



Consumer–brand relationship in the phygital age: a study of luxury fashion

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Abstract

This study focuses on hybrid consumption experiences that originate from encounters between the physical and the digital realms. The aim is to analyze brand-driven phygital environments to uncover the relationship between consumers and brands that is established within hybrid consumption spaces. Given its exploratory nature, the study adopts a mixed-methods qualitative type of research design; it includes a multiple-case analysis, a diary-based survey, and a focus group, and it concentrates on five phygital projects of four Italian luxury fashion brands. The analysis reveals nine relevant building blocks of phygital brand environments (PBEs) that pertain to the direction of experience, the environmental features, and customers' reactions. Moreover, the study provides an early interpretative framework regarding the effects that these constituents of PBEs exert on the consumer-brand relationship (CBR). The work uncovers relevant managerial implications highlighting brand-driven phygital spaces as strategic tools for luxury fashion companies to provide consumers with additional relational value that is generated through encounters between physical stores, digital technology, humans and brands.

Keywords Phygital · Hybrid consumption · Branding · Consumer identity · Fashion luxury · Consumer-brand connection

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1 Introduction

The evolution of digitization and the ongoing promotion of information and communication technologies in various domains, spanning from production processes to social and market relations (Dornberger et al., 2018), have prompted the fashion industry to harness digital technologies to add value to their offerings and brands. For instance, many companies have conducted experiments in the virtual world related to the design of virtual collections and the implementation of digital social selling features (Chung et al., 2020). Industry 4.0-enabling technologies, such as artificial intelligence (AI), the Internet of Things (IoT), augmented reality, mixed reality, and 3D, have also provided companies with an array of digital tools to create a convergence between the physical and the digital by designing new hybrid environments where mechanical and informational components are integrated in physical spaces (Kagermann et al., 2013). These new contexts of consumer experience, referred to as “phygital,” allow a synthesis of the best of both physical and virtual experiences (Zurlo et al., 2018). The relevance of the phygital phenomenon in consumer markets is evinced by businesses’ increasing investments in hybrid consumer technologies, which are expected to reach USD 17.6 billion by 2024. It is also demonstrated by the global growth of online searches associated with the query “phygital,” which surpassed 160% during the lockdown related to the Covid-19 emergency (March–May 2020), when consumers projected most of their leisure and shopping activities online (Sheth, 2020). In contrast to the several benefits that digital technologies have conferred in relation to the company–consumer relationship, their expansion has also generated challenges, as they have profoundly transformed how people converse, collaborate, consume, and co-create value with businesses (Aral et al., 2013). Online spaces have increased the difficulty with which firms distinguish their brands in an increasingly crowded competitive arena, attract consumers’ attention, and guarantee loyalty (Japutra et al., 2018). Furthermore, especially in the luxury business, research appears to concentrate on users’ experiences in relation to websites (Kusumasondjaja, 2020), focusing on the digital aspects of the interface but overlooking the potential synergies arising from combining physical and digital elements that might enhance customers’ engagement and involvement with brands. Luxury fashion companies are conducting several experiments with hybrid settings that involve integrating physical experiences with the virtual dimension (e.g., virtual fashion shows, virtual stores, virtual fitting rooms, and try-on apps), thereby creating brand-driven phygital environments. These environments are hybrid spaces built around the convergence of the physical and the digital realms and pertaining to shopping and consumption activities (Pangarkar et al., 2022). They are designed to host companies’ activities and interactions with their customers. Brand-driven phygital environments generate exchanges that create memorable experiences, convey brand narratives, and guide consumer buying behavior (Hyun et al., 2022). Hence, they provide an opportunity for companies to express their values through both physical and digital touchpoints, which allow people to immersively interact with brands (Alexander & Kent, 2022).

Despite brands’ numerous experiments with phygital environments, the marketing literature on these settings is still limited. Further research is needed to understand how effective they are in marketing strategies (Klaus, 2021) and how companies can

leverage the integration of the physical and the digital realms to strengthen their connections with consumers (Banik, 2021). Given this gap in the literature, this study aims to deepen our knowledge of phygital brand environments (PBEs). In particular, the analysis seeks to determine the building blocks of PBEs and understand how they frame the consumer-brand relationship. The study carries theoretical implications and managerial recommendations can guide businesses, especially luxury ones, in designing and implementing brand-driven phygital settings.

2 Literature background

2.1 Phygital brand environments

The term “phygital” is a combination of the words “physical” and “digital.” It was coined in 2007 by the Australian experience design agency Momentum to describe the ability to create strong connections between the physical and the digital worlds (Vergine et al., 2019). In the literature, early definitions of the term refer to a hybrid environment characterized by the interaction of three components: the natural integration of digital technology in physical spaces, humans’ natural exchanges with this technology, and the technology’s awareness of the space (Gaggioli, 2017). In phygital settings, therefore, digital technology enters the physical space by enriching it with computational intelligence, which is embedded in objects that can interact with individuals and the environment. The technology gathers information and adapts its performance to the space, thus driving the creation of new and highly interactive user experiences (Zurlo et al., 2018). Recently, Batat (2022) defined the term “phygital” as implying a holistic ecosystem made up of humans, technology, digital platforms, and content, which “offer unique and compelling customer experiences that should guarantee a coherent continuum in the delivery process of consumer value (intrinsic/extrinsic) provided from digital to physical and vice versa.” This emphasizes the importance of the continuum between physical and virtual experiences, which is a constitutive feature of phygital spaces (Lawry, 2022). Individuals can experience phygital settings in many contexts in their daily routines and they have been previously studied in banking (Santosh, 2019), the gaming sector (Heljakka & Ihamäki, 2020), organizational studies (Vergine et al., 2019), the heritage sector (Andrade & Dias, 2020; Nofal et al., 2017), tourism (Ballina et al., 2019), and with regard to experience design (Turco and Torino, 2019; Zurlo et al., 2018). Instead, a PBE is a setting where an individual relates to products or companies. Therefore, PBEs pertain to the domains of consumption and purchase; they are hybrid spaces designed to host brands’ activities and interactions with consumers (Pangarkar et al., 2022). In the marketing literature, an important research stream links PBEs with the retail space and the omnichannel experience (Banik & Gao, 2023; Batat, 2019, 2022; Iannilli & Spagnoli, 2021; Lawry, 2022; Mishra et al., 2021; Pangarkar et al., 2022). In this context, PBEs are seen as “hybrid shopping environments” in which physical elements (e.g., sales assistants and products) and digital devices (e.g., smartphones and screens) are combined in a digitally connected spatial continuum (Batat, 2019; Belghiti et al., 2017). PBEs have been shown to be able to enhance individuals’ lived

