professionals by 2030 (World Health Organization, 2022), along with heavy workloads and burnout, the pursuit of innovative technologies to support hospitals and healthcare professionals is more critical than ever to prevent negative outcomes for patient care. With the increasing digitalization of health data and advancements in computing, Artificial Intelligence (AI) emerges as a promising solution in healthcare. AI has the potential to enhance clinical decision-making in various ways. However, significant progress is still required to integrate AI into clinical practice. As a result, our research aims to theorize and comprehend how physicians and their professional communities are experimenting with this technology and what implications it holds for their expertise.

2 Theoretical Background

Professionals can be broadly defined as an organized group of experts who apply abstract knowledge to specific situations (Abbott, 1988). According to Abbott, the key distinction between professionals and other occupational groups lies in how they control abstract knowledge and redefine the problems and tasks that characterise their work. One of the key aspects that distinguishes professionals from other categories of organisational workers is their expertise—expertise is indeed central to professionals' work, legitimising their professional status and guiding their decision-making practices. The literature has also deeply analysed expertise according to various onto-epistemological perspectives, that is, the realist, constructivist, and the situationist one. Whereas the former conceptualized expertise as an ability, the second one consider it a quality, while it is a situated enactment according to the latter (Heimstädt et al., 2024). Concurrently, recent studies proposed a social-relational perspective, wherein its generation, application, and recognition are defined in relation to the interactions between humans and objects in the context (Pakarinen & Huising, 2023). Considering the societal impact of AI, it is not surprising as in the last decades there has been an increasing attention to comprehend the relation between expertise and AI from more a social perspective. For instance, Lebovitz et al. (2022) observed how healthcare professionals were able to improve their final judgment with AI insights by confronting their professional viewpoints with those stemming from AI. However, while scholars focused on the influence of AI on professionals' decision-making, it remains important to understand the reciprocal influence between professionals' expertise and AI, a still unclear aspect in our field. Research should indeed investigate how relationships matter for the development of professionals' expertise, especially in the context of AI use (Pakarinen & Huising, 2023).
Therefore, drawing on the expertise literature (Heimstädt et al., 2024; Pakarinen & Huising, 2023), we explore how physicians rely on their expertise but also integrating AI tools to make clinical decisions.

By examining how doctors support their daily clinical tasks with the use of AI tools, we want to shed light on the complex interplay between individual expertise, collective expertise, and AI tools. Expertise can indeed relate to physicians' personal reasoning and intuition, as well as to the expertise they have access to through relationships with colleagues.

3 Method and preliminary findings

We conducted an in-depth field study in a top-tier research hospital in the Italian NHS. In particular, we focused our investigation on the oncology radiotherapy center that aims to provide patients with research-based cancer treatment through advanced tools and multidisciplinary teams. The study, initiated in December 2024, has so far collected twelve interviews of physicians working mainly in the radiotherapy department. First, we found that physicians' decision-making is constantly developed and negotiated through interactions among colleagues, while reviewing radiological images and deciding the most appropriate therapeutic indications. Second, physicians expand their expertise through a "going-in-depth" process (INT 7, medical oncologist), which consists of interacting with colleagues and the clinical context. Third, contextualization appeared to be a key expertise's feature, that is, the ability to apply and adapt domain medical knowledge to the specific clinical case. This critical ability seems to be lacking in case of AI, "you run the risk of learning immediate situations from a machine that obviously could not disregard the context in which you are operating" (INT 3, radiation oncologist). Fourth, we found that AI is entering these clinical scenarios to enhance physicians' knowledge and bring to their attention a variety of aspects of the patient's clinical picture, which are then subjected to their careful interpretation to be eventually considered for the final decision.

4 Potential contribution

This study aims to contribute to the current and increasing debate at the intersection of AI and expertise in the context of professionals' decision-making. We observed that AI and expertise are involved in a loop of mutual influence–the expertise of professionals is fundamental to understanding, contextualizing, and using the insights generated by AI, while concurrently, the individual and collective use of AI influence professionals' expertise along with their clinical decisions. These insights add to the current understanding of expertise not only as a relational dimension, but how this aspect can be highly changed when AI is involved. In sum, this study also contributes to the debate on relational expertise, although additional data collection and analysis are needed.

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INVESTIGATING DIGITAL LEADERSHIP IN THE ADOPTION OF EMERGING TECHNOLOGIES

Doctoral Consortium Abstract

Rebecca Trivelli, University of Chieti-Pescara, Pescara, Italy, rebecca.trivelli@unich.it.
Stefano Za, University of Chieti-Pescara, Pescara, Italy, stefano.za@unich.it.

1 Research Idea Description

In recent years, organizations have undergone decisive changes (Majchrzak et al., 2016) characterized by adopting digital technologies and implementing digital transformation initiatives (Tursunbayeva & Chalutz-Ben Gal, 2024; Vial, 2019). As a result, this produced changes in the organizations' processes, reconfigured work structures, and requested new roles and capabilities (Bailey, 2022). These effects are particularly relevant in the adoption of emerging technologies (Benitez et al., 2022; Tursunbayeva & Chalutz-Ben Gal, 2024), where the role played by the digital leader seems to be quite crucial (Benitez et al., 2022; Brunner et al., 2023). Today's leaders must balance the core skills developed in the past with an agile mindset and profound digital knowledge (Avolio et al., 2014). Despite growing scholarly interest in digital leadership, prior research has primarily focused on the relationship between digital leadership and digital transformation in terms of skills and capabilities, neglecting its roles at different phases of the adoption process (Benitez et al., 2022; Trivelli & Za, 2024). Moreover, concerning emerging technologies, there is a lack of studies that specifically consider the temporal dimension of their adoption phases (Chipidza et al., 2023; Polyviou et al., 2024). To address this research gap, we first aim to identify the boundaries of each phase of the emerging technology adoption process by adopting Rogers's Innovation Process Model (Rogers, 1995). Afterwards, we intend to investigate the role played by the digital leader in each phase, specifically in the pre-adoption, adoption, and post-adoption phases (Damanpour & Schneider, 2006; Rogers, 1995). Accordingly, the preliminary research questions are: *What roles does the digital leader play in the pre-adoption, adoption, and post-adoption phases of an emerging technology? How does digital leadership influence the adoption and usage of emerging technologies?* To answer our research questions, we adopt Q-methodology, a mixed-methods approach that assesses individuals' subjectivity, as previously used in studies on technology adoption (Brown, 1993). This approach seeks to explore the participants' perceptions of the diverse roles digital leaders fulfil throughout the adoption process, providing managerial guidance on leveraging digital leadership for the successful adoption of technology.

2 Methodology

We applied the Q-methodology, a mixed-method approach, to explore respondents' perceptions regarding technology adoption (Mettler et al., 2017). This approach aligns with our research objectives, as it enables an investigation into the roles assumed by digital leaders in adopting emerging technologies. Q-methodology's integration of qualitative and quantitative approaches allows a systematic analysis of individuals' points of view, capturing subjectivity, opinions, and attitudes (Mettler et al., 2017). This approach enables researchers to discern patterns in respondents' perspectives on these topics while reducing inherent complexity (Brown, 1993; Mettler & Stepanovic, 2024), generating phenomenologically detailed insights despite a small sample size (Thomas & Watson, 2002).

