

DESIGN DYNAMICS

Navigating the new Complex Landscape of Omnichannel Fashion Retail

edited by Valeria M. Iannilli, Alessandra Spagnoli



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2. Framing Fashion Omnichannel Retail: Theoretical Concepts and Emerging Integrated Models

by Alessandra Spagnoli

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2.1 Introduction

Nowadays, in a context of accelerated digitalisation and consumer mindset transformation, omnichannel retailing represents the theoretical and applicative grounding within which the whole system of relationships and co-creation of value between brand and consumer, between consumer and products/services and among consumers themselves is grafted (Hajdas et al., 2022; Verhoef et al., 2015).

On the one hand, new digital channels (social media and web platforms, from traditional online channels to the metaverse) empowered by advanced technologies that impact both digital channels and physical spaces (AR/VR, advanced 3D modelling technologies, AI, etc.) have rapidly entered the distribution system profoundly affecting processes and operations and multiplying the touchpoints that connect consumers with products/services in an experiential and relational continuum (Shankar et al., 2021). On the other hand, consumers themselves – so-called “omnichannel consumers” (Aiolfi & Sabbadin, 2019) – show an approach to consumption strongly influenced by phenomena of continuous connection, rapidity of fruition and synchronous use of multiple channels and devices with related impacts on the ways through which they encounter goods, services, and experiences.

The purchasing path, traditionally conceptualised in the three phases of pre-purchase, purchase, and post-purchase (Lemon &

Verhoef, 2016), is today far from being a linear and uniform path that, from the recognition of a need, passing through research and consideration, arrives at the actual purchase' choice and finally to a post-purchase involvement. Instead, it is configured as a path that, in its processuality, involves multiple channels and touchpoints that pass from the physical dimension of the store to the online or mobile dimension without interruption: the journey is fragmented into multiple moments – distributed in space and time – thanks to which the consumer comes into contact not only with the product itself but also, and above all, with the value and symbolic system of the good, with the system of services connected to it, with a network of consumers, more or less extensive, able to provide information, suggestions, and further content. Consumers today – significantly younger generations such as Millennials and Gen Z (Cattapan & Pongsakornrunsilp, 2022; Chaudhary et al., 2021; Popa et al., 2019) – use multiple devices at the same time, mix the stages of the purchase journey by creating unexpected combinations, make purchase experiences without hierarchies between channels. If, for example, a customer can start the search for a product on a social media platform, at the same time, he/she can search for information and compare it with other products on aggregation platforms to conclude the purchase process on the e-commerce directly operated by the brand. Similarly, in a physical store, the same customer can pick up goods previously ordered online, access a personalised selection of products based on his/her purchasing preferences, and simultaneously access information on new product launches accessible to the community of loyal customers. This phenomenon is particularly relevant within the fashion industry (Lorenzo-Romero et al., 2020), an industry whose nature is brand-centric, within which the material value of the product is indivisible from the symbolic and cultural dimension, and in which the customer's decision course is strongly influenced by factors such as emotional attachment and personal values (Theng So et al., 2013). The fashion industry has also embraced technological and digital transformation at all levels – from design to manufacturing, from communication to distribution – and promoted new emerging business models that are driving new and more evolved consumption patterns

(Jin & Shin, 2020), confirming itself as one of the most promising, and complex, sectors within the omnichannel scenario.

Following a brief overview of the retail model transformation that has taken place over the last two decades – from multi- to omnichannel –, the chapter focuses on the peculiarities and dynamics of the omnichannel retail system, specifically in the fashion industry, highlighting the centrality of the customer experience and the relevance of the consumer-centric approach. Furthermore, evidence such as the consolidation of new spaces “augmented” by technology, the emergence of retail platforms capable of connecting services and content and strengthening the community, and the impacts of advanced technologies such as artificial intelligence in retail provide the background to frame the interrelations between channels, touchpoints, and experiences that today concur in shaping the retail ecosystem.

2.2 Channel Diverse Integration: From Multi- To Omnichannel Retail

Over the past two decades, the evolution of retail from multichannel to cross-channel and finally to omnichannel (Verhoef et al., 2015) has been driven by two main drivers of change – a combination of technological advances and changing consumer behaviour – and the ever-present need for retailers to remain competitive in a rapidly changing landscape (Brynjolfsson et al., 2013). This evolution has represented a profound transformation of the retail landscape, and each stage of this transformation has depicted a distinct approach characterised by unique features and the challenges it brings to both retailers and consumers. In this context, the evolution of retail channels in the fashion industry has followed a similar trajectory as retail in general, but with unique attributes and industry-specific challenges.