experiences through ambience features that create immersive and emotionally relevant environments aimed at increasing the connection with consumers (Iannilli & Spagnoli, 2021; Lawry, 2022). They can also stimulate customers' mental images and the entertainment and aesthetic dimensions of experience, thereby leaving positive memories in the minds of users (Banik and Gao, 2023). Moreover, in PBEs, the human presence is considered an element that acts to support the consumer experience (Belghiti et al., 2017) and drives engagement and socialization (Pangarkar et al., 2022). In the luxury sector, phygital spaces increase the level of intimacy and escapism experienced by consumers (Lawry, 2022). Although the literature has examined PBEs, existing studies are incomplete and capture only a few aspects of such spaces, or they connect them to retail settings and omnichannel experiences. There is a lack of analysis that specifically address PBEs and their fundamental components, particularly in luxury fashion (Pangarkar et al., 2022). Moreover, although recent studies have acknowledged the ability of phygital settings to intensify the emotional, behavioral, and social meanings of the consumer experience (Banik & Gao, 2023; Iannilli & Spagnoli, 2021; Lawry, 2022; Mele et al., 2021); drive brand engagement (Banik, 2021; Pangarkar et al., 2022), brand patronage (Banik, 2021) and foster consumer loyalty (Hyun et al., 2022; Mishra et al., 2021); still, the dynamics of the relationship between consumers and brands created via PBEs remain underexplored.

2.2 Consumer–brand relationship

The connection between a company and its customers (Smit et al., 2007) has been studied by examining several elements that can either enhance or hinder competitiveness (Fournier et al., 2012). Research has demonstrated that a positive consumer–brand relationship (CBR) facilitates higher sales for the business, lower price susceptibility on the part of the consumers, superior loyalty, and, eventually, higher profits (Chang & Chieng, 2006). In contrast, a negative CBR is often characterized by unfavorable consumer emotions, such as hate, anger, and disappointment, which can lead to taking action against the brand (e.g., formal complaints and undesirable word of mouth); this can damage the company's image (Khatoon & Rehman, 2021). Therefore, building a positive CBR is of great importance for businesses to achieve a marketing advantage over their competitors. However, despite large investments in tailoring systems to enhance the CBR, companies still need to identify the key elements of this relationship and their interactions to manage customer relations (Avery et al., 2014).

Before the internet era, the CBR was built by exploiting customary physical channels (e.g., stores), traditional advertising tools (television, radio, magazines, etc.), and other means of interaction, including call centers, live events, fairs, and so on (Aquilani & Nosi, 2017). The advent of digitization has provided a plethora of new outlets to enable the CBR (Bartoli et al., 2022). Recent studies have emphasized the relevance of building this relationship in phygital environments (e.g., Banik and Gao, 2023; Hyun et al., 2022); they have also noted that there are still several aspects that need to be investigated.

Digital technologies have led to multiple advantages in terms of the CBR. However, they have also created numerous challenges by radically altering how individu-

als communicate, cooperate, consume, and cocreate value with organizations (Aral et al., 2013). The internet has made it more difficult for firms to highlight their brands, attract consumers' attention, and ensure loyalty in an extremely crowded and competitive market (Japutra et al., 2018). As brand meaning is cocreated in the CBR, brand management and communication are no longer handled only internally; this calls for a deep revision of how companies are managed (Almubarak et al., 2018). At present, one of the most thought-provoking challenges linked to the relations that can be built with customers is the identification of those elements and dynamics able to shape the CBR, which might end up being positive or negative (Alvarez et al., 2023).

With regard to luxury brands, the scholars that have investigated companies' online efforts to craft the CBR have mainly focused on the aesthetic perception of websites, thus neglecting the other elements that could enhance the consumer experience (Kusumasondjaja, 2020) and that could be augmented by the combination of physical and digital cues. This is why further research is necessary, especially in the luxury sector (Hyun et al., 2022).

3 Research design and methodology

Given that the topic of inquiry is still under-investigated, the present analysis adopts an explorative approach to the research. This study focuses on four Italian luxury brands (Fendi, Ferragamo, Gucci, and Prada) due to the relevance of these brands and their country of origin (Italy) in the worldwide luxury business. In fact, Italy ranks as the fourth largest luxury goods market in the world (Statista, 2021), and 26 out of the 100 luxury companies on the "Global Power of Luxury Goods" list are Italian (Deloitte, 2021). While this study acknowledges that the owning company of the selected brands is a foreign corporation on some occasions, the selection of the cases has been done considering that these brands are perceived as being among the most representative within the Italian fashion business (Brandixit, 2019).