3 Preliminary Findings and Implications

Our findings reveal the various digital leaders' perception niches, shaped by their personal experiences with the adoption of emerging technologies. The quantitative analysis highlighted more "distinguishing" aspects than "consensus" among participants, despite some similar nuances. As a pilot study, it enabled

us to capture the varying perceptions of participants while highlighting the complex interplay between digital leader roles and the adoption of emerging technologies. The analysis reveals a distinct perspective across 5 niches regarding the focus under investigation: N1 emphasizes the need for a collaborative environment, valuing team dynamics, learning from failures and flattening hierarchical structures. N2 prioritizes administrative problem-solving and people management roles, placing less emphasis on the communication role. N3 demonstrates a preference for a transformational leadership style (that characterizes digital leadership), highlighting a sense-giving in the pre-adoption phase and adaptability to manage unexpected situations while de-emphasizing accountable roles. N4 favours a relational approach, emphasizing open communication and fostering employee engagement within the adoption process. In the end, N5 particularly emphasize that the most critical phases of the adoption are pre- and post-adoption, considering key roles as visionary and supporter. The research provides both theoretical and practical contributions. Theoretically, this study aims to bridge the literature on digital leadership and the adoption of emerging technologies, generating insights for future scholarly inquiry. From a practical perspective, the study will offer managerial guidelines for leading and facilitating the adoption process by recognizing the roles of digital leaders and the corresponding characteristics considered relevant for each phase of the adoption process.

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ORGANIZATIONAL LEARNING IN PUBLIC SECTOR: A CONCEPTUAL FRAMEWORK BASED ON A SYSTEMATIC LITERATURE REVIEW

Doctoral Consortium Abstract

Priya Upadhyay, University "G. D'Annunzio" of Chieti-Pescara, Pescara, Italy, priya.upadhyay@phd.unich.it

Armando Della Porta, University of Chieti-Pescara, Pescara, Italy, armando.dellaporta@unich.it

1 Introduction

Organizational Learning (OL) is widely recognized as the engine that enables public institutions to sense turbulence, refine routines, and reinvent services. In government, this capacity is not merely advantageous but vital: without a disciplined way to learn from successes and failures, policies ossify, services falter, and democratic legitimacy erodes. Unfortunately, the scholarly bedrock on which public-sector OL should rest remains unexpectedly fragile. The first weakness is conceptual. Most definitions travel straight from corporate studies into public-administration journals, carrying useful insights but shedding little light on distinctive constraints such as statutory mandates, political oversight, or rule-bound procedures (Locke & Golden-Biddle, 1997). For example, a recent study examines how organizational learning capacity contributes to development project success in a West African public-sector setting, their work stops short of developing a conceptual model that reflects the unique institutional conditions of public organizations (Adanzounon et al., 2025). A second weakness is empirical. Evidence is scattered across single-agency case descriptions and one-off surveys, largely confined to a small circle of OECD countries; consequently, lessons rarely migrate across ministries, levels of government, or cultural settings (Moynihan & Landuyt, 2009). The third weakness is analytical. Existing studies dutifully catalogue enablers leadership commitment, a learning culture, information systems and obstacles bureaucratic inertia, fiscal pressure, political turnover—but seldom ask how these forces combine, or which patterns matter most in different institutional environments (Schilling & Kluge, 2009) . The result is a fragmented literature that offers practitioners no integrated roadmap for nurturing learning and leaves scholars with little cumulative evidence on which to build theory. Closing this gap is more than an academic exercise. Without a clear synthesis of what fosters or frustrates learning across diverse contexts, reform efforts risk targeting symptoms rather than causes.

2 Research Questions and Objectives

In light of these gaps, the objective of this study are threefold: (1) to clarify how OL is conceptualised and measured within public-sector studies; (2) to map the internal and external drivers most consistently associated with OL and to explore their interdependence; and (3) to identify the barriers most frequently reported across empirical cases and assess their relative weight. Based on these objectives, the review is guided by the following research questions:

- RQ1: What exactly is "organizational learning" in government?
- RQ2: What enables public organizations to learn?
- RQ3: What blocks learning, and how do these barriers interact?

3 Methodology

To answer the above research questions, we conducted a PRISMA-guided systematic review of 49 peer-reviewed studies published between 2005 and March 2025. Each study was coded for definitions and

measures of **OL**, its drivers, barriers, and claimed outcomes, and the data were analysed using QSR NVivo 14.

4 Findings and discussions

The evidence shows that public-sector OL unfolds through three interlocking stages such as knowledge acquisition, performance improvement, and strategic innovation rather than a single, monolithic process. Progress along this learning pathway is powered by four mutually reinforcing driver families: a leadership-culture nexus, knowledge-infrastructure systems, environmental turbulence with political mandates, and technology-resource signals. Learning stalls when three barrier constellations converge: bureaucratic inertia, chronic resource scarcity, and fragmented information systems. Although these patterns are robust across the corpus, the empirical base is heavily skewed toward OECD settings and qualitative single-agency cases, limiting generalizability to low- and middle-income contexts. Our study consolidates scattered definitions and approaches to OL into a **driver–barrier–outcome framework**. It also shows OL as a **multi-stage process**, not just a one-off activity. Public managers can use this framework to **diagnose barriers** and design policies that strengthen learning capacity. Few studies cover the **Global South**, use **mixed methods**, or examine OL **over time** (longitudinal). Based on the synthesis of the literature, we derive the following conceptual framework of OL. (See Figure 1)

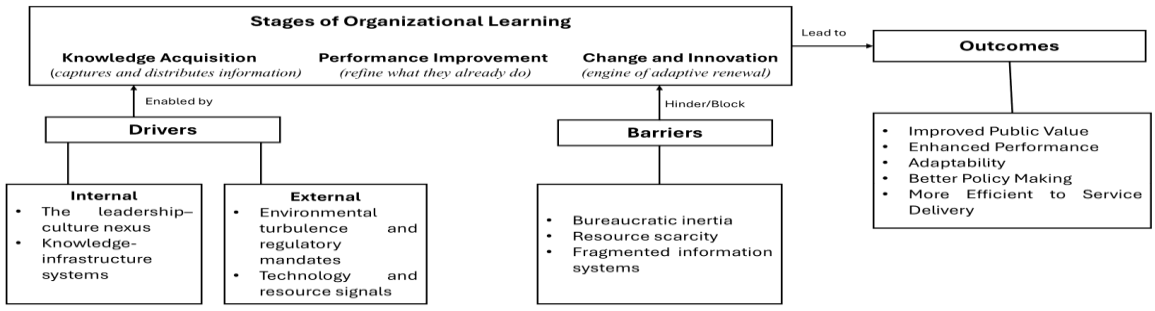


Figure1. Conceptual Framework of Organizational Learning.

