

Entrepreneurial ecosystems and actor legitimacy

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Abstract

Purpose – This study contributes to a better understanding of the important actor-specific, micro-level legitimacy dimensions in dynamic entrepreneurial ecosystems (EEs).

Design/methodology/approach – Using an embedded case study approach and rich longitudinal data collected over 16 years within a French EE, the study analyzes the legitimacy gaining process of two actors coming from opposite founding conditions.

Findings – Three dimensions of legitimacy (3L) are necessary to be accepted as functional actors within EEs: institutional legitimacy (IL) refers to the EE's acceptance of an actor as an institution active in the field of entrepreneurship; cultural legitimacy (CL) means that the actor is recognized as possessing and promoting values considered appropriate by the entrepreneurial community; relational legitimacy (RL) relates to the willingness of the entrepreneurial community to interact with the actor. These are complementary dimensions that members of EEs need to possess to acquire full legitimacy. Different paths are possible to achieve this full legitimacy.

Research limitations/implications – Replicating the study with a comparative approach including more actors could represent an interesting avenue for research.

Practical implications – This research provides insights into the underlying dimensions of legitimacy in EEs, how various actors gain legitimacy in such contexts and how this influences the dynamics of EEs.

Originality/value – The results provide novel insights into the issue of legitimacy in EEs and legitimacy theory in general.

Keywords Legitimacy, Entrepreneurial ecosystem, Ecosystem members, Entrepreneurship

Paper type Research paper

Introduction

Entrepreneurial ecosystems (EEs) bring together various actors in a community with the overarching objective of generating high growth entrepreneurship (Brown and Mason, 2017; Isenberg, 2011; Wurth *et al.*, 2022). Any time actors want to be accepted members of a community, they need legitimacy (Schoon, 2022). Thus, an effective EE depends on the variety and number of legitimate actors. The EE concept has found strong echoes from both academics and practitioners alike, which has led to calls for more theoretically grounded analyses and evidence (Autio *et al.*, 2018; Kansheba and Wald, 2020; Stam, 2015; Wurth *et al.*, 2022). In addition, EE research is primarily located at the macro level and studying it in a holistic way (Cunningham *et al.*, 2019; Iacobucci and Perugini, 2021). Therefore, understanding the micro foundations of EE and the interdependencies between their actors has recently been identified as a promising research avenue (Audretsch *et al.*, 2021; Kansheba and Wald, 2020; Wurth *et al.*, 2022). To answer this call, we shed light on such



interdependencies by investigating how actors gain legitimacy in EE to become perceived as fully legitimate, and thus undisputed, members and contributors of their EE (Kuratko *et al.*, 2017; Thomas and Autio, 2014; Woolley and MacGregor, 2022).

As a community, an EE requires shared goals, relationships between actors (Adner and Kapoor, 2010; Brown and Mason, 2017; Sussan and Acs, 2017) and actors' legitimacy (Battilana *et al.*, 2009; Thomas and Autio, 2014; Woolley and MacGregor, 2022). Legitimacy can be understood as the community's perception that an actor's actions are acceptable and useful (Suchman, 1995). The capacity for an actor to interact with other members of the EE and fruitfully contribute to it depends on its acknowledged legitimacy within the ecosystem (Battilana *et al.*, 2009; Stam and Van de Ven, 2021; Sussan and Acs, 2017). While many actors may think that they potentially contribute to a given EE, their capacity to do so depends on their acceptance by other EE members as legitimate actors. As legitimacy is a necessary condition to be able to play in most socially constructed settings, studying legitimacy's antecedents, development and consequences could contribute to a better understanding of ecosystem dynamics (Deephouse and Suchman, 2008; Smith and Woods, 2015; Thomas and Autio, 2014; Wurth *et al.*, 2022). Our research aims to fill this gap by (1) unveiling the relevant dimensions of legitimacy in EE and their interrelationships, (2) exploring paths to legitimacy and (3) analyzing their implications for a variety of actors within EE.

Existing legitimization research in entrepreneurship has so far focused on new ventures (Kuratko *et al.*, 2017; Stringfellow *et al.*, 2013), thereby ignoring other key actors giving its full meaning to the EE concept: governments, agencies, universities, support structures, financing actors, just to name a few, are all important constituents of EE (Adams, 2021; Isenberg, 2011). They distinguish themselves by their missions with respect to the entrepreneurial performance of the territory (Kansheba and Wald, 2020). Among these actors, incubators offer support which encompasses providing legitimacy to start-ups facing liability of newness (Kuratko *et al.*, 2017; Scheidgen, 2021; Woolley and MacGregor, 2022). This is only possible if these incubators themselves are perceived as legitimate by their EE. We therefore chose to focus our study on such incubators.

From a theoretical standpoint, our research responds to recent calls for studying the micro foundations of interdependencies in EE (Audretsch *et al.*, 2021; Iacobucci and Perugini, 2021; Wurth *et al.*, 2022). Specifically, we do so by incorporating the concept of legitimacy into the study of EE and providing a better understanding of legitimization processes at the actors' level (Thomas and Autio, 2014). We identify three complementary dimensions – institutional, cultural and relational – of legitimacy within EE, which add to the understanding of the evolution of actors within EE and the roles and interactions between them (Brown and Mason, 2017; Stam and Van de Ven, 2021; Wurth *et al.*, 2022). We also inform existing legitimacy research, which generally relies on stable environments, by investigating such dynamics in an evolving EE context, where institutions and actors co-evolve in a social process (Adams, 2021; Johnson *et al.*, 2006; Scheidgen, 2021).

From a methodological standpoint, we exploit the richness of case studies (Henry and Foss, 2015) to answer the call for more empirical, longitudinal and process-oriented contributions at the micro level (Audretsch *et al.*, 2021; Autio *et al.*, 2014; Kansheba and Wald, 2020; Wurth *et al.*, 2022). Based on an abductive approach (Dubois and Gadde, 2014; Langley *et al.*, 2013), we rely on an embedded case study of two actors and analyze their legitimacy evolution over 16 years. We develop insights for gaining legitimacy in EE and show that the three subdimensions identified are complementary rather than substitutable: EE actors must possess all three to become unquestioned contributors (Meyer and Scott, 1983; Suchman, 1995). From a practitioner standpoint, the results of this study should be of interest to policymakers who seek to promote the emergence of EE in their regions, and to managers of member organizations of existing EE who might find guidance for ways to improve their impact on their entrepreneurial community.

In making these contributions, we start by presenting the theoretical foundations of our research regarding its EE and legitimacy anchoring.

Entrepreneurial ecosystem

EE are places where interactions and collective action occur. These interactions, which are essential for the development of entrepreneurial effort, evolve over time, thereby leading to changes in various actors' expectations (Audretsch *et al.*, 2021; Audretsch and Belitski, 2017; Spigel, 2017; Voelker, 2012; Wurth *et al.*, 2022).

The EE concept takes a systemic view of entrepreneurship (Cavallo *et al.*, 2019). It considers, on the one hand, the emergence of EE as driven by agency of entrepreneurs, and, on the other hand, the emergence of entrepreneurs as depending on the local infrastructure and supporting actors (Wurth *et al.*, 2022). An EE corresponds to a set of interconnected entrepreneurial actors (firms, financing actors, universities, etc.) and entrepreneurial processes (birth rate, entrepreneurial culture, etc.) that concur formally or informally to foster performance within a local entrepreneurial environment (Brown and Mason, 2017; Isenberg, 2011). In an EE, members are bound by a set of common goals and the need to share knowledge and co-evolve to achieve these goals (Nambisan and Baron, 2013). Ultimately, the intended output of an EE should be the improvement of entrepreneurship in the region, that is the discovery, pursuit and scale-up of entrepreneurial opportunities, independently from any given sector (Acs *et al.*, 2017; Autio *et al.*, 2018; Scaringella and Radziwon, 2018; Wurth *et al.*, 2022). The multiplicity of actors and their interrelationships make each EE unique, and impact their type and level of entrepreneurship (Scheidgen, 2021; Voelker, 2012). Furthermore, the EE, which is characterized by its spatial dimension, regulates the quality and direction of entrepreneurial innovations through the actors involved, the type of technology developed and the enhancement of an entrepreneurial mindset (Canovas-Saiz *et al.*, 2021; Kansheba and Wald, 2020; Stam and Van de Ven, 2021; Wurth *et al.*, 2022). Within each EE, self-organization also relies on entrepreneurial input and drives the overall structure (Acs *et al.*, 2017). Entrepreneurial actions within an EE are guided by the structure, which is shaped by the actions of entrepreneurial agents (Scheidgen, 2021).