In accordance with the exploratory research context in which the present study is situated, the analysis adopts a mixed-methods qualitative type of research design, and it aims to explore the variety and the contingency of the investigated phenomenon (Silverman, 2020). The investigation incorporates the following methodologies:

1. *Multiple-case analysis* (Eisenhardt, 1989; Harris & Sutton, 1986). Such methodological choice is consistent with the research aim of allowing the replicability of the results and generating theories regarding the constant elements in the relationship between the brand and the consumer self that emerge from the analysis of the considered phygital cases (Eisenhardt, 1989; Yin, 2013). Cases were selected based on two phygital-related variables: (a) the simultaneous usage of multiple digital technologies (e.g., apps, web, social media, mixed reality, virtual reality, and augmented reality); (b) the existence of a link between the physical and virtual dimensions through interfaces. The method employed for the case selection is consistent with that adopted regarding phygital events (Piccioni et al., 2021). In particular, cases were selected among those involving the usage of technologies that are deemed capable of merging the digital and the physical

in accordance with Nofal et al. (2017), and Vergine et al. (2019) (3D and AR),; cases were selected from those exhibiting the characteristics of “virtual and augmented reality experiences” according to the categorization developed by Bataat (2019), which regards as phygital the experiences of integrating the real into the digital, such as those that have been analyzed in the present study. Overall, five PBEs were selected: Gucci Garden Virtual Tour (Gucci), Gucci Try On (Gucci), Tramezza Made to Order (Salvatore Ferragamo), Prada VR (Prada), and Fendi Virtual Store (Fendi). In addition to the analysis of the platforms, an examination of secondary source data (website, online press, social media) was used for triangulation (Patton, 1999). The research was conducted in Italy, and data were extracted from October 2021 to January 2022 from the Google Search browser, through the incognito search mode to erase the prior browsing history, which could affect the research results (Nosi et al., 2019). Table 1 illustrates the characteristics of the investigated platforms and the analyzed sources.

To gather data related to the customers’ experiences in two subsequent moments, two different investigation techniques were used: the diary method for momentary assessment and the focus group method for retrospective assessment (Table 2).

2. *Diary method* (Filep et al., 2017). This methodology was chosen because it is increasingly employed to investigate how people use products and services, and it is considered effective in understanding digital users’ experiences (Goodman & Kuniavsky, 2012). A purposive sample of eight individuals, aged 24 to 36 and possessing an education background in the management and marketing fields, were recruited to partake in the diary-based survey and to report their behavior, thoughts, perceptions, and emotions while undergoing experiences with the selected five PBEs (momentary assessment). As we are aware that the purposive sampling method (though legitimate in qualitative research) (Suri, 2011) could induce possible biases, we also acknowledge that it cannot be disregarded that the adoption of convenience or purposive (non-probability) samples is quite customary in marketing research, as well as in behavioral and social science investigations (Nosi et al., 2014).

Before undergoing the experience, the participants in the investigation underwent a training session in which they were told to spend at least 15 min on each platform and were given instructions regarding how to collect data on the pre-arranged digital file. In addition to the names of the apps and the platforms, as well as the instructions regarding how to achieve the experience, the file provided three main sections to be filled in: evaluation of the environmental characteristics of the app or platform; feelings that emerged while undergoing the experience; and relationship with the brand and possible changes that occurred during the visit. After having the experience, without wearing augmented-reality-enabling devices, the participants sent the completed diaries to the study’s authors, who content-analyzed them. As hinted above, in accordance with the literature (Koopman-Boyd & Richardson, 2013), the diaries have been mainly used to indicate possible topics to be discussed during the subsequent focus group.

3. *Online focus group* (Stewart & Shamdasani, 2017). To gather further information possibly emerging from interactions among individuals, the participants in

Table 1 Phygital space. Definitions and constituent elements

Authors	Year	Definition	Constituents of Phygital Space
Gaggioli	2017	Digitally enriched environments that blur the distinction between the “real” and the “simulated.” In these hybrid phygital ecosystems, objects, tools, and even bodies can be turned into “programmable interfaces,” creating totally novel ways of experiencing space.	Human factor. Technology embedded in space and aware of space. Natural interaction between people and technology.
Nofal et al.	2017	The translation of a brand’s digital presence into the real world in a way in which a digital stimulus is matched by a real stimulus and vice versa.	Physical accessibility. Interaction. Physicalization of objects. Immersion
Belghiti et al.	2017	The most complete form of omnichannel experience in terms of omnichannel and distribution offers, in that it is a physical and digital hybrid in one spatio-temporal context, the point of sale.	Access to digital space by means of digital devices. Co-presence of physical and digital stimuli. Usage of technological devices to enhance emotional involvement. Social involvement (shareability of contents). Human touch.
Zurlo et al.	2018	A third dimension of interaction with respect to the digital and the real, in which everyday objects are interconnected and connected to the environment, gathering information from it and adapting their performance.	Pervasive technology embedded in space. People interacting with space, technology and objects. Ability of technology to offer personalized experiences to users by means of connection and data gathering.
Vergine et al.	2019	A type of environment in which physical and digital are integrated through the introduction of robots, artificial intelligence, augmented reality and sensors.	Real time interaction. Connectedness. Technological dense and intelligent environment. Human factor.
Ballina et al.	2019	The symbiosis of physical space and virtual space.	Real time interaction. Customization. Interconnection. Co-creation.
Iannilli and Spagnoli	2021	A technology enabled combination of resources: a store capable of integrating technology with the in-store experience and generating and managing information, relationships, desires, aspirations, and choices in the form of Big Data.	Atmospheric. Content. Immersion. Sensory features.
Pangarkar et al.	2022	A holistic and transformative form of omnichannel setting which provide consumers with but also symbolic, social, and identity-based advantages.	Human touch. Interaction. Engagement.
Mishra et al.	2021	A retailing phenomenon that integrates physical and digital aspects to offer an engaging customer experience.	Cross-channel integration within the retail space.