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ORGANIZATIONAL PERFORMANCE AND PERCEIVED INNOVATION: A PILOT TEST

Doctoral Consortium Abstract

Vito Del Vecchio, University of Salento, Lecce, Italy, vito.delvecchio@unisalento.it
Mariangela Lazoi, University of Salento, Lecce, Italy, mariangela.lazoi@unisalento.it
Fabio Paracchini, Altea Federation, Milano, Italy, fparacchini@alteanet.it
Giorgia Specchia, University of Salento, Lecce, Italy, giorgia.specchia@unisalento.it

Keywords: Innovation, Ethical Climate, Performance Evaluation

Abstract

Organizations today face increasing pressure to innovate in order to stay competitive and adapt to changing market conditions (Bolaji Bello & Adeoye, 2018). However, innovation is not a linear and certain process, but it is fraught with uncertainty and risks (Fanousse et al., 2021). Furthermore, it should be emphasized that innovation lacks objective parameters that allow for the quantitative measurement of its impact, as it is inherently linked to individual creativity, a naturally unquantifiable element (Adams et al., 2006; Yusuf, 2009). Indeed, innovation is characterized by a dual nature: on one hand, it is intrinsically related to the invention and generation of new ideas, processes filled with uncertainty; on the other, it deals with the commercialization of these ideas, facing market volatility (Fagerberg et al., 2006; Kerzner, 2022). This duality highlights the complexity of innovation, which extends beyond the mere creation of innovative concepts to include the dynamics of effective market positioning, constantly subject to rapid changes.

Despite, numerous studies in the literature address the quantification of the innovation phenomenon through various metrics (Adams et al., 2006; Moreira et al., 2024; Ngo et al., 2022), such as employee reward system for innovative ideas (Moreira et al., 2024), the speed of our new product development (Moreira et al., 2024), expenditure by item (organizational department, patent, innovation or scientist) (Adams et al., 2006), there is a lack of a combined approach that integrates organizational aspects with individual elements. While the aforementioned metrics primarily focus on business-related aspects, neglecting the human nature intrinsic to innovative processes, alternatively in other works the authors focus solely on human perception, as in (Ngo et al., 2022), where only competencies are measured, disregarding the actual outcomes.

Despite this, the work of (Kwon Choi et al., 2013) is particularly significant, since it illustrates the relationship between organizational innovation and business performance. The ethical climate within the company acts as a mediating variable in this relationship, under the assumption that a benevolent and cooperative climate fosters the development of new ideas, and consequently, innovation within the company. A limitation identified in the study is the absence of an element that allows for the comparability of the results of the proposed questionnaire among different organizations that have innovative processes with varying frequencies over time.

To explore the validity of this relationship in the Italian context, which is less investigated in the reference literature, a survey was developed based on two distinct questionnaires which, as in (Kwon Choi et al., 2013), respectively assess organizational innovation and its perception by employees in terms of business performance evaluation and work climate. Particularly, while a questionnaire addresses managers who are in charge to discipline and manage innovation projects, the other one addresses executives who strategically plan and develop innovation actions.

The items of each dimension of the questionnaires were derived based on the theoretical foundation of the literature and the empirical knowledge of experts. Indeed, the set of items was refined through several focus groups with innovation managers, Human Resource (HR) managers, and academic experts. This approach also facilitated the development of complete and methodologically robust assessment tool, capable of capturing multiple perspectives of innovation.

A temporal factor was also introduced as a control variable. This aspect proved to be essential for temporary contextualizing the evaluations, also because of the involved pool of respondents that belong to a federation of companies. This addition allows for the contextualization and differentiation of the concept of innovation among the various entities, recognizing that what may be considered innovative in one company might not be so in another with higher standards.

Both questionnaires were administered within a company, engaging 100 respondents. This paper presents the results of the pilot test, highlighting the challenges encountered during the questionnaire design phase and the implemented solutions. The purpose of the survey is to facilitate an understanding of the innovative dynamics within large companies, often characterized by heterogeneous and dynamic contexts. Prospectively, this study could enable the transformation of perceptions of innovation into quantitative values using the financial data of participating companies, to illuminate the actual correlation between perceived innovation and the concrete performances of the organizations.

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AN INVESTIGATION INTO ITALIAN HEALTHCARE PROFESSIONALS' PERCEPTIONS OF ORGANIZATIONAL RESILIENCE

Doctoral Consortium Abstract

Paola Della Zassa, University of Padova, Padova, Italy, paola.dellazassa@unipd.it
Alessandra Tognazzo, University of Padova, Padova, Italy, alessandra.tognazzo@unipd.it

Abstract

This study investigates Italian healthcare professionals' perceptions of organizational resilience post-COVID-19, based on interviews with 26 hospital staff members. It highlights the importance of internal collaboration and innovations like telemedicine in influencing staff retention. Key findings reveal strengthened peer collaboration but a significant disconnect with leadership, leading to increased stress and burnout. The research emphasizes the need for adaptive leadership to enhance resilience and improve retention. It suggests restructuring monitoring systems to focus on both performance and emotional well-being, advocating for a more inclusive leadership approach to better navigate future crises.

Keywords: Resilience, Healthcare sector, Employee Retention, Healthcare workers

1 Introduction

The COVID-19 pandemic has exacerbated the workforce crisis in the Italian healthcare sector, with annual turnover exceeding 10%, particularly among nurses and physicians (Costa, 2024). Chronic stress, burnout, and organizational dissatisfaction threaten the system's sustainability, further strained by an aging population. While existing literature has examined structural factors influencing retention (de Vries et al., 2023), the perceptions of healthcare professionals regarding their organizations' resilience—especially in terms of internal collaboration and leadership—remain underexplored. This study investigates how 26 Italian healthcare professionals—including physicians, nurses, and assistants—perceive organizational resilience in the post-pandemic era. Through thematic analysis of interviews conducted across multiple regions, the research focuses on peer collaboration and leadership dynamics to understand their impact on staff willingness to remain in the sector.

2 Theoretical background

This study draws on the theory of organizational resilience, defined as the capacity of healthcare systems to absorb, adapt, and transform in response to crises (Barasa et al., 2018; Hillmann & Guenther, 2021). Retaining healthcare professionals in Italy is increasingly urgent due to workforce shortages, exacerbated by post-pandemic burnout and migration (Costa, 2024; Zapata et al., 2023). While research has identified key retention factors—such as leadership, work environment, and job satisfaction (de Vries et al., 2023)—less is known about how health workers perceive organizational responses to ongoing challenges and how these perceptions shape their willingness to remain in the sector. Using thematic analysis (King & Brooks, 2018), we examine the interplay between adaptive resilience and staff retention, addressing a critical gap in the literature.

3 Methodology

This study employed thematic analysis (King & Brooks, 2018) and the Gioia methodology (Gioia et al., 2013) to explore healthcare professionals' perceptions of organizational resilience in Italy following the

COVID-19 pandemic. The sample included 26 hospital staff members (12 physicians, 13 nurses, and 1 healthcare assistant) from four Italian regions (Veneto, Friuli-Venezia Giulia, Emilia-Romagna, and Abruzzo) and diverse departments (e.g., intensive care, surgery, infectious diseases, general medicine). This selection ensured theoretical relevance and variability, balancing shared pandemic experiences with differences in roles and contexts. Semi-structured interviews (average duration: 35 minutes) were conducted remotely in Italian, audio-recorded, and transcribed verbatim. The analysis focused on leadership dynamics, internal collaboration, organizational innovations, and their influence on staff retention, aligning with the study's aim.