Recent empirical research on EE suffers from two major shortcomings: analyses are primarily static and limited to the macro level. EEs represent "complex socioeconomic communities" (Sussan and Acs, 2017, p. 57) that evolve constantly (Adams, 2021; Audretsch *et al.*, 2021). For example, the history of the Silicon Valley (Adams, 2021) illustrates the evolution of actors and the transformation of interrelationships. Roles vary, and EE actors occupy different positions depending on the resources that they provide (Scheidgen, 2021). Still, the functioning of EE and the underlying dynamics of their evolution remain understudied in existing research that has therefore been described as too "static" (Cantner *et al.*, 2021; Cunningham *et al.*, 2019; Sussan and Acs, 2017). Another frequent criticism of work on EE is that it is based on a very global vision that attempts to categorize the presence or absence of actors into broad, cultural, social or material dimensions (Iacobucci and Perugini, 2021). This has therefore led to calls for more precise and individualized analyses regarding the micro foundations of EE (Audretsch *et al.*, 2021; Wurth *et al.*, 2022). Studying EE specific actors by considering their importance for and interrelationships with other actors (Canovas-Saiz *et al.*, 2021) should lead to a better understanding of EEs' constitutive dynamics (Sussan and Acs, 2017; Wurth *et al.*, 2022).

Furthermore, the EE draws attention on a community of values dependent on local conditions and ultimately leading to the establishment of functional networks. In this context, legitimacy represents a major element for understanding the respective contributions of the members (Adams, 2021; Woolley and MacGregor, 2022). For example, start-ups will seek from certain actors (notably incubators) the legitimacy that they do not yet have individually

(Woolley and MacGregor, 2022). The quest for legitimacy is important within EE in particular because of the multiplicity and heterogeneity of entrepreneurial actors (Kuratko *et al.*, 2017; Scheidgen, 2021). This legitimacy will be a determining element for governance and leadership within the EE (Colombo *et al.*, 2019; Stam and Van de Ven, 2021).

Legitimacy

Legitimacy is a multifaceted concept (Suchman, 1995) involving overlapping subcategories or micro legitimacies. It is built on a history of events and is related to the appreciation of evaluators. Moreover, once an actor is fully accepted, its legitimacy becomes resilient (Jepperson, 1991; Suchman, 1995). It is therefore important to understand the underpinnings of the evolution of actors' legitimacy over time.

In an emerging and developing EE, both the actors and the EE need to acquire legitimacy (Aldrich and Fiol, 1994; Stringfellow and Maclean, 2014; Woolley and MacGregor, 2022). Legitimacy refers to the community's generalized perception that the actions of an entity are appropriate (Deephouse and Suchman, 2008). Hence, the legitimacy of an actor is evaluated and granted by other actors representing the community or society (Bitektine, 2011), according to "socially constructed systems of norms, values, beliefs, and definitions" (Suchman, 1995, p. 574). Gaining legitimacy is a social process that neither starts on neutral ground nor is preliminarily granted (Johnson *et al.*, 2006), but ultimately distinguishes between appropriate and inappropriate actors in a social context (Tost, 2011). Due to liability of newness, any new actor entering a social context is questioned and evaluated (Stinchcombe, 1965). A positive evaluation enables an actor's actions to be considered appropriate, that is, consistent and useful within a social system of norms and rules. This includes compliance with laws, regulations or institutions in general, as well as the particular interests of specific communities of internal and external stakeholders (Kostova and Zaheer, 1999). It is intrinsically related to the governance of the EE, a topic that is still understudied (Colombo *et al.*, 2019). However, this status is relatively fragile and remains subject to observation (Bitektine and Haack, 2015). Only consistency over time leads to a status of a fully legitimate actor, that is possessing taken-for-granted legitimacy (Deephouse *et al.*, 2017). If an actor is debated, active disagreement arises within the social system: the actor's activities and values are challenged by stakeholders (Meyer and Scott, 1983). "Illegitimate reflects the assessment by the social system that the organization is inappropriate and should be radically reformed or cease to exist" (Deephouse *et al.*, 2017, p. 33). The pendulum of legitimacy thus runs from fully illegitimate, to debated, to appropriate and finally to fully legitimate, which may become persistent in the latter stage (Suchman, 1995). Legitimacy creates value relative to others in the EE (Deephouse and Suchman, 2008), and can provide actors with benefits by influencing other actors' choices in relation to them (Benjamin and Podolny, 1999; Deephouse and Suchman, 2008; Stringfellow and Maclean, 2014).

Combining the literature streams on EE and legitimacy, it becomes evident that without the legitimacy of a sufficient number of actors, EEs are ineffective. For new actors, legitimacy has been shown to be important in ensuring fruitful interactions with various stakeholders (Smith and Woods, 2015). To gain legitimacy, actors behave so as to comply with the expectations of a community or to change these expectations (Suddaby and Greenwood, 2005). Thus, the evolution of an EE depends not only on the evolution of the actors to foster entrepreneurship, but also on the mutual acceptance of its different actors (Adams, 2021). This means that each individual actor needs to gain legitimacy within its EE (Aldrich and Fiol, 1994). Hence, EEs are communities within which legitimacy is an enabling factor. It is therefore important to understand the constituents and influences of legitimacy in such contexts. Building on legitimacy definitions (Aldrich and Fiol, 1994; Suchman, 1995) and acknowledging the importance of interactions within EE (Brown and Mason, 2017; Kansheba

and Wald, 2020; Sussan and Acs, 2017; Wurth *et al.*, 2022), we propose that, in an EE, a fully legitimate actor is one perceived by other members as an undisputed member and contributor to the EE. Understanding the sources of legitimacy within EE fills a research gap as it constitutes a precondition for functioning EE.

To achieve this, we now first present our method and the context in which our study takes place, the Toulouse entrepreneurial ecosystem (TEE). We then turn to the analysis of two specific actors within the ecosystem – a pedagogical incubator launched by a business school (actor Alpha) and a regional incubator launched following a governmental call for project (actor Beta) – and analyze how legitimacy drivers influenced their evolutions.

Method and data

In EE, incubators play a special support role, which involves fostering connections between various actors, thereby acting as mediators (Canovas-Saiz *et al.*, 2021; Scheidgen, 2021; Theodoraki *et al.*, 2018). Thanks to this special facilitator role, they are considered as “structural elements” of EE (Autio *et al.*, 2018) and acting in a “node” position (Spigel, 2017). They occupy an essential position within EE and contribute to their coherence, which makes them critical actors to study at the micro level (Adams, 2021; Canovas-Saiz *et al.*, 2021; Cavallo *et al.*, 2019; Roundy *et al.*, 2017; Woolley and MacGregor, 2022).

The development of new actors within EE requires them to acquire legitimacy (Scheidgen, 2021). To respond to our “how” research question – “How does an actor gain legitimacy in an EE?” – the starting point of our research was theoretical sampling (Eisenhardt, 2021). We selected two cases, that we call Alpha and Beta. In expert interviews, they were identified as unquestioned actors of the EE, but both had initially struggled to become accepted members. While they had differing starting conditions, the overall process showed important commonalities. We place ourselves in a micro-analysis perspective (Wurth *et al.*, 2022), and analyze comparatively the legitimacy-building of two incubators embedded within the same EE but exhibiting opposite founding conditions. The two cases represent polar types (Eisenhardt, 1989, 2021): The first is a business school’s incubator which followed a bottom-up trajectory, with a series of entrepreneurial activities leading to its creation; the second is an incubator that was created top-down based on a government initiative.