Table 1 (continued)

Authors	Year	Definition	Constituents of Phygital Space
Batat	2022	A holistic and integrative ecosystem that adopts a consumer standpoint as a starting point and then integrates a combination of physical, human, digital and media content elements, platforms, technologies, and extended realities, among others; the goal of phygital is to offer unique and compelling customer experiences that should guarantee a coherent continuum in the delivery process of consumer value (intrinsic/ extrinsic) provided from digital to physical and vice versa.	Continuum between physical and digital. Media content element. Platforms and Technologies. Extended realities.
Banik	2021	Retail environment that connects the physical and digital worlds and helps customers live in-store and online at the same place to achieve an amazing to achieve an amazing experience.	Mobile Devices. Connection between the physical and the digital environments. Enhanced customer experience.
Hyun et al.	2022	A word combining 'physical' meaning offline space and 'digital' referring to online space.	Rich customer experience. Emotional appeal. Customer service.
Lawry	2022	The blurring of digital and physical touchpoints that enable shoppers to participate in a constellation of mobile-mediated activities.	Integration between physical and digital touchpoints. Mobile Devices. Interaction. Intimacy and Escapism.
Banik and Gao	2023	A space that integrates two systems (i.e., physical and digital) and allows customers to buy online and offline simultaneously enhancing their experience.	Connection between physical and digital retail environments. Mental imagery. Entertainment and Aesthetics Experiences.
Mele et al.	2023	A setting or service encounter characterized by a set of one or more processes in which overlapping of physical and digital places or spaces occurs. They make bonds, bridges, and webs that enable interaction and sharing among many human and non-human actors.	Connection between physical and digital Environments. Digital Objects. Human interaction.

Source: our elaboration

the diary-based survey were involved in an online focus group. The focus group was held on the Zoom platform, lasted around two hours, and was video- and audio-recorded to facilitate the subsequent elaboration of the collected data. Using Microsoft transcription software, the conversations were transposed into Word documents. Data cleaning was performed to amend possible mistakes and misspellings in the software-generated verbatim reports. The document was first analyzed separately by two researchers, and subsequently, possible incongruences or different interpretations were assessed and agreed upon in bilateral online meetings.

Table 2 Investigated platforms and further sources analyzed for triangulation

Project name	Brand	Description	Employed technologies	Sources collected
Gucci Garden Virtual Tour	Gucci	Virtual tour of the Gucci Garden Store in Piazza della Signoria. Visitors can move through the rooms of the virtual building. In the Gucci Garden Virtual Tour, there are 3D reproductions of the brand's products that can be purchased by asking for their availability in the store. Personalized virtual assistance with a customer consultant can be requested.	Virtual reality, 3D, web, email, sound reproduction	15 sources: YouTube videos, corporate web site pages, blogs, and international magazine articles.
Try On	Gucci	Augmented reality feature added to the Gucci brand's iOS app to virtually try on various product lines. By positioning the camera on the relevant part of the body, the selected product is displayed realistically on the device screen. Visitors can opt to buy the product online via the brand's e-shop or select a physical shop where the purchase can be finalized. The user can also request immediate personalized assistance from the sales staff.	AR, mobile app, online video chat, social media platforms, e-commerce	10 sources: web site pages, Facebook and Medium posts, YouTube videos, and blog articles.
Tramezza: Future of Craft	Salvatore Ferragamo	Hybrid platform that uses digital and mixed reality tools for the creation and customization of Tramezza shoes. Users can enter a virtual room where they can customize their shoes by selecting materials and details and decide to start an interactive session with a customer advisor.	Mixed reality, web, 3D, virtual reality, online chat	18 sources: YouTube videos, blog articles, corporate articles, and international magazines articles.
Prada VR	Prada	Hybrid platform that creates a realistic experience of Prada products through YouTube VR, Veer, and Oculus. Consumers can explore the clothing and accessories within the reproduced space composed of realistic elements and reproductions of real garments and models.	VR, media platforms, web, 3D, e-commerce	7 sources: corporate website, YouTube videos, press coverage, and blog posts.
Fendi 57 h street Virtual Tour	Fendi	Virtual tour that allows the user to move around the Fendi store in New York. It is possible to choose autonomously whether to access information about one of the products displayed inside the virtual store. It is possible to purchase the products displayed directly through the e-commerce site, to book an appointment in the store, or to contact the sales staff.	Augmented reality, mobile app, online video chat, social media platforms, e-commerce	7 sources: corporate website, press release, blog posts, Twitter posts, and YouTube Interview.

4 Findings

The analysis and interpretation of the results unveil nine building blocks that piece together the relationship between the consumer and the brand in PBEs. These building blocks can be divided into three main categories based on the role they play in designing and realizing the comprehensive experience in which the consumer interacts with the branded phygital platform. The building blocks are as follows: direction of experience (brand-focused connection and human interaction); environmental features (appeal, narration, physicalization, and personalization); customer reactions (active participation, unique relationship, and engagement). These constitutive elements give rise to the consumer–brand relationship that is characterized by consumer attachment, self-extension, and mutual exchange. Figure 1 illustrates the consumer–brand relationship framework in PBEs.

4.1 Direction of experience

In PBEs, the brand represents the designer, orchestrator, and leading provider of a hybridized physical–digital customer experience. Successful brands craft and execute phygital environments that provide experiences designed to build consumer–brand relationships that enable a brand-focused type of connection with actual and prospective buyers and exploit technology-mediated human interactions.