The advent of the Internet and the subsequent transition to the digital dimension has amplified the spread of multichannel retail (Levy & Weitz, 2009), with retailers acknowledging the need to adapt to changing consumer behaviour expanding their reach by establishing

an online presence alongside physical shops. Neslin et al. (2006) are among the first to address the topic of multichannel retailing, defining it as a strategic approach retailers use to distribute and sell their products through multiple distinct channels. Alongside physical stores, traditionally constituting the transactional and experiential backbone of the consumption process, the first e-commerce stores began to appear; mobile became a central element within each type of interaction established between and with consumers; and a multiplication of channels – not necessarily directly tied to the purchasing action, such as, for example, social media – consolidated, which increases and complexifies the opportunities for contact between the products’ system and the end customer. However, at this stage, the lack of integration between channels, which, on the one hand, the retailer cannot control, and, on the other hand, the consumer cannot activate, is the main characteristic of multichannel retailing (Beck & Rygl, 2015; Levy & Weitz, 2009). Within this perspective of separate channel management, retailers face difficulties in managing a seamless purchase decision-making process due to organisational structure constraints and complexities related to the ability to understand, measure, and thus manage consumer behaviour (Zhang et al., 2010).

Recognising the need for a more seamless shopping experience, retailers first embarked on cross-channel and later more properly omnichannel approaches. The cross-channel approach is a first step towards creating a cohesive and interconnected retail ecosystem to bridge the gap between physical and digital channels, emphasising consistent branding and synchronisation of inventory, pricing, and promotional strategies. In contrast to multichannel retailing, cross-channel retailing allows for partial customer interactions or partial integration control between channels at any given time (Beck & Rygl, 2015), thus creating “bridges” that allow consumers new possibilities for movement, interaction, and connection.

Therefore, the gradual and rapid evolution sees the consolidation of omnichannel retail today. The model is characterised by a continuous, customer-centric approach that transcends single channels – both in its front-end aspects of interaction with the end customer and its back-end aspects of interconnection of processes and flows of data and

goods – and represents today the distribution framework within which retailers operate and consumers experience. Within this perspective, a more customer-focused approach, and hence the customer experience, becomes even more relevant the more complex, non-linear, and potentially fragmented the purchase path becomes (Verhoef et al., 2009; Zhang et al., 2010).

2.3 Omnichannel Retail: Integration, Interaction, and a Consumer-Centric Approach

In today's digital age, customers have unprecedented access to a wide range of channels – broadly understood as the entire range of media for communication and interaction between the company and its customers – distributed between so-called “traditional” channels (physical shops, online websites and catalogues), mobile channels (mobile devices, branded applications and connected objects), social media and various other customer touchpoints (such as, for example, the events system, customer service and, more recently, the metaverse). This fragmentation and breakdown of the places within which the encounter between the individuals and products potentially takes place represents the context within which fashion brands have progressively begun to convey new paths, occasions, and moments to amplify, enhance and distribute the shopping experience: new digital platforms on the one hand, social media on the other and finally specific technological integrations for mobile or integrated in-store are recognised as the elements of greatest vitality and experimentation within the retail environment. Many fashion brands, in recent years, have, for example, added mobile apps to their directly operated e-commerce. These apps are increasingly refined and complete, capable of offering their customers highly personalised, immersive content and simultaneously complementing the online and physical experience. Gucci, one of the early pioneers in the experimentation of digital commerce and communication, has enriched its mobile app with several innovative features, such as augmented reality for its virtual try-on customers and other initiatives more related to branding such as narrative mini-games and a themed podcast (Silva et al., 2020),

thus consolidating the app as a tool that allows the user to «enjoy an engaging and innovative shopping experience» (Vannucci & Pantano, 2021, p. 2126). Also, in the mobile commerce field, several apps have been developed to meet the demand for efficiency and speed through combining digital and physical shopping experiences and integrating back-end processes such as inventory and shop management. In this regard, Zara's app allows for streamlining in-store flows thanks to systems for booking fitting rooms, checking available stock, locating products, and managing the virtual queue for completing the purchase (Friend et al., 2021). Regarding the enhancement of the experience within a narrative dimension, more focused on the stories surrounding the products than on the finalisation of the purchase, Chanel has long been scaling up Farfetch's technology in selected stores: fitting rooms equipped with RFID sensors read the labels of the products selected by the customer allowing high-tech mirrors to display information about the items, videos and photographs of the fashion shows, and styling suggestions (Deeny, 2020). Similarly, the recently announced partnership between LVMH Japan and SoftBank is expected to extend the in-store VR experience by enabling its customers to connect and communicate virtually and in real-time with artisans in their laboratories, thus exploring production processes (Berg et al., 2022).