Our research is longitudinal, abductive and theory-building, using systematic combining of data generated from an in-depth case study to generate new insights about legitimacy (Dubois and Gadde, 2002, 2014; Gehman *et al.*, 2017). This approach is abductive as we start from an achieved outcome (legitimacy) and investigate the process of causes that led to this effect. The choice of the longitudinal case study method responds to the need to understand in depth *how* legitimacy building unfolds over time (Henry and Foss, 2015; Langley *et al.*, 2013; Lipparini *et al.*, 2014; Yin, 2017). Given the complexity of EE, this appears to be an appropriate approach to contribute to the understanding of their underlying composition and functioning (Theodoraki *et al.*, 2018). The literature on EE – and entrepreneurship theory in general – has not reached down to the actors’ level to examine the interplay between actors and their ecosystem (Shepherd, 2015). Therefore, the current state of research does not allow for the development of formal hypotheses. Rather, the outcome of our research is the development of theoretical propositions (Eisenhardt, 1989). As mentioned, the starting point was the outcome of having gained legitimacy. We started by exploring the interview material, the field notes, archival data and other sources by ordering it into two categories: information that was related to (1) possessing or (2) lacking legitimacy. We then ordered the information chronologically. Building theory means “a set of constructs linked together in relationships that are supported by theoretical arguments (i.e. mechanisms) that seek to explain a focal phenomenon” (Eisenhardt, 2021, p. 148). In a second step, we therefore sought to label the information by going back and forth between our data and the literature. Three subcategories

of legitimacy emerged: institutional, cultural and relational legitimacy. Finally, we looked to understand what drove the outcome of these categories. We related these mechanisms (theoretical arguments) to the outcome (Eisenhardt, 2021) and represented it through structured tables.

Sources of data

The longitudinal case study approach calls for immersing oneself in the setting of the case and relying on a variety of data that may include interviews, observations but also archival data (Gehman *et al.*, 2017; Langley *et al.*, 2013). In our study, data for the two actors cover a time frame of 16 years to take into account the temporal dynamics and their different evolutions (Audretsch *et al.*, 2021). Among the authors of this paper, some held long-standing connections within the TEE that gave us privileged access to internal data and key informants at both Alpha and Beta, while another held a more remote position, thereby ensuring that the analysis would benefit from the reflexivity provided by a “balance between differing perspectives, combining intimacy with local settings and the potential for distancing” (Langley *et al.*, 2013, p. 6). Throughout the years, we exchanged regularly with actors of the ecosystem, which also informed the research and provided for a thorough understanding of the research context: venture capitalists, the regional business angel association, the Chamber of Commerce, the Innovation Agency, banks and entrepreneurs. These exchanges led to more than 100 field notes containing information about the activities of the respective actors, their evaluation of the EE and their evaluation of Alpha and Beta. This represented a unique opportunity for an in-depth analysis of the transformation drivers of key actors in an EE.

We used several sources of data to enable triangulation of the information collected and increase the validity of the findings (Baumard and Ibert, 2007). Specifically, we relied on official reports (COMUE, 2015; EY, 2003; Guillaume, 1998; IGAENR, 2001, 2014; MESR, 2007; Midi-Pyrénées, 2013, 2015; MRNT, 2004; UT1, 2015), archival information including press articles (close to 300 articles retrieved from the Europress database), public and internal actor-specific information such as MiPy (2013, 2015) or websites of over 100 actors, field notes and semi-structured interviews using a key informant approach (Miles and Huberman, 1984). Four key informants were identified (two at Alpha and two at Beta). These data were analyzed abductively, by submitting them to systematic combining with a legitimacy lens to uncover deep findings and enrich existing knowledge (Dubois and Gadde, 2002, 2014; Gehman *et al.*, 2017; Langley *et al.*, 2013). In line with the matching process required by systematic combining (Dubois and Gadde, 2002), informants were contacted for follow-up when needed. These sources are summarized in Table 1.

In terms of time coverage, 1999 was an important year for entrepreneurial innovation in France (Mustar and Wright, 2010), as the French government passed a law aimed at fostering the launch of innovative technology start-ups based on public research (MENESR, 1999). This resulted in the creation of new public incubators. We therefore chose this date as a starting point for our longitudinal analysis.

Case study

Context: Toulouse entrepreneurial ecosystem (TEE)

The city of Toulouse, in the southwest of France, has been one of the fastest-growing metropolitan areas in France since 2000, and is among the nine French areas that were given “French Tech” status in 2014, aimed at “placing France among the important startup nations” (French-Tech, 2015). It was ranked third among France’s largest cities (excluding Paris) favoring entrepreneurship (L’entreprise-L’expansion, 2016). The city is recognized as a major

Semi-structured and follow-up interviews with four key informants	<ul style="list-style-type: none"> - Alpha - <i>Alpha head of partnership development</i> - <i>Alpha entrepreneurship professor</i> (involved in entrepreneurship programs for two decades) - Beta: two out of the four successive directors that led Beta since its inception - <i>Beta director 1</i> - <i>Beta director 2</i>
<p>Official reports from the region, the Ministry of Education, the University of Toulouse</p> <p>Archival information: close to 300 articles published between 1998 and 2015</p> <p>Actor-specific information: individual websites, official presentations and internal information</p>	<p>10 reports published over 15 years</p> <p>Regional plans for entrepreneurship and innovation launched by the Midi-Pyrénées (now Occitanie) region (Midi-Pyrénées, 2013, 2015)</p> <p>Regional community of universities and establishments (COMUE, 2015)</p> <p>Preliminary and evaluation reports of the 1999 law incubators (EY, 2003; Guillaume, 1998; IGAENR, 2001, 2014; MESR, 2007; MRNT, 2004)</p> <p>Start-up guide published by the local university (UT1, 2015)</p> <p>Retrieved from the Europress database (keywords: “incubateur” and “Midi-Pyrénées”/ “Toulouse”)</p> <p>Websites of 136 actors within TEE</p> <p>Official presentations (MiPy, 2013, 2015)</p> <p>Internal reports (Alpha: students’ involvement and history of events)</p>
Regular exchanges with actors of the ecosystem: more than 100 field notes	<ul style="list-style-type: none"> Venture capitalists Regional Business Angel Association Chamber of Commerce Innovation Agency Banks Entrepreneurs

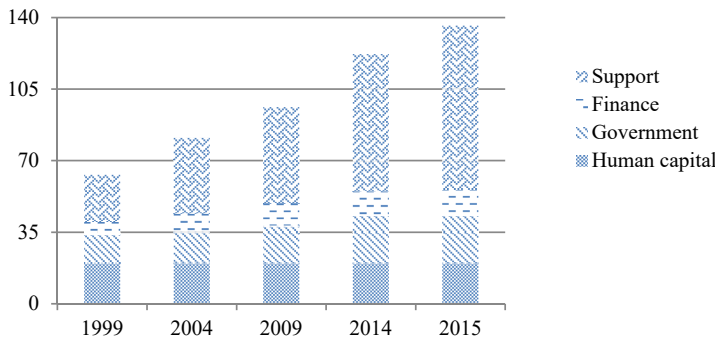
Table 1.
Sources of data for the case study

actor in the French EEs landscape and its EE a legitimate ecosystem. In terms of dynamics, based on the sources presented in [Table 1](#), we observe that the number of TEE actors in policy, finance, support and human capital ([Isenberg, 2011](#)) more than doubled between 1999 and 2015, with support showing the most impressive growth ([Figure 1](#)).

The evolution and expansion of the TEE was mirrored by some mutations among its constituent actors. To understand the legitimacy underpinnings of these mutations, we focused on two actors providing incubation support – an incubator launched by a business school (Alpha) and a regional incubator (Beta) – which, in a very short period, introduced major changes that affected their expected roles in the TEE. It emerged from interviews with experts and members of the EE that they were considered unquestioned actors of the EE. Therefore, we study the process of two actors that have gained legitimacy in an EE recognized as legitimate. In 2012, Alpha, an education institution, launched its own incubator, while in 2013 Beta, an incubator from the outset, redesigned its offer.