Brand-focused connection. In PBEs, brands assemble an array of Industry 4.0 technologies, such as 3D, augmented, and mixed reality, to reproduce their visual identity (built in time in the physical world), establishing an immediate and spontaneous connection with platform users. The aesthetics of the virtual environment, as well as the style and design of digital artifacts (virtual rooms, furniture, shelves layout, products, background music, etc.), play a powerful evocative function, facilitating brand recognition and favoring brand familiarity.

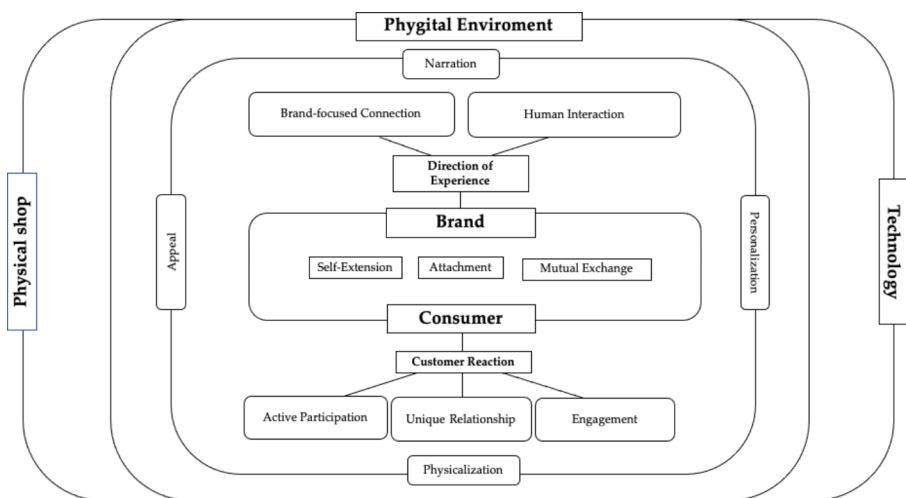


Fig. 1 Consumer–brand relationship framework in phygital brand environments

“If I can add one thing about aesthetics (reference made to Gucci and Prada). I liked (them) because of the ability to immediately evoke the brand (...) when I opened the platform, the Gucci Garden platform, I immediately knew it was Gucci, even if ‘it’ was not there” (XY_7).

Brand-focused connection is enhanced and smoothed through a customized virtual customer journey design (planned by the brand) and information and service provision, thereby enabling a customer experience that can be lived in the digital realm and potentially finalized through the actual purchase of products and services.

“I particularly like the fact that one can move around fully exploring the environment, just as physical presence in the place would allow one to do. I was very impressed with the direct interaction within Gucci Osteria, which offers the possibility of reserving a table, and in the Boutique where one can better view the products in the display cases and shelves” (XY_1).

Human interaction. All of the investigated platforms make use of technology-mediated human or pseudo-human interaction tools, such as real sales assistants (who can be called on demand via email, chat, and video) or AI-enabled autonomous customer service agents (chatbots) that might appear upon request. Despite the effort, this appears to be a pain point in the consumer journey that must be fixed or at least improved in the attempt to meet their expectations.

This is particularly relevant given that, due to the high-end price positioning of the analyzed brands, there is a high risk perception associated with the purchase, and consumers would benefit from reassurance provisions, especially those delivered by human interlocutors.

“Actually, it sent back to a chat (...) in my opinion if there is a real intention to buy a product, especially of that type, a product that costs a lot, this also makes you more informed. And the experience is a little bit safer in some ways ... the moment you make such a purchase” (XY_4).

4.2 Environmental features

The second block is comprised of four environmental features: appeal, narration, physicalization, and personalization.

Appeal. In PEBs, brands are able to engage consumers with valuable sensorial cues, information, and interactions at each point of contact. A brand’s appeal is intended to keep customers interested in possibly buying products and services and in forging an emotional connection with the brand, inspiring positive emotions. The visual elements that are placed within the space (e.g., rooms and products, colors, screen layout) and the realism of the digital objects are thus key elements of consumer experience, favoring a perceptual continuity between the real and the digital and increasing immersion, interest, and attraction toward the platform.

“The colors yes, in my opinion just the faithful reproduction of the interior ambient of a store, I was especially pleased to see the arrangement on the shelf as well. The arrangement of the products within the environment” (XY_2).

“I feel closer to the brand as the virtual store allows us to feel immersed in the collection, being able to see and choose what we like best” (XY_2).

Narration. In PBEs, the consumer is immersed in the storyline of the brand that is narrated through the presentation of different environments and outlets that follow one another. Presenting several thematic rooms, for example, the Gucci Garden Galleria provides images of the Gucci archive with past advertising campaigns and vintage objects. One of the rooms, namely Cosmorama, narrates Gucci's historical clientele of the famous jet-set, enabling the visitor to be immersed in times and spaces that existed a long time ago but that can be virtually experienced at the present time.

"(...) there is a strong aesthetic component, with the different rooms, each room dedicated to a different collection that also evokes, just graphically different environments, different scenarios that involve you in a different way, narrate the different collections" (XY_4).

"The relationship is based on feeling part of the brand, as it is possible to try different products directly in person but without having to physically go to the store. With the ability to virtually wear the products, the brand creates a closer relationship with the customer eliciting a feeling of enjoyment as well as increasing the desire to buy them" (XY_2).

Physicalization. In PBEs, the virtual sensory inputs resemble those of the real environment and allow the consumer to lose awareness of the mediation of technology. The reconstructed perceptual and cognitive experience creates the sensation of experiencing an authentic environment where the consumer feels fully involved. This allows one to experience the brand in the digital dimension while taking advantage of the possibility to view the product in the real store through smart technologies and to access the services that are typically provided in a traditional point of sale.