4 Preliminary findings

Preliminary findings reveal significant themes surrounding healthcare workers' perceptions of leadership and organizational resilience during the pandemic. Key themes include the top-down nature of leadership decisions, the desire for consultation and involvement in decision-making, enhanced internal collaboration at peer levels, the need for a more adaptive leadership approach, and a perceived lack of organizational preparedness and resilience. These findings suggest that the lack of an inclusive, adaptive leadership approach contributed significantly to the strain felt by healthcare workers.

5 Conclusion

This study explored Italian healthcare professionals' perceptions of organizational resilience post-COVID-19, revealing how top-down leadership and limited staff involvement in decision-making heightened alienation and strain. While peer-level collaboration improved, the disconnect with leadership undermined cohesion and resilience. These findings align with resilience theory (Barasa et al., 2018; Hillmann & Guenther, 2021), underscoring the need for adaptive, inclusive leadership to address chronic challenges. Fostering staff engagement and responsive leadership can reduce burnout, improve retention, and strengthen resilience for future crises.

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PROMOTING INNOVATION IN THE PUBLIC ADMINISTRATION: DIGITAL COMPETENCIES AND SOFT SKILLS AS KEY TO SUCCESS

Doctoral Consortium Abstract

Antonia Puccio, University of Molise, Campobasso, Italy, a.puccio@studenti.unimol.it

1 Introduction

As digital transformation continues to reshape the public sector, employees are required to combine digital competencies with soft skills to effectively innovate within bureaucratic environments. This research exlpores the integrated effect of digital tools and interpersonal abilities on enhancing innovative work behavior. The main research question is: How do public sector employees integrate digital competencies and soft skills to foster innovative work behavior? This study aims to provide insights into workforce development strategies for innovation in digital-era public administration.

2 Theoretical Background

Digital competencies are vital for adapting to technology-driven changes in public organizations, yet gaps remain, particularly among older staff (Medina-Esquivel et al., 2024). To enhance public service performance, these skills have to be complemented by effective communication and self-management capabilities (Lektorova et al., 2021). Soft skills, including adaptability, teamwork, and leadership, are critical in promoting collaboration and innovation (Karneli et al., 2024). Although both digital and soft skills are individually acknowledged as important, their combined effect on innovation is underexplored. Existing studies often isolate either digital proficiency or leadership (Benitez et al., 2022; Malik et al., 2024), neglecting how these competencies interact to affect innovation within complex public systems.

3 Research Gap Addressed

While the current literature addresses digital transformation in the public sector, there is a lack of attention on how digital and soft skills collectively promote innovative work behavior. This research addresses this gap by proposing that the synergy between these skill sets enhances employees' capacity to face challanges and facilitate change within hierarchical organizations.

4 Methodology

A mixed-methods approach will be employed to collect data from public sector employees through a structured online questionnaire. The instrument includes: Digital Competencies (Self-Perceived Digital Competence Scale),Soft Skills (TEIQue, Teamwork Skills Questionnaire),Interaction between skills (Multiple Soft Skills Assessment Tool), and Innovative Work Behavior (Janssen's IWB Scale).

This approach facilitates a comprehensive analysis of how public employees integrate technical and interpersonal skills to foster innovation.

5 Main Expected Findings and Contributions

The research anticipates identifying a positive correlation between advanced digital and soft skills and increased innovative work behavior. Employees possessing both skill sets are anticipated to exhibit enhanced creativity and adaptability. Furthermore, organizational culture and leadership support may serve as critical enablers of this synergy. Theoretically, this research contributes to the academic discourse by combining the domains of digital competencies and soft skills within the context of innovation. It proposes a model to elucidate the influence of their interaction on innovative work behavior and identifies potential mediators, such as organizational support. Practically, the study offers guidance for public sector aiming to cultivate innovation-ready workforces. It informs policies on recruitment, training, and professional development, emphasizing the importance of balanced competence frameworks that extend beyond mere digital upskilling.

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COORDINATING COLLECTIVE ACTION FOR GRAND CHALLENGES: INSIGHTS FROM INTER-ORGANIZATIONAL COLLABORATION

Doctoral Consortium Abstract

Loris Santarelli, G.d'Annunzio University of Chieti-Pescara, Pescara, Italy,
loris.santarelli@unich.it

Keywords: grand challenges, collaboration, distributed experimentation, community mobilization

1 Doctoral Consortium Abstract

Addressing large-scale societal problems such as poverty, climate change, and environmental crises requires organizations to develop innovative strategies and collaborative approaches (Ferraro et al., 2015; Gehman et al., 2022; George et al., 2016; Gümüsay et al., 2022). These problems, known as grand challenges, demand collective efforts from multiple actors, as no single entity can tackle them in isolation (Ferraro et al., 2015; Porter et al., 2020). By engaging in these collaborations, organizations can foster innovative approaches and facilitate the involvement of diverse stakeholders in addressing complex challenges. Collaborative actions and initiatives involving multiple organizations and stakeholders are therefore essential to achieving a common goal and creating opportunities for meaningful impact (Ferraro et al., 2015; George et al., 2016).

While cross-sector partnerships, including non-governmental organizations, public organizations, enterprises, and public-private collaborations, offer potential advantages such as enhanced information exchange and resource sharing, they also introduce considerable coordination challenges, particularly when partners bring divergent goals and approaches (George, Chaturvedi, et al., 2024; Gulati, Wohlgezogen, et al., 2012). Indeed, at this scale, organizations must navigate local interdependencies, balance individual interests, and distribute value within complex inter-organizational contexts. Strengthening the relationships with the broader social system is crucial for driving societal impact and making meaningful progress on grand challenges. Yet, the literature offers limited insight into how organizations navigate interdependencies, align their interests, and achieve value distribution in complex inter-organizational contexts. Recent studies highlight the importance of addressing small-scale goals while contributing toward broader systemic change (Mair & Seelos, 2021; Stern & Barley, 1996), but how such efforts unfold in practice remains underexplored.

This paper explores such dynamics within the LIFE Bear-Smart Corridors (BSC) initiative, an environmental safeguarding project in the Central Apennines aimed at fostering coexistence between humans and wildlife. Characterized by an inter-organizational, collaborative context and designed to create and allocate value within the communities, BSC provides a compelling setting for examining how focal organizations achieve coordination with institutional actors, local communities, NGOs, and navigate networks of interdependencies that contribute to legitimacy and long-term positive change. Through a grounded theory approach (Gioia et al., 2013), drawing upon participant observations, open-ended interviews, and archival data, we examine how organizations align their interests and activities, develop a cohesive perspective on a shared challenge, ultimately achieving progress and generating a positive social impact.

Our analysis identifies three key mechanisms that support coordination efforts in inter-organizational settings: unified strategy redefinition, which enables the development of a shared strategy despite prior experiences and distinct organizational identities; coordinated distributed experimentation, which

involves the collaborative execution of actions to generate progressive impact in addressing the challenge; and collective governance scaffolding, which enables the transformation by mobilizing social-organizational resources, strengthening governance structures, and sustaining long-term change.