Presentation of Alpha and Beta

Alpha is a major French business school that was created in 1903. Entrepreneurship activities at Alpha can be traced back to the 1990s, with the inclusion in the flagship Master in Management (MiM) program of a final-year specialization in small business, later reframed on entrepreneurship. In the early 2000s, Alpha launched or was involved in several pedagogical or extracurricular entrepreneurship-related initiatives (courses, programs or competitions for example). Over these years, students launched entrepreneurial ventures that



Source(s): Authors' compilation based on sources listed in Table 1

Figure 1. Evolution of TEE (number of actors identified)

turned out to be success stories. Extra-curricular entrepreneurial activities developed within the school: the first start-up weekend in Toulouse (only the second in France) was held at the school in 2009, and an internal business plan competition was created in 2010, with prizes amounting to more than €20,000. As the students' entrepreneurial activities increased (start-ups, internships and employment with several members of the TEE), so did their demand for structured support. This led to the launch of the incubator in January 2012. This incubator was purposely designed as a pedagogical incubator targeting Alpha's students during their studies. Some alumni contributed to establishing the incubator service offer, either directly in the form of coaching, workshop animation, testimonies, or indirectly by leveraging their networks. Soon after its launch, Alpha established partnerships with other educational institutions from the TEE to enable their students to benefit from its support. So Alpha was active in entrepreneurship and recognized as such an actor. Ultimately, in 2018, the incubator was selected as the regional student incubator. It became the reference for student entrepreneurs of all the universities in the region.

Beta is a regional incubator that was created in the context of the 1999 law designed to stimulate innovative French start-ups (MENESR, 1999; Mustar and Wright, 2010). After some preliminary negotiations (IGAENR, 2001), Beta brought together local universities, other higher education institutions and public research organizations, representing an estimated 10,000 researchers. In addition to these institutions, national and regional representatives made up Beta's original governance of 35 members. From its inception, a local entrepreneur was named as president of Beta. Furthermore, while the government plan initially provided financing for three years, regional leaders decided to provide funding for an additional three years in order to give it a more solid base (Soulaïrol, 2000). This enabled Beta to provide some financing for its incubated projects in addition to advisory support. Despite these promising founding conditions, as actual operations started, difficulties appeared in the form of lackluster project sourcing. Confronted with this difficulty in attracting promising projects, Beta survived its first years thanks to the preexisting interpersonal relationships of its managers within the TEE. What could not be initiated at the institutional level took place at the individual level, with the personal networks of the incubator managers serving to channel interesting projects toward Beta. The "1999 Law" targeted exclusively entrepreneurial activities stemming from academic or public research. After a few years, Beta started to receive applications from projects outside its legal scope. Faced with limited applications that met the law's guidelines, many incubators started adopting a more generalist position, leading the government to adapt the eligibility criteria (MRNT, 2004). Part of Beta's financing came from the region, which gave it extra flexibility and enabled it to attract a broader range of projects, generating its own success stories. A new milestone was

reached in 2012. At the national level, the government announced the launch of “Technology Transfer Acceleration Companies,” with the objective of linking academic research and economic markets (SATT, 2015). In parallel, numerous support actors, incubators or accelerators, including Alpha’s incubator, were also emerging in the local EE (see Figure 1). This prompted Beta to rethink completely its offer and announce a new positioning, distancing itself from research-based projects (MiPy, 2013). A broader criterion of “innovative” projects replaced the initial research-based requirement. While endorsed by the state, Beta became a generally accepted actor in the EE by opening up and partially departing from its original mission.

Analysis: identifying the sources of Alpha’s and Beta’s legitimacy vis-à-vis the EE [1]

Prior to 2012, Alpha and Beta were both active in the TEE. However, their individual reactions reflected their perception of not being fully accepted and being questioned in their mission in this evolving ecosystem. The main characteristics of Alpha and Beta are presented in Table 2. In addition, their key milestones are summarized in Figure 2, together with important evolutions in the French entrepreneurial landscape.

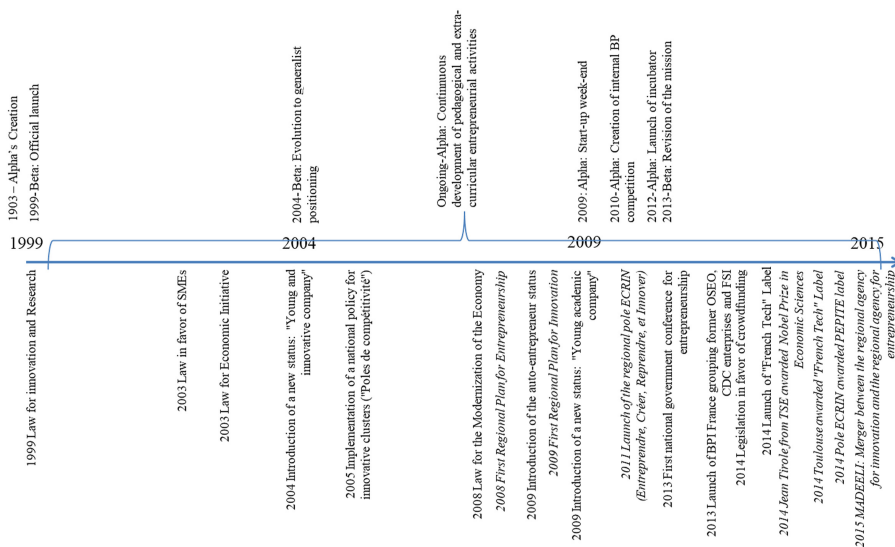
Alpha benefited from a long history and track record in business training, but this initially failed to translate into consistent entrepreneurial intentions among its students. In fact, an entrepreneurship professor at Alpha explained that it took years for entrepreneurial curricular content and activities to translate into students’ start-up intentions. Still, at some point, the attitude changed, with an increasing number of students interested in entrepreneurship rather than in working for large firms. Three years before the launch of the incubator, one student start-up had had a major exit and was acquired by a large corporation. This and similar role models boosted entrepreneurial intentions in the school.

Beta, on the other hand, was launched following a government call for projects: it was officially endorsed by the state as a public actor and was able to bring together a variety of stakeholders. However, while some of the founding members officially joined the incubator, they showed little involvement, limiting their relationships with Beta to board membership and official meetings.

For Alpha, the internal focus on a small community and student entrepreneurship had both disadvantages and advantages. On the one hand, the target population for the incubator was restricted to existing students. Hence, its potential depended on its capacity to stimulate entrepreneurial intentions throughout the institution, and the entrepreneurial reputation of the institution was critical to attracting and retaining entrepreneurial talent. On the other hand, being a small group facilitated the creation of a shared sense of community and enabled the transgenerational transfer of this culture by role models. Attribution played an important

Table 2.
Comparison of Alpha
and Beta’s
entrepreneurial
profiles

	Alpha	Beta
<i>Institution profile</i>	Academic	Research incubator
<i>Origins of incubator</i>	Bottom-up resulting from student demand	Top-down government initiative
<i>Focus audience</i>	Internal, student entrepreneurship	External, research-based entrepreneurship
<i>Community</i>	Limited to own students, internal	Large, external
<i>Entrepreneurship education</i>	Usually trained	Usually not trained
<i>Role of beneficiaries</i>	Clear roles: student during studies, entrepreneur by time of exit	Double role at entry and exit (researcher and entrepreneur)
<i>Connectedness with ecosystem</i>	Flow of people, teaching and research, personal contacts, institutional contacts	Institutional contacts, personal contacts



Source(s): Authors' compilation based on sources listed in Table 1

Figure 2. Key dates for Alpha and Beta

role as well: the institution could claim credibly that the incubatees, all its own students, were a real outcome of its incubator. Pedagogical incubation design also allowed for a clear exit: individuals are student-entrepreneurs while in the institution, and become alumni-entrepreneurs once they move out. This facilitated the transition to other accompanying institutions in the EE, which were then seen as complementary rather than competitive offers.

Before its incubator was launched, Alpha was already part of the ecosystem through flows of people who created connectedness, deal-flows and trust relationships with other actors in the TEE. Teaching, research, internship programs, graduate hiring and start-ups launched within the EE all provided opportunities to connect with other actors in the ecosystem before there was an effective need for resources related to start-up activities, while allowing the time necessary to build strong networks. We identify these flows of people as a very important determinants of the role academic institutions can play in their EE. In fact, this parallels, at the micro level, the downward causation identified at the macro level by [Stam and Van de Ven \(2021\)](#), which involves past activities feeding back into the system.