This limited number of examples illustrates in a partial but clarifying manner the vitality and some of the evolving trajectories of fashion retail in a context of progressive and still ongoing channel pluralisation. The range of potentialities offered in terms of greater possibilities for consumers to connect to goods, services, narratives and, more generally, to the brands themselves is the actual and applicative context within which the contemporary discourse on omnichannel is grafted. Indeed, a distinctive element of omnichannel is the ability of a company to offer a comprehensive range of distribution channels and fully control their seamless integration by dissolving the conventional boundaries between these channels (Beck & Rygl, 2015). This dissolution of channel boundaries – sought after and applied by companies despite encountering implementation difficulties (Hajdas et al., 2022) – has radically changed the retail landscape, allowing customers to switch effortlessly between various channels and touchpoints. Compared to the previous multichannel

approach, omnichannel retail introduces a significant change in the way channels interact: it is not just adding more channels but making them interchangeable and seamless, allowing consumers to move effortlessly between them (Verhoef et al., 2015) while maintaining a consistent, coherent and simultaneous experience (Grewal et al., 2017; Picot-Coupey et al., 2016; Stein & Ramaseshan, 2016).

Hickman et al. (2020) identify four factors influencing an omnichannel experience: *brand familiarity*, *customisation*, *perceived value*, and *technology readiness*. All four of these factors are read and interpreted from a consumer-centric perspective, as factors that belong either to the internal and personal dimension of the consumer (e.g., technology readiness) or to the relational dimension of the consumer with the brand or with the system of channels and touchpoints made available during the consumer experience (e.g., customisation and perceived value). Technology readiness and customisation are particularly relevant as they are closely linked to what are considered to be the dominant drivers, or key factors, that have stimulated brands and retailers to develop an omnichannel strategy in the fashion sector (Aiolfi & Sabbadin, 2019): the *demand for omnichannel consumption*, a dimension that involves the individual dimension of the consumer and his new ways of approaching the purchase path; and *technological development*, in turn connected to the growth of online channels and the power of mobile. The convergence of these concepts, which, on the one hand, are considered as drivers for the development of omnichannel strategies and, conversely, are recognised as factors positively influencing and impacting the omnichannel experience, demonstrates their close correlation within an evolutionary innovation process that today requires new skills, tools and approaches to be harnessed and steered.

The nature of these factors also helps to highlight the distinctive feature of the omnichannel approach, namely the adoption of an inherently customer-centric perspective (Yrjölä et al., 2018). The concept of customer-centricity is closely related to the acknowledged role of the consumer as an endogenous element in value creation (Pralhad & Ramaswamy, 2004; Ramaswamy, 2011) and thus linked to the process of value co-creation that emerges from the integration of customer and business resources (Vargo & Lusch, 2008). A

customer-centric approach prompts retailers to focus both on how customers can realise value (economic, functional, emotional, and symbolic) at various stages of their consumption journey and on the ways through which value can be assessed for customers within the whole complex and intersecting co-creation process (Yrjölä et al., 2018). Adopting a consumer-centric perspective thus means recognising the centrality of the customer experience (CX), now embedded in a mature omnichannel environment consisting of a complex and intertwined system of physical, digital, and mixed channels. Likewise, adopting this perspective requires not only to understand and orchestrate the interaction between channels and brands (Neslin et al., 2014) but also to adopt new approaches to design the connections between channels, touchpoints and new technologies considering their impact on both the customer journey and the experiential value that could be created (Hoyer et al., 2020).

2.4 Customer Experience Centrality within the Omnichannel Environment

Customer experience in retail is a complex and multifaceted concept that has progressively grown in interest in academic, business, and professional spheres. Early theorisations on the experience concept recognised the symbolic, hedonic, and aesthetic nature (Hirschman & Holbrook, 1982) of the act of consumption. Adopting a holistic approach allows us to consider the consumer experience as a result of processes involving the consumer at different levels, as a multidimensional response to stimuli that incorporates the customer's cognitive, affective, emotional, social and physical responses to their interactions with a retailer or brand (Verhoef et al., 2009). This holistic perspective highlights the deeply individual nature of the customer experience, emphasising that each customer's experience is unique and personal (Gentile et al., 2007).

Furthermore, customer experience is a subjective and internalised response that customers form during direct or indirect company engagement (Schwager & Meyer, 2007). These experiences are not shaped exclusively by elements under the retailer's control, such as

the service interface, shop atmosphere, product assortment and pricing strategy. They are also influenced by external factors, including other customers' presence and behaviour and the purchase path's underlying objective (Verhoef et al., 2009).

A key aspect of customer experience is its processual nature, which encompasses the entire customer journey, from the initial information search and product selection to the purchase, consumption, and post-sales stages (Lemon & Verhoef, 2016). This aspect is particularly relevant in the contemporary context where the consumption experience occurs on multiple and highly distributed spatial and temporal levels. On the one hand, individuals today have at their disposal a plurality of opportunities to meet brands and companies, fragmented within the canonical physical places of consumption and a myriad of digital touchpoints that compose the infrastructure of virtual and connected identities. On the other hand, the temporality of these contacts is far from being channelled into independent silos – the time of work, entertainment, consumption, etc. – but intersects all the different moments of people's lives.