We contribute to the grand challenges literature by providing insights into how coordination fosters distributed experimentation in complex inter-organizational contexts (Etzion et al., 2017; Gehman et al., 2022; Porter et al., 2020). Additionally, we extend research on inter-organizational collaboration by demonstrating how focal organizations can align diverse interests to achieve collective and meaningful impact (Mair & Seelos, 2021; Stern & Barley, 1996). Finally, these findings offer practical guidance for policymakers, NGOs, and enterprises addressing systemic challenges, and contribute to a deeper understanding of how localized coordination mechanisms can scale up toward systemic change.

Acknowledgement

We acknowledge financial support under the National Recovery and Resilience Plan (NRRP), Mission 4, Component 2, Investment 1.1, Call for tender No. 104 published on 2.2.2022 by the Italian Ministry of University and Research (MUR), funded by the European Union – NextGenerationEU – Project Title 'Language in Entrepreneurial Ventures' – CUP D53D23008360006 – Grant Assignment Decree 967 adopted on 30/06/2023 by the Italian Ministry of University and Research (MUR).

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THE TRANSFORMATIVE POWER OF ENTREPRENEURSHIP: HOW TO EXPLOIT THIS POWER IN ENTREPRENEURSHIP EDUCATION AND TRAINING.

Doctoral Consortium Abstract

Giulia Scanu, University of Cagliari, Cagliari, Italy, giulia.scanu2@unica.it
Matteo Opizzi, University of Cagliari, Cagliari, Italy, matteo.opizzi@unica.it
Michela Loi, University of Cagliari, Cagliari, Italy, michela.loi@unica.it

Abstract

This research project investigates the transformative power of Entrepreneurship Education and Training (EE/T), focusing on how EE/T fosters transformative capacity, which in turn leads to emancipation, agency, and empowerment of individuals. As our systematic literature review demonstrated, EE/T could offer new life opportunities, especially for individuals who have faced economic and social marginalisation. This project intends to study an extreme sample of women who have experienced violence as survivors using a qualitative approach, specifically, semi-structured interviews. On the one hand, the primary aim is to assess whether entrepreneurship activates transformative capacity and promotes economic emancipation among women survivors of violence. On the other hand, the primary goal is to contribute to filling a gap in EE/T literature, namely, understanding how EE should be effectively structured to stimulate and develop transformative capacity.

Keywords: Entrepreneurship, Entrepreneurship Education, Entrepreneurship Training, Transformative Capacity, Emancipation

1 Introduction

This research project aims to explore the transformative power of Entrepreneurship Education and Training (EE/T), with a particular focus on how it may support disadvantaged and marginalised groups, fostering emancipation. Entrepreneurship is recognised as an economic activity, but also a driver of social transformation (Byrne, Shantz & Bullough, 2023; Calás, Smircich & Bourne, 2009; Dodd, Lage-Arias, Berglund, Jack, Hytti & Verduijn, 2022; Rindova, Barry & Ketchen Jr, 2009), able to fight the status quo (McMullen, Brownell & Adams, 2021).

Although people who attend EE/T may obtain benefits from it, there is a debate on how to structure EE/T in a way that develops transformative capacity (e.g., Dodd et al., 2022) – the ability to influence events and shape outcomes by aligning circumstances and others with an individual's goals (McMullen et al., 2021). Considering these issues, this study sets the following research questions: How can EE/T develop a specific transformative capacity to support the transformative process of women's violence survivors? Which EE/T elements most effectively promote transformative capacity? Answering them allows a better understanding of how to exploit EE/T in supporting the specificities faced by marginalised and disadvantaged people, considering an extreme sample of women survivors of violence in the analysis. In addition, employing EE/T as a powerful tool to raise people, this research will provide useful guidelines for researchers, practitioners, policymakers, educators, and other institutions involved in combating poverty, gender inequality, and other social issues. The research project is divided into three parts: a Systematic Literature Review (SLR); a national mapping of Italian Anti-violence Centres through a questionnaire to identify those implementing activities for women's economic emancipation; semi-structured interviews will be conducted with women survivors of violence who have engaged particularly in informal entrepreneurship.

2 Methodology

A SLR was conducted (e.g. Torraco, 2016; Tranfield, Denyer & Smart, 2003) following PRISMA guidelines (Page et al., 2021) to investigate how the EE/T supports transformative capacity (particularly, emancipation) in disadvantaged and marginalised groups.

3 Main Findings

The SRL shows that EE/T can foster the emancipation of marginalised and disadvantaged groups, particularly women (65% of the sample), highlighting the tendency of a transdisciplinary and tailored approach, supported by a long-term view. Assuming the emancipatory power – the act of setting free from the power of another (Rindova et al., 2009) – of EE/T, we expect this literature review to aim to develop a conceptual framework (Post, Sarala, Gatrell & Prescott, 2020) that involves defining a comprehensive view of the emancipatory power of EE/T. This may suggest which EE/T contents are suitable for emancipating, particularly those facing marginalised or disadvantaged situations.

4 Discussion

Our SRL found that effective EE/T programmes integrate economic, social, and socio-economic empowerment into EE/T components[1] through a transdisciplinary approach. Furthermore, in a tailored approach, cultural and contextual barriers can undermine the effectiveness of EE/T in emancipating disadvantaged and marginalised groups. Ultimately, this research project can provide researchers and practitioners with guidelines for designing effective EE/T programmes aimed at fostering the transformative capacity of marginalised and disadvantaged groups.

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[1] Specific skills and knowledge, technical and soft skills, gender-specific issues and entrepreneurial skills

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AI AS AN EXTERNAL ENABLER FOR WOMEN ENTREPRENEURSHIP: A SYSTEMATIC LITERATURE REVIEW

Doctoral Consortium Abstract

Authors

Alexia Ciroi, University of Udine, Udine, Italy, alexia.ciroi@uniud.it

Francesca Visintin, University of Udine, Udine, Italy, francesca.visintin@uniud.it

Daniel Pittino, Jönköping International Business School, Jönköping, Sweden, and University of Udine, Udine, Italy, daniel.pittino@ju.se

Entrepreneurship has traditionally been framed through a masculine lens, marginalizing women and hindering their entrepreneurial pursuits (Ahl, 2006; Gupta et al., 2009). This masculine-centric approach, coupled with structural barriers and systemic disparities, limits women's access to resources (Armuña et al., 2020; Avnimelech & Rechter, 2023; Eddleston et al., 2016) and perpetuates an androcentric entrepreneurial mentality, where hegemonic masculinity remains unacknowledged (Bruni et al., 2004; Goffee & Scase, 1983). However, the advent of digital technologies, particularly artificial intelligence (AI), has emerged as external enablers (EEs) with the potential to disrupt entrenched gender biases (e.g. Short and Short 2023; Sundermeier, Wessel, and Davidson 2018).