Beta, on the other hand, like any new institution and despite full-time dedicated professional staff, faced early legitimacy issues related to liability of newness ([Stinchcombe, 1965](#)). Its attachment to several stakeholders, rather than a specific one, and its disconnection from an entrepreneurial education offer, meant that the only way it could initially signal competences or connect to the EE was through the interpersonal contacts of its managers. The outflow of people was reduced to the start-up teams, and its impact on the EE related directly to the fate of these start-ups. Beta depended on a large community but could not directly influence its entrepreneurial intentions. In addition, the audience targeted by Beta's initial mission created another difficulty, as entrepreneurial intentions were low at the researcher level. Compared to Alpha, there was no flow of people to other actors of the EE. However, by 2012, a couple of start-ups from the incubator had received public attention by attracting venture capital investment.

Based on this comparison, we identify the following antecedent factors of legitimacy for Alpha prior to the launch of its own incubator: a long-established institution experienced in

entrepreneurship training; a founding member of a regional student entrepreneurship contest; and series of entrepreneurial success stories, student internships, student employment and student start-ups. For Beta, prior to its transformation, antecedent factors of the legitimacy were the composition of its founding members group, the interpersonal relationships of its managers with actors in the TEE and, over time, a series of success stories. In the case conclusions, we will highlight the elements that led both to become legitimate actors.

Case conclusions: legitimacy as a three-dimensional construct

Becoming a functional actor within an EE consists in a longitudinal process of consistent actions, as seen in the case of the two actors that undertook almost concomitant but different changes. One common point is that both Alpha and Beta faced *legitimacy* issues, which led them to evolve. Initially, neither actor was aware of such issues. They focused on fostering entrepreneurship but did not question their acceptance by the whole community. Only through deliberate confrontation with external parties did they become aware of such legitimacy challenges, which were of different nature. Some distinct particularities about what constitutes legitimacy in EE emerge from these two trajectories, especially concerning the different perceptions that actors hold about others within the EE. Legitimacy of an actor within an EE appears to be the outcome of distinct but related elements.

First, prior to 2012, Alpha was already breeding successful start-ups and increasing entrepreneurial intentions among its students, but this was not recognized by its external stakeholders (including the entrepreneurs' community): the long-standing tradition of a business school perceived as developing talent for large firms questioned its entrepreneurship mission. Conversely, Beta was recognized as a legitimate entrepreneurial institution but had difficulties attracting sufficient projects and establishing an entrepreneurial track record. As a consequence, its reason of existence was debated by stakeholders. Under uncertainty about appropriate actions, dedicated organizational structures might not be the response to institutionalized rules (Meyer and Rowan, 1977) but act as a substitute. Alpha was institutionalized entrepreneurially through the creation of a dedicated incubator, while Beta by a policy decision and public funding. The quotes presented in Table 3 highlight this *institutional legitimacy (IL)* dimension:

Second, within an EE, the belief system evolves continuously alongside its actors, which need to demonstrate their entrepreneurial competency through actions and outcomes. Prior to the launch of its incubator, Alpha's success stories signaled its educational competence, while for Beta, success stories developed over time were interpreted as incubator competence. This *cultural legitimacy (CL)* dimension is reflected in the quotes presented in Table 4. For Alpha, changes toward an entrepreneurial culture were already under way before the incubator started; the incubator, however, helped give it a visible structure and widen the cultural base. Beta was predominantly confronted with a lack of entrepreneurial culture among those partner actors that were supposed to "feed" the incubator. This shortfall also impacted the perception of its internal entrepreneurial culture.

Finally, from an evaluation perspective (Bitektine and Haack, 2015), in EE, an actor can be both evaluator and evaluatee. Connectivity with other actors, that is the ability to build relationships, is therefore important (Stam and Van de Ven, 2021). This differs from other settings where evaluators and evaluatees are usually distinct from each other (Bitektine and Haack, 2015), and where connectivity might lead to conflicts of interest and reducing legitimacy (for example, in the case of film directors and film critics). For instance, Alpha developed relationships with many actors in the EE through flows of people, while Beta, in its

Alpha head of partnership development: “When I joined Alpha in 2011, we came to the conclusion that our role was to prepare individuals for a variety of careers, including entrepreneurial ones. Programs offering “technical” entrepreneurial training existed, but only through courses. No structured startup support was offered to our students.”	Actions but lack of structure
Alpha entrepreneurship professor: “We had been operating entrepreneurship programs for our students for over 10 years and some successful startups had emerged from these programs. I remember a meeting with stakeholders of the business schools foundation. When I told, the president of the foundation, an owner-manager of a mid-size company with about 3,000 employees, that we were going to launch an incubator he replied: ‘Finally, this institution does something for entrepreneurship!’ Before that, we had not created a dedicated structure and for the stakeholders, it meant that we were not credible.”	Actions but lack of structure
Alpha head of partnership development: “Before launching the incubator, we met with members of the local entrepreneurial ecosystem, which were also considered as important stakeholders for Alpha. Overall, we discussed the project with over 20 actors. In that process and once we had the incubator, we joined the regional plan for entrepreneurship. This provided institutional legitimation for this new scheme.”	Actions but lack of structure
VC (field note) “I knew that Alpha had entrepreneurship activities, I went there to talk about venture capital. I also hired a student to work with us. Still, Alpha lacked dedicated structures.”	Actions but lack of structure
VC (field note) “Initially, we had difficulties to relate to Beta. There was the Region’s official, technology-based incubator, but it was a half-empty container”	Structure but lack of actions
Beta director 2: “Originally in the Midi-Pyrénées region, the call for projects under the 1999 law generated several applications emanating from different research structures. After a year of discussion, the incubator was established with four categories of partners: (1) universities and research institutes, (2) local authorities, (3) state, and (4) economic actors (including companies, banks). The region was a key partner. Some other partners who originally had their own individual project felt less committed to the new common application. They stayed in the project but in the background rather than getting really involved.”	Specialized actor but perceived as substitute
Introduction of the call for projects that led to Beta’s launch (translated from French): “The Ministry of National Education, Research and Technology and the Ministry of Economy, Finance and Industry wish to encourage the creation of innovative technology companies that can enhance the research potential of public laboratories. To this end, they are launching a call for projects to higher education institutions, research organizations, business support professionals and venture capitalists” (MENESR, 1999)	Specialized and endorsed actor

Table 3.
Illustrating institutional legitimacy

early days, relied on the interpersonal relationships of its managers. In addition, the original mission of Beta restricted options to develop relationships with new and more varied actors. Both approaches illustrate the importance of individuals in driving underlying EE dynamics (Audretsch *et al.*, 2021; Spigel, 2017; Sussan and Acs, 2017; Wurth *et al.*, 2022). This dimension, *relational legitimacy (RL)*, is illustrated in the quotes presented in Table 5.

The literature on EE identifies only one generic type of legitimacy concerning relationships between their members, distinguished by its degree of robustness (Thomas and Autio, 2014). However, full legitimacy is theoretically composed of subcategories which constitute its bases (Tost, 2011). We therefore adopt a more fine-grained perspective