"You see that it allows you to immerse yourself precisely inside the store or the museum, in this case of Gucci, as if you were there ... physically. So that's one aspect that I was very impressed about and certainly also with Prada VR ... the same thing" (XY_1).

Unlike the physical boutique, in the PBE, a dissolution of the spatial and temporal dimensions is feasible, enabling consumers to live a boundaryless experience with the brand.

"The platform gives the opportunity to visit an existing store (...). The feeling of power resides in the opportunity to visit a real store thousands of miles away in a city everyone would love to visit, New York City" (XY_5).

Personalization. The consumer is a free actor, able to move in the hybrid space autonomously and access the full potential of the service afforded by the technologies integrated within the environment. The consumer interacts with such technologies and activates the experiences it wishes to live by choosing between the various options that the technological tools provide and by determining how and when to involve the human or pseudo-human side of the service by activating the customer services functionalities.

"(I like) the ability to virtually try the brand's products and garments before the online or the physical purchase, as it allows you to directly experience on yourself as many products as you want in total autonomy and for as long as you need, wherever you are" (XY_1).

4.3 Customer reactions

The third component of the model, labeled customer reactions, includes active participation, a unique relationship, and engagement.

Active participation. Phygital environments enable users to play an active role by interacting naturally with the technology, the objects that are inserted into the space, and other individuals (sales assistants) who might be called to participate in the experience.

“The App gives me the ability to feel at the center of the experience by being able to rotate the device 360 degrees and having a total and innovative view of the video, things like if I were playing a videogame” (XY_1).

Platforms allow consumers to make choices to shape their desired experiences. Active participation exerts a direct effect on consumers’ perceived involvement and spurs them to take action and use all of the features that are available to make the experience increasingly immersive.

“The fact that you can visit and move quite easily through a screen in the real store (...) and browse the garments, buy them, book appointments, hear the words of the designers, I think it gives an additional interactivity and immersion factor” (XY_7).

Unique relationship. PBEs enable the construction of exceptionally customized experiences and tailor-made actions, expectations, desires, and even physical characteristics of users (e.g., facial recognition technologies), allowing the development of a unique consumer–brand relationship.

“The brand involves me directly; it allows me to fully express my tastes and establishes a relationship of closeness” (XY_6).

In Gucci Try On, for example, systems that recognize one’s body parts allow one to try on Gucci Eye-glasses or New Ace (sneakers) with the sensation of perfect wearability, albeit through digital images. In the Prada Virtual Tour, the locations of brands that are shown through AR are experienced as if the consumer has become part of the brand’s story.

“But on my face, I saw these glasses and thought about it, unlike all the other platforms that instead sell clothes... I was not interested in the slightest, but seeing the eyeglass the rendering on my face, me liking glasses a lot certainly gave me a different effect than the purchase intention” (XY_7).

Engagement. Within the phygital environment, the experience design elements function as activators of curiosity, enjoyment, wonder, and personal enrichment. These emotions emerge from a sense of discovery induced by interacting with the platform, exploring new environments, and even playing with the environment itself and its features.

“It’s a curiosity just related, as we were saying, to continuing the exploration, so understanding what’s there, what’s coming next and so curiosity in that sense... at least I was (curious)... as we were saying in Gucci Garden, but also in the other platforms, I was curious to understand what I would have seen and what I could have done in that platform” (XY_6).

The engagement with the phygital environments also creates a state of pleasantness and well-being.

“How the store was structured, how it was neat, the way it was bright and the arrangement of the products, the décor. The whole thing... the fact that it was so clean, quiet, bright, it gave me that feeling of tranquility and well-being somehow, I mean I feel relaxed. Okay so to take a tour inside the store, I don't know. it put me this environment, it put me tranquility and so I took the time to explore it and I don't know, I had this feeling” (XY_2).

However, some respondents reported negative feelings when visiting the PBE. They recalled emotions of boredom, confusion, and frustration associated with poor navigation and usability of the platforms.

“I had a bit of a bewilderment effect. Which then in some respects can also be good, because the bewilderment effect can also lead you to say: Let me figure something out and continue the navigation” (XY_7).

5 Effects on the consumer–brand relationship

The fourth component encompasses three main effects on the consumer–brand relationship within a phygital environment: attachment, self-extension, and mutual exchange.

5.1 Attachment

The intersection of the digital technology in the physical space and the physical elements in digital environments in PBEs empower and enable consumers to perform activities that are not possible in merely real or virtual environments. In PBEs, the consumer is able to move inside and outside the online and offline dimensions by means of continuous brand stimuli and brand elements. The construction of consumer-centric brand narratives enables the consumer to live experiences that are aesthetic and hedonistic while corresponding to functional needs.

“It was fun to be able to see myself wearing products of the brand, especially the glasses, that are hypothetically the only product I would buy. I must say that after trying on some of the models I felt the impulse to buy (.). Somehow, I feel closer to the brand yes, because otherwise I would never go to a Gucci store to try on shoes, hats and other products” (XY_7).

In addition to this is the enrichment of the self, since the elements included by the brand in the technological context of the PBE allow the consumer to enter a fully controlled environment in which they can expand and define their individuality beyond physical limits. This is done by enabling the embedding in the individual of the resources that are provided by the brand in the environment, trying out products, personalizing them, sharing them via social channels.

“For me the fun though was not so much the platform as it was the result of the platform, the sharing that image of me with the blue eyeliner, the lipstick I can't remember what color it is, I mean that was really my fun. The platform for me was the conduit, it was more the idea of sharing that crap with someone else” (XY_3).

“With the Gucci Try On or with Tramezza, in shoe customization I select items and customize the item exactly as I would like it, so in that sense, it’s also a personal expression” (XY_8).