External enablers (EEs) are aggregate-level changes in the business environment that enable the creation of some new economic activities by several entrepreneurial agents (Davidsson, 2015; Davidsson et al., 2020; Kimjeon & Davidsson, 2022). AI as EE may create a potential paradigm shift in entrepreneurship, disrupting entrenched gender biases in venture creation processes (Davidsson, 2015; Davidsson & Sufyan, 2023; Nambisan, 2017; von Briel et al., 2018). AI's transformative potential extends to strategic decision-making and personalized content creation, fostering more fluid and dispersed entrepreneurial processes (Davidsson & Sufyan, 2023; Giuggioli & Pellegrini, 2023; Nambisan, 2017; Short & Short, 2023; von Briel et al., 2018).

Despite the ongoing transformations in entrepreneurship, research on this phenomenon remains fragmented. While emergent research has begun to explore the role of AI, there is still a lack of its conceptualization as an EE and its implications for diverse sociodemographic groups, including women entrepreneurs.

To fill this gap, our research will systematically assess the current state of the literature on AI as an EE, recognizing that, despite not always being explicitly acknowledged, AI frequently functions as an EE, particularly in the context of women entrepreneurs. Thus, we argue that AI may disrupt traditional entrepreneurial processes, offering new avenues for women. Hence, our research question is: *"What is the current state of research on AI as an external enabler for women in new venture creation processes, and what future research directions could further explore this phenomenon? "*

To answer the research question, there is a need to develop a systematic literature review to systematize existing knowledge about AI, EE, and women entrepreneurship according to the External Enablers Framework (EEF) (Davidsson et al., 2020). This approach will allow for a comprehensive assessment of external changes, which are often overlooked in traditional entrepreneurship studies, and assess their magnitude on women entrepreneurs.

Given the absence of standardized terminology across various forms of environmental change, we will adopt a principle-based search of the literature to consider also articles that embody the EE concept even without explicitly referencing it (e.g., Kimjeon & Davidsson, 2022).

The main objective of this literature review is to consolidate and integrate the previously riddeled literature, clarify the many different conceptualizations of AI as EE, and critically assess its relationship with women's entrepreneurship. Moreover, there is a need for identifying theoretical and methodological

gaps in prior studies, offering a structured research agenda to guide the advancement and systematic accumulation of theory on women's new venture creation.

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WHAT ROLE FOR ENTREPRENEURIAL OWNERSHIP? A SYSTEMATIC THEORIZATION OF THE KNOWLEDGE BASE

Doctoral Consortium Abstract

Luka Filipovic, University of Udine, Udine, Italy, luka.filipovic@uniud.it

Keywords: Entrepreneurship, Ownership, Firm, Systematic theory, Literature review

Despite its deep historical roots (Landström & Harirchi, 2018) and impetuous contemporary development (Davidsson, 2016), the entrepreneurship research domain keeps grappling with a long-standing difficulty in conceptualizing the distinction between (small) business ownership and entrepreneurship (Carland, Hoy, Boulton, & Carland, 1984). While recent theoretical proposals such as the so-called judgement-based approach (JBA) to entrepreneurship (Foss & Klein, 2005, 2012) helped clarifying the logical relationship between the two phenomena, I argue that even such advances employ an excessively narrow, economic view of ownership as a means to an end, i.e., as an effective tool for the management of capital heterogeneity. As ownership is an inherently contingent and vague concept (Praduroux, 2017), a more systematic and comprehensive theoretical perspective is needed to capture the connection between the two better. Thus, I build of the work of Foss and Klein (2005) to propose a theoretically robust partition of the phenomenic instances through which entrepreneurial ownership can be identified: socially emergent (Foss & Klein, 2005; Sorenson & Rogan, 2014), self-derived (Pierce, Kostova, & Dirks, 2001), and normative (Hodgson, 2015; Praduroux, 2017).

The proposed partition constitutes a compelling perspective through which ownership can be captured as a complex phenomenon in its own right, by offering a complete framing of the phenomenon by means of three separable dimensions. In turn, this can allow for a better appreciation of the relationship between self-derived, socially emergent, as well as normative ownership and the entrepreneur and entrepreneurial action. Thus, to flesh the framework out and simultaneously showcase its power, I researched how entrepreneurship studies have explored and theorized the O-E nexus in the last 25 years, i.e., following Shane and Venkataraman's (2000) seminal call to action. Following the systematic theory crafting approach (Ellwood, Grimshaw, & Pandza, 2017), I put forward that by collecting and integrating the relevant psychological, economic, and legal literature on entrepreneurial ownership produced by the community of entrepreneurship scholars, one may simultaneously highlight important research gaps and propose enticing avenues for further theoretical developments on the nexus between ownership and entrepreneurship.

On the descriptive level, the analysis of the final full-review sample of 60 contributions revealed a stable output of research theorizing the nexus between ownership and entrepreneurship, dispersed throughout a growing number of thematic nodes while also displaying intertwined core topics such as entrepreneurial choice (e.g., Boeker & Karichalil, 2002) and entrepreneurial governance (e.g., Grandori, 2024). This, complemented by the growing number of heterogeneous theories informing

research into entrepreneurial ownership, suggests two main conclusions: first, that the phenomenon is more and more recognized as transcending domains, and second, that a proper understanding of the same is likely to require a very eclectic approach (Audretsch, Kuratko, & Link, 2015). Beyond descriptive results, the review demonstrated the usefulness of the proposed conceptual framework in clarifying, reorganizing, and integrating previous research on entrepreneurial ownership, dispersed throughout different themes and theoretical traditions. In doing so, it highlighted the disproportionate focus on the economic facet of ownership at the expense of both the psychological and the legal ones, limiting extant insight into the nexus between ownership and entrepreneurship. At the same time, the framework revealed a unitary, phenomenon-based agenda capable of guiding future research into entrepreneurial ownership, both within and beyond the entrepreneurship research domain.

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UNDERSTANDING THE FORMATION AND EVOLUTION OF FAMILY BOUNDARY ORGANIZATIONS IN ENTREPRENEURIAL FAMILIES

Doctoral Consortium Abstract

Isotta Vazzoler, Università degli Studi G. D'Annunzio Chieti-Pescara , Pescara, Italy, isotta.vazzoler@phd.unich.it

Keywords: Family business, Family boundary organizations, Governance, Intergenerational continuity, Socioemotional wealth.

1 Introduction

Family businesses, with their distinctive focus on legacy, socioemotional wealth (SEW), and intergenerational continuity, are increasingly complemented by Family Boundary Organizations (FBOs) such as family offices, foundations, academies, and museums. These entities form an extended ecosystem that supports the long-term prosperity and values of entrepreneurial families beyond their core business operations. This research explores the formation and evolution of FBOs, aiming to understand how entrepreneurial families strategically establish and govern these organizations to balance financial and non-financial objectives across generations. Drawing on qualitative data from semi-structured interviews, the study investigates the roles, governance models, and intergenerational dynamics of FBOs, along with their impact on long-term business sustainability and family legacy.