<p>Alpha entrepreneurship professor: "In the 1990s, when we started our entrepreneurship teaching activities, more than 90% of our students wanted to work in large, possibly state-owned, firms. External stakeholders, mainly owners of SMEs, complained continuously about this attitude. The initial entrepreneurship tracks that we designed targeted SME management. Subsequently, the focus on startups increased and many entrepreneurship activities were developed. Over the years, more and more students considered starting their own firms. At some point in time, there was a tipping point."</p>	<p>From lack of culture to change of culture</p>
<p>Alpha head of partnership development: "While my job was about external relationships, I was also involved with different units and professors inside the business school. At the beginning, the incubator was seen as the initiative of one department, but more and more professors got involved. Entrepreneurship became an integral part of the school. The final turning point was when the school changed its official motto to 'Think & Create.'"</p>	<p>Expanding culture</p>
<p>Beta director 1: "Research institutes had varying degrees of technology transfer culture, ranging from very accustomed to it (and who played the role of incubator) to unused to it and/or favoring internal development rather than transfer. In the first years, the incubator's managers tried to undertake "entrepreneurial evangelization" of research labs, but this was not well received and so they stopped."</p>	<p>Lack of culture</p>
<p>Beta director 1: "At the time, the regional ecosystem was not ready and the deal-flow did not pick up immediately. Everybody was groping their way forward. The deal-flow from university research centers was problematic. Entrepreneurial culture was non-existent."</p>	<p>Lack of culture</p>
<p>Beta director 2: "Originally, the 1999 law sought to incite public researchers to start companies. In reality, not that many got launched. Most researchers who took leave of absence to work on projects went back to their labs afterwards."</p>	<p>Lack of culture</p>
<p>In 2014, a national report evaluating the 1999 cohort of incubators noted that for many, "the lack of voluntarism in the institutions on topics such as the consciousness-raising of academic personnel and laboratory-based detection did not generate the expected deal-flow", and "among the difficulties encountered, the most frequently quoted obstacle is reaching an intellectual property agreement with universities or public research organizations within delays compatible with business life" (IGAENR, 2014, p. 17)</p>	<p>Lack of culture</p>
<p>Business Angel (field note): "The incubator worked with university labs, while we worked with startups. It was not the same culture. They were government people. I thought they were another State agency run by technocrats. It took a while for us to understand what they were doing."</p>	<p>Complementary but lack of culture</p>
<p>Beta director 1: "The incubator had originally been started on the premise that research would lead to innovation and technology transfer to startups. Reality did not confirm this. Hence the objective was to modernize the incubator and focus much more explicitly on the entrepreneurial potential of the team. We thus put entrepreneurship first and technology second. Putting entrepreneurship first also meant not to be seen anymore as an extended arm of university labs. Even internally there had been voices that we should not be a technology transfer office."</p>	<p>From lack of culture to change of culture</p>
<p>Beta director 1: "In 2012, a radical change occurred in the value proposition of the incubator. It broke the institutional image that had remained associated with the 1999 law. The objective was to reach out to the projects that could not be identified via the historical institutional partners."</p>	<p>From lack of culture to change of culture</p>

Table 4.
Illustrating cultural
legitimacy

and identify three distinct subdimensions of legitimacy (3L) for actors within EE: institutional, cultural and relational legitimacy (Table 6). We now turn to the discussion of their details and implications.

<p>Alpha entrepreneurship professor: "I remember an example illustrating the importance of these flows of people from our entrepreneurship programs: when seeking growth financing for his venture, an alumnus hired as a financing advisor one of his former Master classmates, who had previously worked in a regional venture capital firm. After having talked to this classmate's former VC firm and to a local business angel network (a member of which had been their professor during their Master), they finally opted for financing via a local equity crowdfunding platform . . . in which another alumna worked."</p>	<p>Flow of people and multiplex relationships</p>
<p>Business Angel (field note): "Initially, I had been involved in teaching at Alpha. Then our network invested in some startups. I had also hired an intern from the school to run the operations of business angel network. When the incubator was launched, we wanted to be an official partner."</p>	<p>From multiplex relationships to integrated partner</p>
<p>Alpha head of partnership development: "During the preparation phase of this new incubator, the project team was clear about what it was meant to become. They designed a pedagogical incubator, dedicated to students, building on the existing recognition of the quality of our business programs. It was not meant to be targeting technology transfer, nor research labs."</p>	<p>Specialized and complementary actor</p>
<p>Beta director 2: "Research labs differed in their perceptions. A lot of interpersonal discussions were involved."</p>	<p>Interpersonal networking</p>
<p>Beta director 1: "In 2012, a radical change occurred in the value proposition of the incubator. It broke the institutional image that had remained associated with the 1999 law. The objective was to reach out to the projects that could not be identified via the historical institutional partners."</p>	<p>From a closed perspective to widening relational options; Increasing complementarity</p>
<p>Beta director 2: "In the early days, other local support actors were reluctant to cooperate with the new regional incubator. Some would have preferred to have their own structure. Others saw it as a potential competitor that would drain interesting projects away from them, and as a result, they tended to do "retention" of projects. Over time they understood what value we could add to their projects"</p>	<p>From a closed perspective to widening relational options; Increasing complementarity</p>
<p>Beta director 1: "When Alpha's incubator was launched, it was not taken too well internally at Beta. We saw them as a competitor. However, we then viewed them as complementary and opened up to develop genuine relationships. Now we have a good relationship with them, we attend each other's events, and some of their startups are hosted by us."</p>	<p>From a closed perspective to a complementarity perspective. Multiplex relationships</p>
<p>Business Angel (field note): "As long as Beta focused on, basically, technology transfer, our business angel network almost felt excluded. When they opened up and the variety of projects increased, it became more natural to relate to them and to get involved with science-based startups."</p>	<p>From a closed perspective to a complementarity perspective</p>
<p>Venture capitalist: "At some point in time, the incubator provided seed funds for its incubated projects. There were already entrepreneurs' associations, business angels, startup competitions providing seed funding, so this decision foreclosed potential relationships. Fortunately, after a few years, the incubator stopped this practice. Ironically, when the president of the incubator left, he became one of the founders of the first regional equity crowdfunding platform".</p>	<p>From a closed perspective to a complementarity perspective</p>

Table 5.
Illustrating relational legitimacy

	<i>Alpha</i> Before incubator's inception	After 2012 change	<i>Beta</i> At incubators' inception	After 2013 change
<i>Institutional legitimacy (IL)</i>	Academic legitimacy <i>but not entrepreneurial</i> - Among top 10 French business schools - Over a century of history - Member of the University of Toulouse community	Dedicated and visible support mechanism Recognized as breeding ground for student entrepreneurship	Founding members exhibiting varying degrees of acceptance Legal context	Reinforced by increased involvement of institutional partners
<i>Cultural legitimacy (CL)</i>	Entrepreneurial training Entrepreneurial success stories Research center for growth strategies and entrepreneurship	Reinforced by increase in the number of visible startups	Not preexistent	Visible success stories Openness to broader range of projects
<i>Relational legitimacy (RL)</i>	Fed by flows of people - Interns - New hires - Start-up teams Founding member of local entrepreneurial student contests	Reinforced by the presence of alumni in incumbent and new actors of the TEE	Only interpersonal	Increased embeddedness in TEE Complementary with other actors established and facilitating relationships

Table 6.
Evolution of Alpha and
Beta's legitimacy

Discussion, development of propositions and implications

Through our case study approach, we analyzed separately the legitimacy development of two polar cases (Eisenhardt, 1989, 2021) to seek out for commonalities despite their differences. While the two actors followed different paths and, even if events unfolded differently for each one, some elements emerging from the cases appeared identical. These commonalities lead us to consider legitimacy in EE as a concept standing on multiple bases, and we highlight that, ultimately, both actors rely on similar bases for legitimacy. We therefore propose that legitimacy within EE is a three-dimensional construct comprising IL (acceptance as an entrepreneurially active institution), CL (identification as possessing and promoting desirable values and outcomes for the entrepreneurial community) and RL (acceptance as an actor with which the entrepreneurial community wishes to interact and actually does). These three dimensions all convey notions of acceptance, desirability within a community (Suchman, 1995) and the potential to influence other actors' choices in relation to the actor (Benjamin and Podolny, 1999; Deephouse and Suchman, 2008).

Institutional legitimacy (IL) in EE

First, we define *institutional legitimacy* in EE as a community's acceptance of an actor as an institution active in the field of entrepreneurship. It requires some form of specialization and creates the conditions for visibility and accountability. It requires the creation of a specific object of legitimization that allows for (mainly) external evaluation (Schoon, 2022).

IL relates to the endorsement by close external stakeholders. In Beta's case, the state guaranteed IL. However, its focus on research labs almost made it look like a technology transfer office, and other actors in the EE were questioning whether this object or container of activities was about entrepreneurship. "Putting entrepreneurship first" changed this perception. While IL was granted from the beginning for Beta, it constituted a barrier of acceptance for Alpha. The launch of a dedicated organizational structure – the incubator – acted as a symbolic legitimizing tool (Meyer and Rowan, 1977; Woolley and MacGregor, 2022). In an EE, characterized as an open system with distributed competences among different actors, a dedicated structure creates symbolic anchoring, gives visibility and accountability and so creates a necessary precondition for acceptance by offering a distinct object for external evaluation. This anchoring appears to be particularly effective if, initially, some specialization helps in the positioning of the actor: in the case of Alpha, it was a *pedagogical* incubator; in the case of Beta, a *science-based* incubator. An all-purpose device would lack credibility: it would be neither a response to institutionalized rules (Meyer and Rowan, 1977) nor a proxy for absent expectations (Suchman, 1995). IL represents a form of external stakeholder legitimacy (Kostova and Zaheer, 1999).