Considerations with respect to the linkage between identification with brands and brand involvement also emerged from the interviewees’ discourse:

“Yes, though. Actually, I mean I don’t feel so much the fact of identification in that, I mean it’s not really a style that reflects more me, and I don’t see my tastes, my aesthetic style and so it reflects it in some way though on a more, let’s say, trivial level” (XY_7).

5.2 Self-extension

In a PBE, the consumer is enabled or enables integration among the consumer, digital objects, and other humans (sales assistants) within the environment. The interaction between digital and real objects, and between interfaces and individuals, that occurs in a PBE contributes to the incorporation of capabilities and characteristics that are peculiar to the brand into the consumer’s self and allows the enhancement of the capabilities of the consumer in the environment that arises from the relation that is established between humans, brands, and objects in the environment:

“The very high rate of personalization allows me to explore myself more, rather than the brand. In short, I feel the creativity invested is mine. (.) That is, I build myself what could be my identity, no identity, no. But that desired, I mean that desired that I would like, becomes part of me. So that shoe, that perfect skin, fantastic and things, but to the outside world I show me wearing Eyeliner” (XY_3).

Such experiences increase the value that the consumer attributes to the experience with the brand and reduce the distance between the consumer and the brand: the brand comes to occupy a privileged position in the consumer’s life that extends far beyond the shopping experience. In fact, the consumer draws from the resources provided by the brand to mirror their ideal selves in the brand personality that is digitally articulated in the PBE.

“I don’t feel it reflects traits of my identity but perhaps how I would like to be, more outside the box. It represents more my ideal aesthetic style” (XY_4).

5.3 Mutual exchange

The act of moving within a virtual context and interacting with digital objects and elements confirms the actual demise of the relevance of the physical presence of the consumer in the hybrid dimension. The possibility that consumers have a fluid experience between the physical and the virtual environment in PBEs leads them to use the tools that are made available on the platform to augment their personal capacities through the integration of the features of the brands into their personal sphere:

“The relationship with the brand is intensified with the opportunity to actually enter the store. Then, after viewing each product, it is possible to create a wish list, and then complete the purchase directly on the official website” (XY_4).

“I feel even more the sensation of a symbiotic relationship with the brand. It helps me in staying fashionable, passing on ideas, and saving time” (XY_5).

This appears to generate a relationship of mutual exchange between the consumer and the brand, wherein the identity of the brand and that of the consumer merge through mutuality and shared resources.

6 Discussion

This study analyzes PBEs to identify their components and understand how they intervene in modeling the CBR.

By examining how consumers interact with the branded phygital platform and drive the relationship they establish with the company, the study reveals nine building blocks that make up the phygital environment. It systematizes these building blocks into the following three layers: (i) environmental features (appeal, narration, physicalization, and personalization), (ii) the direction of the experience (brand-focused connection and human interaction), and (iii) customer reactions (active participation, unique relationship, and engagement).

The first layer (environmental features) contains aspects that have already been found to characterize phygital settings, such as physicality, personalization, interaction, and immersion (Gaggioli, 2017; Nofal et al., 2017; Turco and Torino, 2019). The results highlight two other facets that are characteristic of PBEs: narration and the visual and audio components of brand identity. These facets, together with physicality, personalization, and interaction and immersion, model consumers' experiences with the brand.

The direction of the experience (the second layer) involves the brand's active role in designing phygital settings and constructing the emotions generated by them. In this layer, we find the human element (the sales staff), which is an important component of PBEs. This is an aspect that has already been documented in previous studies of phygital environments, which have shown the role of sales personnel in supporting the consumer's experience (Batat, 2019; Belghiti et al., 2017). However, the present study adds to this evidence that the role of staff is not only to support the customer in technology adoption but also (and more importantly) to make up for the impossibility of touching the products in phygital spaces.

In this regard, the findings suggest that human interaction is pivotal in driving the shopping experience, especially for goods perceived to be high risk, such as those belonging to the luxury market. The analysis also shows that interactions with sales staff can also involve pseudo-human actors, including chatbots (Chung et al., 2020).

The consumer outcomes layer shows that experiences in PBEs are characterized not only by increased engagement (Banik, 2021; Pangarkar et al., 2022) but also by relational and intimate meanings, which are emphasized by the outcomes of customers' unique perceptions. Hence, the study acknowledges that PBEs have an emotional impact on consumers and are capable of generating feelings of curiosity, amusement, and wonder.

The results also show that PBEs frame the CBR based on three constructs: attachment, self-extension, and mutual exchange. These constructs have already been examined by CBR theory and have been verified in physical environments (Ahuvia, 2005; Park et al., 2013) and purely virtual settings (Belk, 2013). Mutual exchange,

for example, has already been documented in consumer experiences with connected objects (Novak and Hoffman, 2019). However, our analysis shows that this construct also arises from customers' interactions with the environmental components of brand-driven phygital settings (appeal, narration, physicalization, and personalization). Hence, as part of the brand's direction of the experience, these interactions are able to generate an emotional drive that makes the foundation of the CBR in PBEs identity led.