2 Theoretical Background

The increasing relevance of family businesses has driven scholars to explore key aspects like success factors, succession, and governance over time. Family-owned businesses differ from non-family counterparts in management time horizons, decision-making processes, and the influence of family dynamics (Morris et al., 1997). While long-term perspectives and founding values can create a competitive advantage, internal organizational issues and succession challenges pose significant risks. Governance practices often involve intricate agreements to manage assets and maintain cohesion across generations (Jaffe & Lane, 2004).

Socioemotional wealth (SEW), encompassing non-financial benefits such as emotional attachment and family identity, plays a central role in family business dynamics (Berrone et al., 2012; Gomez-Mejia et al., 2007). Family-endowed resources like tacit knowledge also influence strategic directions (Sirmon & Hitt, 2003). The interplay of SEW and economic concerns profoundly affects decision-making (Martin & Gómez-Mejía, 2016).

3 Methodology

Due to the exploratory nature of the study, a qualitative methodology has been adopted, based on semi-structured interviews as the primary technique. This method is considered efficient for exploring an

emerging topic like FBOs since it allows for the extraction of valuable insights for a comprehensive understanding of the topic while also considering the various facets of each entrepreneurial family.

The interviews are structured to investigate multiple dimensions aligned with the research goals, resulting in an analysis of the factors influencing the establishment of various types of FBOs. The primary goal is to gather nuanced information from these examinations to advance the understanding of the establishment process of FBOs and their persistence over time.

The set of questions to be submitted in the interviews covers the following topics: Formation of Family Boundary Organizations; Roles and Functions; Governance and Management; Intergenerational Dynamics; Impact and Success Factors; Strategic Vision

4 (Preliminary) Findings and (Potential) Contributions

This research is still in its initial stages and will be developed carefully to provide significant contributions on both academic and practical levels. Although specific outcomes are not yet predictable, the research aims to enrich the available knowledge regarding FBOs, both in terms of financial impact and emotional influence. It intends to present a behavioural pattern that drives entrepreneurial families in the establishment of different types of institutions.

Furthermore, this study is intended to broaden the field of study to include the survival and success of FBOs across generations. While the prosperity of family businesses themselves is a usual topic of debate, the ecosystem that surrounds them, which is expected to play a crucial role in the future, has not been adequately explored. This research will contribute to fill that gap by examining how FBOs impact the long-term success and sustainability of family businesses, potentially offering a new perspective on family business strategy and governance.

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NETWORKS AND INNOVATION IN SEMIFORMAL ORGANIZATIONS

Doctoral Consortium Abstract

Camilla Mola, LUISS Guido Carli, Rome, Italy, cmola@luiss.it
Daniele Mascia, LUISS Guido Carli, Rome, Italy, dmascia@luiss.it

Keywords: Semiformal Organizations, innovation, brokerage role

1 Introduction

Today, there is an ongoing debate about which organizational forms best enable knowledge-based organizations to effectively respond to multiple demands in rapidly changing environments. On the one hand, organizations need to exploit learning economies and support the progressive specialization of knowledge. On the other hand, they must foster innovation through the integration of diverse know-how and expertise. The trade-off between multidisciplinary and specialization requires flexible structures.

2 Theoretical Background

Organizations have experimented with new models increasingly oriented toward flexibility, enabling highly specialized individuals to collaborate and integrate their skills through cross-functional units, teams, or by temporarily modifying their affiliation to departments, divisions, or other formally defined organizational units (e.g., Valentine & Edmondson, 2015). Other organizational design efforts have focused on the informal organization, seeking to influence the structure of employees' network relationships and social groupings that rely on identities not salient to their formal position or role in the organization (Krackhardt & Hanson, 1993; Srivastava, 2015). More recently, and with growing frequency, organizations tend to foster integration and collaboration through semiformal solutions that, differently from formal and informal memberships, rely on a set of "relations and memberships in organizational units that are afforded, but not mandated. Like relations within the formal organization, memberships and ties in the semiformal organization are work related and are explicitly supported by management. Like ties within the informal organization, roles in the semiformal organization are voluntarily chosen by the employee in addition to his regular job duties" (Biancani et al., 2015: 1307). The networks of formal and semiformal structure are not mutually exclusive, rather overlapping at times and are independent of the position that actors occupy in the network. The overlap enhances three possible configurations of formal and semiformal ties, that is: i) formal tie with no, or a limited, semiformal component; ii) semiformal tie with no, or a limited, formal component; iii) tie with significant formal and semiformal components (Srivastava, 2015).

3 Research gap addressed

Research has shown that semiformal organization provides a compelling channel through which employees' collaborations can be shaped in organizations. However, we still know little about how employees collaborate in semiformal structures. Even more importantly, we lack understanding of the conditions under which organizational members (i) tend to be collaborative, and (ii) become salient for innovation in semiformal structures. In this paper, we build on and contribute to the debate on semiformal organizations by showing how the daily interaction among organizational members involves what Mumford & Gustafson (1988) and Mumford et al. (2002) define as "creative work", that is, idea

generation and implementation in ill-defined and complex tasks. In addition, we examine how professional boundaries affect the sharing of information and resources among individuals and influence the generation of innovative and creative ideas within semiformal structures (Valentine & Edmondson, 2015; Ferlie et al., 2005). We seek to address the following research questions: What explains individual differences in contributions to innovation within semiformal organizational structures? How do specific network positions—particularly brokerage roles—relate to individuals' perceived involvement in innovative work practices? In what ways do professional boundaries and gender influence the relationship between network structure and innovation in semiformal contexts?

4 Expected contributions

Prior research on organizational structures has long examined how they influence collaboration and information sharing, often through the lens of the formal–informal dichotomy. Formal organizations are typically described as rigid systems, where tasks and authority are clearly defined along hierarchical lines. In contrast, informal structures are shaped by social relationships that operate outside of formal chains of command, with limited influence from top-down rules or managerial expectations. However, this binary perspective tends to overlook the role of semiformal structures—a middle ground where participation in work-related units or initiatives is encouraged but not mandated, existing in parallel with employees' formal roles (Biancani et al., 2014). Drawing on the frameworks of Biancani et al. (2014) and Gould and Fernandez (1989), this study seeks to advance the ongoing conversation on organizational design, network brokerage, and innovation. In particular, we explore how the intersection of professional boundaries, brokerage roles, and gender shapes innovative behaviour in knowledge intensive settings.

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PARTICIPATORY ASSESSMENT OF THE PRIVATE SECTOR FOR SUSTAINABLE DEVELOPMENT: INSIGHTS FROM THE CARBONSINK PROJECT

Doctoral Consortium Abstract

Flavia Marucci, Roma Tre University, Rome, Italy, flavia.marucci@uniroma3.it
Lucia Marchegiani, Roma Tre University, Rome, Italy, lucia.marchegiani@uniro

Abstract

For-profit organizations adopting sustainable business models are increasingly acknowledged as potential drivers of change in international cooperation. As global agendas emphasize (Fund, 2015; OECD, 2023), these actors can move beyond the role of mere financiers and act as participatory agents in co-creating value within development contexts. However, while the private sector's role in sustainable development is gaining recognition, empirical research on its transformative contributions remains limited (Gneiting & Mhlanga, 2021; Marchegiani et al., 2022; van der Waal & Thijssens, 2020).