Proposition 1. Institutional legitimacy (IL) in EE necessitates the creation of symbolic anchors through dedicated structures that act as objects for evaluation and enable active external stakeholders' engagement.

Cultural legitimacy (CL) in EE

We define *cultural legitimacy* as the community's acceptance of an actor as one that possesses and promotes values and outcomes which the entrepreneurial community considers desirable. This refers both to external evaluation and internal alignment.

Culture can be understood as "an interpretive framework through which individuals make sense of their own behavior, as well as the behavior of collectivities in their society" (Scott and Lane, 2000, p. 49). Furthermore, entrepreneurship may be seen as involving a "complex web of reciprocal interactions between culturally embedded actors closely connected" (Lindgren and Packendorff, 2009, p. 34). CL is about the creation of entrepreneurial intentions and outcomes. It is driven by internal stakeholders (Kostova and Zaheer, 1999) and is embedded in individual organizations (Lounsbury and Glynn, 2001). Internal activities, such as entrepreneurial events and internal role models, increase entrepreneurial intentions and lead to cultural change by influencing internal stakeholders.

In our case study, both actors faced issues with preexisting stereotypes while the belief system was under construction (Suddaby and Greenwood, 2005). Neither a business school nor a public actor appeared as the most appropriate actor for entrepreneurship in France. Over time, however, Alpha created an entrepreneurial momentum that had a direct influence on entrepreneurial intentions, using, for example, student contests or alumni testimonies illustrating success stories. Indeed, the potential of storytelling as the outcome of entrepreneurial events is especially powerful in the early stages of an actor's development (Lounsbury and Glynn, 2001).

Beta, on the other hand, had to rely on the attitudes of incoming projects. It had little influence on the diffusion of entrepreneurial values, competences and the intentions of individuals, as outreach programs were not part of its mission. The degree of technology transfer culture varied greatly among research labs, ranging from very accustomed to it (and who played the role of incubator) to unused to it and/or favoring internal development rather than transfer. Moreover, although it had been expected that research-based projects would lead to innovation and technology transfer into real start-up projects, this did not happen in reality. As a consequence, Beta had to evolve, modernize itself and seek teams with real entrepreneurial potential. Ultimately, Beta changed its selection policy by placing more emphasis on the team

and dedicating more pedagogical activities to foster venture team development. These changes were aimed at recruiting teams with stronger entrepreneurial intentions and to develop them further once projects and teams were selected. The recruitment changes also led to spillover effects on the other incubated teams, slowly moving the organization's culture from research-driven to entrepreneurship-driven. Both institutions widened their internal and external support bases by integrating more internal members (Alpha) or by widening the mission to be perceived as more entrepreneurial internally and externally (Beta).

Proposition 2. Cultural legitimacy (CL) is a function of internal stakeholder involvement to generate endogenously driven entrepreneurial intentions within the organization.

Relational legitimacy (RL) in EE

Finally, we define *relational legitimacy* in EE as an actor's acceptance as an institution with which the entrepreneurial community interacts. It creates opportunities for tie formation (Lechner and Dowling, 2003; Lechner *et al.*, 2006) and, by extension, social capital (Adams, 2021; Stam and Van de Ven, 2021).

Legitimacy relies on the aggregate validity of evaluators' judgments, that is, the degree to which different evaluators hold similar judgments (Bitektine and Haack, 2015). In EE, many actors are both evaluators and evaluatees, embedded in the same networks, and all contributing to the formation of the normative belief. While symbolic anchoring creates a precondition for being evaluated, an actor's degree of acceptance is a function of connectivity (Schoon, 2022). RL is a form of inter-actor legitimacy. We discovered from the cases that actors can play an active role in forming or changing the norms of evaluation (Suddaby and Greenwood, 2005) through the interaction mechanism.

In Beta's case, the dominant relationships with research labs restricted the options for new tie formation with those complementary actors that were critical in EE (business angels, VC, etc.). Moreover, these relationships were perceived by others as monofunctional, basically consisting in technology transfer. Thus, our study offers insights into how legitimacy-enhancing networks emerge. The strengthening of ties has an interaction component, usually related to frequency (Elfring and Hulsink, 2003), and a trust component moving from competence-based to interpersonal and ultimately interorganizational trust (McAllister, 1995). Limited and only institutionally based connectedness originally appeared as a liability for Beta. Early on, Beta faced cooperation reluctance, either because potential partners would have preferred to have their own structure, or because they perceived Beta as a potential competitor that would drain interesting projects away from them.

Contrarily, before its incubator was launched, Alpha, as an education institution, was part of the EE through flows of people with other actors in the TEE, which built competence-based trust and connectedness. These flows of people meant that students and alumni of Alpha had been working in organizations active in the EE or established relationships with these actors. These relationships acted as antecedents of effective relationships between the incubator and the other actors of the EE. While some early notions about knowledge-sharing practices in the automobile industry consider flows of people (Dyer and Nobeoka, 2000), this finding is absent from the EE literature. Network multiplexity refers to the situation when two actors are involved in different types of content flows or exchanges, that is, connect through different network ties (Ferriani *et al.*, 2013). The flow of people is not only about dyadic relationships but also about multiple relationships over time, so-called multiplex ties (Provan and Lemaire, 2012). The multiplex nature of the ties with their EE is a specificity of entrepreneurial actors. With the flows of people, we unveil a mechanism for creating tie multiplexity, a relatively unexplored area in network research (Ferriani *et al.*, 2013), which has a positive influence on the RL of actors in the EE.

Proposition 3. Relational legitimacy (RL) is facilitated by tie multiplexity with various actors in the EE.

Complementarity of the 3L dimensions: from appropriateness to full legitimacy

EEs are based on a community of specialized and complementary actors that enable network formation (Mack and Mayer, 2016; Stam and Van de Ven, 2021). We propose that to reach full legitimacy, actors within an EE need to acquire three dimensions (3L): institutional, cultural and relational. These are theoretically distinct bases that concurrently act on generalized legitimacy (Deephouse *et al.*, 2017). On an aggregated level, an increase in actors with legitimacy should favor the mutual awareness of collective value creation and of the actors' respective roles (Adner, 2012; Gulati *et al.*, 2012). In this sense, common goals, legitimacy and network evolution are interrelated for the development of EE. The 3L taken together at the actor level should lead to a series of reinforcing effects at the system level.

Institutional theory assumes that organizations become structurally more similar as the environment selects those actors which best fit it, or because of isomorphism, as actors copy legitimacy granting procedures and structures (DiMaggio and Powel, 1983). Considering the quest for 3L from this perspective, as EE are made up of socialized and complementary actors, we could advance theory about how it impacts both the actors and the overall ecosystem (Scheidgen, 2021; Spiegel, 2017; Wurth *et al.*, 2022). The concept of 3L implies that while actors' roles are defined, other elements, such as entrepreneurial culture, are not exclusive properties of the EE as a whole, but need to be present at each actor's level (Lounsbury and Glynn, 2001).

Fractal theory describes the phenomenon of smaller parts of a system being self-similar to the larger system (Mandelbrot, 1982): A famous example is Koch's snowflake (Edgar, 2008), in which the fractals of the snowflake are identical to the entire snowflake. This means that a complex system is based on an infinite replication of self-similar fractals, but also that fractals contain the same properties as the entire complex system (Briggs, 1992). This logic thus applies to individual actors and, on a higher level, to EE (Acs *et al.*, 2017). Actors contributing to and benefiting from an EE represent fractals of that ecosystem, that is, show property similarities with the overall system (Scheidgen, 2021). This means that the EE and its actors co-evolve and adapt, which at times requires the mutation of individual actors. Thus, we conceive EE as the sum of fractals of specific and complementary actors bound together by mutual awareness: the more entrepreneurial the culture and the more the actors are connected with each other, the more the actors resemble culturally and relationally the overall EE (Shanker, 2007), and the stronger the system will be. An increasing similarity of actors in terms of entrepreneurial culture and network partition (through actor transformation and adaptation) should enhance the effectiveness of the EE. Actors would then resemble each other in terms of shared culture, dedicated structure and minimum level of connectivity, the 3L granting them full legitimacy. On the other hand, in contrast with institutional theory, EE actors do not benefit fully from organizational isomorphism. Different actors reach the final state of the 3EL through different paths (Figure 3).