For this reason, PBEs emerge as new and engaging outlets for consumers to articulate their identities and extend their selves through technology beyond the physical dimension (Belk, 2013); this is also achieved by means of the brand-driven resources that build the environment in which customers interact. PBEs create new opportunities for brands to become part of consumers' lives and self-narratives (Fournier, 1998) and affirm their role as partners, thus achieving a higher level of quality in their relationships with customers (Martin & Aron, 2009; Park et al., 2013). Concerning the relational effect of mutual exchange, the findings suggest that the bond that is created between the consumer and the brand in a PBE consists of three components, namely human beings (consumers and sales staff), technology-led environmental elements, and the brand. These components are always intertwined in PBEs. For example, environmental elements intervene in the generation of the consumer experience and contribute to the relationship between the customer and the brand. In this regard, the study reveals that the aesthetic aspect is an essential component of the experience. The technology embedded in the phygital space conveys the brand's colors, logos, images, and sounds. These elements communicate the firm's personality and create environments that are authentic and truly capable of involving consumers in a brand-driven sensory experience and reaching high perceived intimacy. This aspect also indicates the relevance of technology (e.g., chatbots, objects embedded in physical spaces, and devices) in the construction of the CBR in phygital settings. A holistic take on the three effects of the nine building blocks of PBEs on the CBR (attachment, self-extension, and mutual exchange) advances the theoretical discussion of the impact of technology on brands. It demonstrates that PBEs allow for the articulation of brand personalities that are not only more dynamic, competent, and friendly, as demonstrated by studies of AI in voice assistants (Jones, 2018; Vernuccio et al., 2020), but also more capable of establishing an identity-led relationship with consumers and being integrated into their selves. The latter two processes are made possible by an activity of authorship in the hybridized space where the consumer experience happens. In this regard, the analysis also proves the ability of PBEs to enhance the subjectivity of the luxury experience, thus leveraging the identity significance of luxury brands (Hemetsberger et al., 2012).

7 Conclusions and managerial implications

This exploratory study uncovers the constituent elements of PBEs and organizes them into three layers, which pertain to the environment, the brand, and the consumer outcomes. It also reveals the links between these elements and the CBR.

The study makes important theoretical contributions. Concerning the CBR literature, it identifies the three types of relationships occurring between brands and consumers in hybrid consumer environments, and it shows that the nature of the consumer–brand bond in PBEs is primarily identity led.

The study also suggests that PBEs represent a tool for companies to improve their ability to become part of customers' lives by strengthening the link between the consumer and the brand and by articulating strong consumer self–brand connections, thereby adding self-relevance, uniqueness, and intimacy to customers' experiences of the company.

In addition, the analysis highlights that environment components are an integral part of the relationship that is established between the consumer and the brand.

With respect to the literature about phygital, the study bridge a gap by deepening the knowledge about how the environmental components intervene in the phygital customer experience (Mele et al., 2021),

The analysis identifies the role of brands in PBEs. Brands are the activators of the human component of phygital environments, through the integration of human or pseudo-human interactions in the phygital space. Brands also ensure that the technology embedded in space allows for the expression of the brand's identity and for the consumer to be actively engaged in the construction of the desired experience through choice, interaction, and sharing. The study provides relevant managerial implications. The work allows for the identification of the strategic role of the brand in the construction of PBEs under the dual aspects of narrative direction and human interaction. In this, the phygital enables brands to become the intangible node that builds the relationship between the firm and the consumer, acting as creator and director of the customer experience. PBE can represent a valuable asset for businesses in general and for luxury players in particular. In fact, PBEs provide brands with a new highly engaging and interactive context for encountering consumers to increase their ability to capture attention and to generate engagement and interaction. Moreover, PBEs succeed in the fulfillment of consumers' desires for self-expressive and unique experiences, allowing the brand, especially those in the luxury segment, to satisfy consumers' expectations for the uniqueness of experience. Given the increasing interest of businesses toward the phygital, this study also outlines the directions of the strategic design behind the construction of phygital brand-driven environments. PBEs building projects should foresee brand authorship and a clear story board behind the process of digital integration within a physical space, to ensure that PBE conveys the brand identity to the consumer. In designing PBEs, businesses should design the environment to allow consumer to explore, to follow the experiential path they desire, and to move from physical to digital in a natural and frictionless manner. However, in building phygital PBEs, companies are called upon to exercise the role of experienced directors to engineer the environment and to select the right mix of technology to deliver the consumers' desired outcomes. A brand's role in PBE is also to allow for human or pseudo-human interactions through sales assistants, chats, or chatbots. These acquire centrality in consumers' experiences, as they increase consumers' ability to access information and to satisfy their desire for shopping. The strategic design that accompanies the construction PBEs means for businesses that grasping the opportunities that arise from the phygital requires increased

investment that should be directed not only to technological improvements but also to the enhancement of marketing competencies, as digital skills and marketing skills should go hand in hand. In fact, these two components are necessary for the optimization and management of brand-suit-enabling technologies merged in physical space to create hybrid consumption environments that are truly able to unleash the potential of the phygital to construct durable and profitable relationships with consumers.

8 Research limitations and hints for future research

While possibly valuable, this study has some limitations. First, the analysis was conducted on five PBEs in the fashion luxury sector. Further studies could increase the number of cases under investigation and verify whether they yield similar findings. Second, the study examined brands belonging to multinational luxury enterprises. Future research could analyze SMEs to understand whether and to what extent firm size can affect how PBEs are crafted and executed. Third, only cases pertaining to virtual and augmented reality phygital experiences were examined in the present work. Further studies could examine phygital spaces articulated through other enabling technologies, such as artificial intelligence, smart objects, or cyborgs. From a methodological perspective, this study was conducted by adopting an explorative qualitative design and using purposive sampling methods to select both PBEs and survey participants. In relation to the latter, the fact that the involved individuals were experts in managerial disciplines may have been useful for facilitating the critical assessment of the platforms but may have also produced biases. Accordingly, future research could profitably engage people without specific cultural backgrounds. Furthermore, the brand's perspective could be examined by investigating the company's point of view (e.g., submitting in-depth interviews to managers, staff, and sale assistants). Finally, future investigations could adopt quantitative approaches through the use and implementation of scales.

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Declarations

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