This research addresses such a gap through the case of *Carbonsink*, a clean cooking initiative implemented in Mozambique and co-funded by the Italian Agency for Development Cooperation (AICS). The project aimed to promote improved cookstoves (ICS) in Maputo's poorest neighborhoods, with expected impacts across environmental, economic, and health dimensions: reducing deforestation and emissions, lowering household fuel expenses, and decreasing indoor air pollution—particularly affecting women and children.

The analysis adopts the **Theory of Change (ToC)** as a guiding framework. Widely used in development practice (Stein et al., 2012; Koleros et al., 2024), ToC provides a structured lens to articulate causal pathways, assumptions, and expected results, while allowing for context-sensitive strategies (Gunitsky, 2013; Valente, 2010). ToC is here complemented with **participatory impact assessment methods** (Guijt, 2014; Van Mierlo et al., 2010), which, rooted in stakeholder theory (Freeman, 1984), stress the inclusion of diverse and often marginalized voices in defining and evaluating outcomes. This integration facilitates a more democratic and adaptive evaluation, attentive to epistemic justice and value co-creation (Freeman, 1984; Freeman et al., 2007; Hörisch et al., 2014).

Methodologically, the study follows a **research-in-action approach** (Albano, 2012), which implies that the evaluation is not conceived as an external and detached exercise but as a process of co-construction with stakeholders. The strong involvement of diverse actors—donors, implementing partners, civil society organizations, and end users—ensured that the practical knowledge and lived experiences of participants complemented the methodological expertise of the research team.

The research process was structured in three main phases. The preparation phase focused on desk review of project documentation and literature on ICS informed the development of a ToC-based framework, structured around environmental, economic, and social impacts. During this preliminary phase, consultations with Carbonsink, AICS and AVSI supported researchers in better understanding the initiatives, while providing essential information for mapping the project 'stakeholders. Fieldwork research was conducted in Maputo (July–August 2024) including: a) 30 semi-structured interviews with key stakeholders; b) 422 structured surveys to users (adopting a quasi-experimental comparison between ICS adopters and non-adopters); c) 40 questionnaires to workers at the factories producing the Carbonsink's ICs; d) 3 focus groups with Carbonsink vendors/salespersons. Given the absence of a baseline, the integration of qualitative and quantitative data was fundamental to ensure comprehensive understanding. It allowed for both statistical rigor and contextual interpretation, ensuring that the evaluation captured not only the measurable outcomes but also the dynamic processes and stakeholder

experiences. This interplay is particularly vital in social and economic development research, where outcomes are shaped by a web of interconnected variables and stakeholder perspectives.

Preliminary findings reveal a complex landscape of intended and unintended outcomes, confirming the value of a broadened impact lens as proposed by OECD (2023). Participatory evaluation surfaced additional insights not captured in project monitoring data, and the dynamic exchange between researchers and stakeholders transformed the evaluation into a process of reciprocal learning, reinforcing the principles of participatory research and intervention (Albano, 2012).

This research contributes to both academic and policy debates by: (1) providing empirical evidence on the role of private-sector-led interventions in sustainable development; (2) demonstrating the added value of integrating ToC with participatory impact assessment to address complexity and inclusiveness; and (3) offering recommendations to AICS in designing and evaluating future calls for private-sector initiatives. Future work will extend the analysis to other for-profit projects, testing the transferability of this integrated approach and refining methodological tools for impact assessment in international cooperation.

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THE CIRCULATION OF KNOWLEDGE: HOW RETURNING INVENTORS FOSTER START-UP ECOSYSTEMS

Doctoral Consortium Abstract

Francesca Diodoro, University of Chieti-Pescara, Pescara, Italy,
francesca.diodoro@phd.unich.it

1 Introduction

International mobility is a growing phenomenon, driven by a variety of factors, such as the search for better economic conditions, political instability and the aspiration to access better professional and educational opportunities. Migration is often not an isolated event; individuals may move multiple times throughout their lives and, in some cases, choose to return to their home countries after a period abroad. These returnees bring with them a valuable wealth of experiences, skills and networks, which can represent a significant resource both for themselves and for the communities to which they return. Existing literature emphasizes that knowledge and innovation often emerge from the interaction of different realities, fostering knowledge transfer (Lane & Lubatkin, 1998) and the formation of entrepreneurial ecosystems in which participants exchange information and experiences to foster new entrepreneurial ventures (Elia et al., 2020; Nambisan, 2017). Knowledge spillover theory in entrepreneurship (Audretsch, 1995; Audretsch et al., 2015) provides a fundamental framework for understanding the link between knowledge flows and entrepreneurial activity (Acs, Z.J., Audretsch, D.B. & Lehmann, E.E., 2013). Furthermore, several scholars interested in network relationships have recognized the importance of knowledge in networks and its link to competitive success (Baum, Calabrese & Silverman, 2000). Another variable to consider is social capital and how it influences an organization's ability to acquire new knowledge from the network and facilitate its transfer among members (Andrew C. Inkpen and Eric W. K. Tsang, 2005). Several studies also highlight that networks enable the creation of linkages between origin and destination locations, favoring the emergence of extra-regional connections and entrepreneurial initiatives (Kerr, 2008). These connections promote innovation by introducing new ideas and broadening the local knowledge base (Miguélez & Moreno, 2013; Maré et al., 2014; Kerr, 2010; Nathan, 2015).

2 Research gap

Inventor mobility is a crucial factor for regional economic development, as it facilitates knowledge transfer and innovation. Although there is an established literature on the role of inventor mobility in fostering innovation through extra-regional networks and connections, how these dynamics translate into specific benefits for regions of origin remains little explored. Furthermore, previous studies have highlighted the role of social networks in facilitating knowledge acquisition and access to international business practices. However, an in-depth understanding of how these networks directly influence the creation of start-ups in entrepreneurs' home regions is lacking. This study aims to explore the role of transnational social networks in startup creation, providing a deeper understanding of how entrepreneurs' international experiences influence local economic development. The main objectives include analyzing knowledge transfer processes and assessing the economic impact of start-ups founded by entrepreneurs with international experiences.

3 Methodology

The study adopts a mixed methodology. Qualitative data will be collected through semi-structured interviews with 20 entrepreneurs from the Italian region of Abruzzo, which in 2025 had 212 innovative startups registered in the Business Registry. The entrepreneurs interviewed must have had international

experience before establishing their startup. These interviews aim to identify the role of mobility in shaping innovation, professional connections, and technological knowledge. Key aspects include motivations for returning and launching the startup, participation in associations and academic collaborations both abroad and in the home region, contacts maintained after returning home, and new knowledge acquired. Quantitative data will complement this analysis through a survey administered to a larger sample of startups in Abruzzo.

4 Expected results

Expected outcomes include identifying how knowledge transfer and transnational networks stimulate startup creation and regional innovation. The project aims to highlight the economic impact of entrepreneurial initiatives founded by individuals with international experience, offering policy recommendations for strengthening local ecosystems. By shedding light on knowledge circulation through inventor returns, this study contributes to a broader understanding of the link between mobility, innovation, and regional development.

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