Moreover, each individual actor also has a self-interest in maximizing complementarity. Increasing complementarity means to adapt one's activity space to the activity space of others. It is made possible by increasing specialization. In Alpha's case, the deliberate choice of restricting the range of incoming projects to its students and recent alumni illustrates this specialization. On the one hand, Beta's original perimeter appeared to be overspecialized, thus limiting project sourcing and leading Beta to widen the eligibility criteria. In its early days, Beta also invested directly in its incubated projects, which was perceived as inappropriate by existing financing actors in the EE. At some

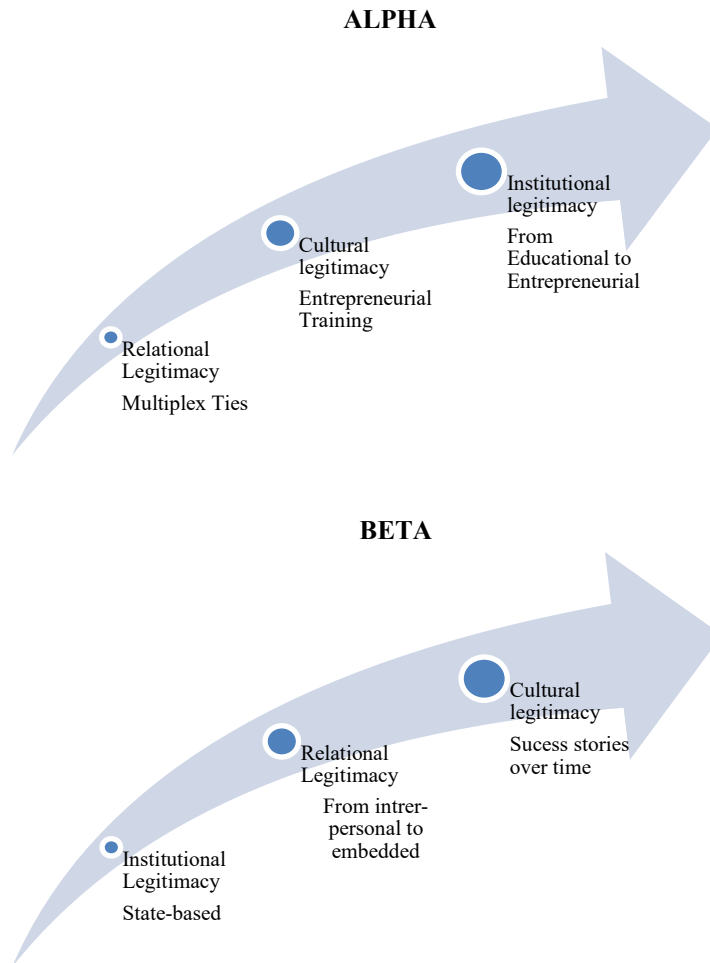


Figure 3.
Different paths leading
to full legitimacy

point, Beta adjusted its activity space by reducing its direct financial engagement, thereby becoming complementary and specialized. Complementarity and specialization make actors more unique and the EE more dependent on specific services offered by each legitimate actor (Scheidgen, 2021). Ultimately, each actor might be considered as non-substitutable within a social system (Aldrich and Fiol, 1994). Taken-for-granted is a matter of competition and of being considered the most appropriate actor compared to other alternatives (Suchman, 1995). Becoming an actor possessing 3L and being highly specialized and complementary appears to be a path for gaining full legitimacy. This proposition is novel, as acting in self-interest is usually not considered a potential source of generalized legitimacy. Moreover, the path to legitimacy implies, first, that actors achieve the different forms of legitimacy rather sequentially, and second, that different sequences exist depending on more or less favorable starting positions as evidenced by Alpha and Beta. For example, Alpha leveraged its preexisting relational and CL, while Beta originally relied on state-endorsed IL. Thus, members of an EE seek to obtain 3L and to increase

complementarity with other actors in the EE, as this potentially provides them with legitimacy and enables them to reach an undisputed status in the EE.

Proposition 4. Increasing specialization and complementarity of an actor with 3L increases the probability of reaching an undisputed status in the EE, and thereby contribute to the overall ecosystem's legitimacy.

Implications, limitations and future research

Through the above propositions, we provide novel insights into the issue of legitimacy in EE and legitimacy theory in general. Based on a comparative case study, we conducted a longitudinal analysis focused on important actors of EE (Audretsch *et al.*, 2021; Wurth *et al.*, 2022). The three dimensions – institutional, cultural and relational – that we identify as necessary for reaching full legitimacy in the dynamic context of evolving EE should also be of interest to legitimacy scholars. Our study thus builds a bridge between EE and legitimacy literature at the micro level which represents the foundations of functioning EE (Wurth *et al.*, 2022).

We apply the logic of multiple, theoretically distinct bases or subcategories of generalized legitimacy (Deephouse *et al.*, 2017) to EE. For literature on EE, we introduce legitimacy as a necessary condition to be gained for all actors involved. In addition, we extend legitimacy theory by introducing RL as an antecedent of full legitimacy. We believe that this dimension is particularly relevant in dynamic contexts (Mack and Mayer, 2016). Moreover, in dynamic environments such as EE, institutions develop in a co-evolutionary process, where legitimacy is somewhat negotiated by mutually adjusting actors' activity space (Adams, 2021; Woolley and MacGregor, 2022). This co-evolution of institutions and actors is novel for legitimacy research.

Future research could explore further the antecedents of all three dimensions. For example, the impact of public endorsement on IL could be investigated. Furthermore, the proposition about CL also has important implications, especially with regards to internal stakeholders. Thus, research analyzing the engagement of internal stakeholders in entrepreneurship activities over time and its impact on the perception of actors could be valuable. For RL, we proposed that flows of people might create bonds between actors. Studying such flows between organizations within an EE and their legitimacy impact might be a fruitful route of inquiry. Finally, longitudinal qualitative research on how changes in the mission of individual actors influence the ecosystems dynamics could also provide interesting investigation paths. For instance, statements of actors over time could be analyzed to understand co-evolutionary processes (Audretsch *et al.*, 2021). Ultimately, this study and the research paths presented above could also stimulate further research to investigate the role of the 3L in successful policy implementation.

For the practical implications, actors need to be aware that “simply” doing the appropriate does not mean that they will be considered legitimate by other EE members. From a policy standpoint, our study suggests that incubators are not a solution *per se* for fostering entrepreneurial regions, but a (symbolic) necessity in entrepreneurial regions. It can take years before incubators contribute visibly to their EE (Isenberg, 2011). Developing an EE requires patience. The entrepreneurial culture is not exogenous to an EE: it is the result of individual actors acquiring legitimacy in a continuous process of mutual acceptance (Adams, 2021).

The implications of our study and propositions need to be seen within certain limitations. Case studies allow theoretical knowledge to be extended but not tested. Our analysis was limited to investigating a single embedded case study, with the EE as the setting for the overall case study, and two actors in this ecosystem as embedded subunits. While holding the context constant allowed for comparison between two contrasting logics, replicating the

study with a comparative case study approach and a larger number of actors could represent an interesting avenue for future research. Finally, the latest development of the health crisis and the restrictive measures related to COVID-19 have favored the development of digital EE gathering together entrepreneurs offering digital products and services, and actors distant from each other, with a view to innovation and collaboration (Sussan and Acs, 2017). Through the use of digital technology, relationships with more distant actors will be facilitated (Autio *et al.*, 2018; Nambisan, 2017). Our approach to the EE and the three highlighted legitimacies could be mobilized in digital entrepreneurial environments. An extension of this research could therefore observe their unfolding in a more digital context in order to determine their specificity.

Conclusion

In this longitudinal research, we investigate the formation of legitimacy in EE, that is an EE's perception of an actor as an undisputed member and contributor. We identify three complementary dimensions – institutional, cultural and relational – for full legitimacy to be reached. Our study contributes to understanding the development of EE by showing that all three influence the emergence of functional actors and consequently the legitimacy of the EE itself. It also informs legitimacy research for dynamic environments.

Notes

1. As evidenced in Table 1, the data collected are largely based on interviews, field notes and official reports and presentations, and triangulated with official media sources.

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