The customer experience concept has been widely addressed in the scientific literature (Becker & Jaakkola, 2020; Homburg et al., 2017; Jain et al., 2017). However, it is fragmented across various disciplinary frameworks and theoretical foundations, and this complexity and fragmentation increases as customer experience is considered within a context of complete convergence of physical and digital dimensions.

Two main research traditions emerge from customer experience studies that start from different theoretical assumptions and look at customer experience as a process responding to different stimuli (Becker & Jaakkola, 2020). On the one hand, experience is a *response to stimuli that brands can control* and deploy to guide consumer behaviour. In this sense, the approach is positivist and managerial and envisages an almost direct correlation between the stimulus promoted and the consumer's response. The overall aim of this tradition is to explore how companies can shape customer experience by strategically managing these different stimuli, often focusing on those touch points that are under their control: customer experience is built from the brand's ability to deliver sensory, emotional, cognitive,

behavioural and relational values (Schmitt, 1999), through the offering of memorable experiences (Pine & Gilmore, 1999), or the tangible and intangible characteristics related to the service offer (Grove & Fisk, 1992), or is a response to the integrated and holistic set of factors under the retailer's control (from the social environment to the service interface, from the store atmosphere to the assortment and price) (Grewal et al., 2009; Verhoef et al., 2009).

On the other hand, experience is considered broader and more complex as a *response to consumption processes*. This perspective recognises that customer experience is not limited to interactions between company and customer but is deeply embedded in the customer's life world. It can be influenced by various actors such as other companies, customers, stakeholders, and other factors such as norms, rules, and social structures (Akaka et al., 2015; Chandler & Lusch, 2015). All elements that are not under the company's direct control and that highlight the relevance of broader social and contextual factors, returning more systemically and holistically to the complexity of the contemporary dimension. Consumption is, in this case, recognised as personal and subjective, driven by hedonistic and utilitarian motivations (Addis & Holbrook, 2001; Hirschman & Holbrook, 1982), and experiences are co-created and emerge from consumer involvement as value-in-use within a holistic system of services (Vargo & Lusch, 2004).

Embracing both perspectives, retail design acknowledges that it cannot wholly control the occurrence of customer experiences but can try to create and manage its contexts (Petermans et al., 2013). However, the increased, sometimes simultaneous, presence of channels and touchpoints makes this process highly complex.

In such a scenario that places the customer experience at the forefront, how to manage and improve the experience across channels and interactions with customers is a priority and goes through the management of the customer journey. The term customer journey refers to the procedural and experiential aspects of purchasing processes – including interactions with communication systems, product presentation and display, connection to services and customer management systems – as seen from the customer's perspective (Følstad & Kvale, 2018). Managing the customer journey means being

able to visualise, and as far as possible govern, the interactions that the consumer has along his/her journey, with all those perceivable elements – a website landing page, a product configurator, a chatbox, etc. – that offer a potential encounter (Richardson, 2010), or touchpoint. Touchpoint management, within the customer experience, is central nowadays for two reasons. On the one hand, it represents the most precise and meaningful level within which the consumer experience can be manifested. Contrary to channels, broadly understood as the media through which this interaction happens, touchpoints represent a punctual moment of this interaction occurring through a specific interface (Barann et al., 2022). On the other hand, the multiplication of channels has resulted in an accelerated increase of touchpoints: they are highly impacted by technological evolution, constantly evolving and are the primary element of interest today to promote effective and meaningful omnichannel retail experiences.

Figure 2.1 represents a conceptualisation of the connections linking channels – properly distribution channels but more generally communication and customer service channels – and technology-enhanced touchpoints. The selection of touchpoints resulted from the systematisation of different research which, in recent years, have tried to assess the diffusion of in-store technology (Alexander & Kent, 2021, 2022; Pantano & Vannucci, 2019), and focused on how in-store technology touchpoints can impact the customer journey (Grewal et al., 2020) and the consumer engagement (Siregar & Kent, 2019). Subsequently, the systematisation was supplemented with touchpoints' mappings in e-commerce and mobile (Ieva & Ziliani, 2018; Wagner et al., 2020), and supra-categories were identified (“virtual mirrors” includes, for example, interactive mirrors, smart mirrors integrated with IoT systems, AR-enhanced smart mirrors, etc.). The conceptualisation, necessarily not exhaustive in visualising the totality of touchpoints and their connections with channels, conveys the complexity of the contemporary scenario: channels and touchpoints are variously intertwined, the customer is offered potentially infinite paths, and, in the effort to create fluid, immersive or personalised experiences, interaction and consistency become central to the creation of the experience.

TECH-ENANCED CUSTOMER TOUCHPOINTS AND CHANNELS IN OMNICHANNEL

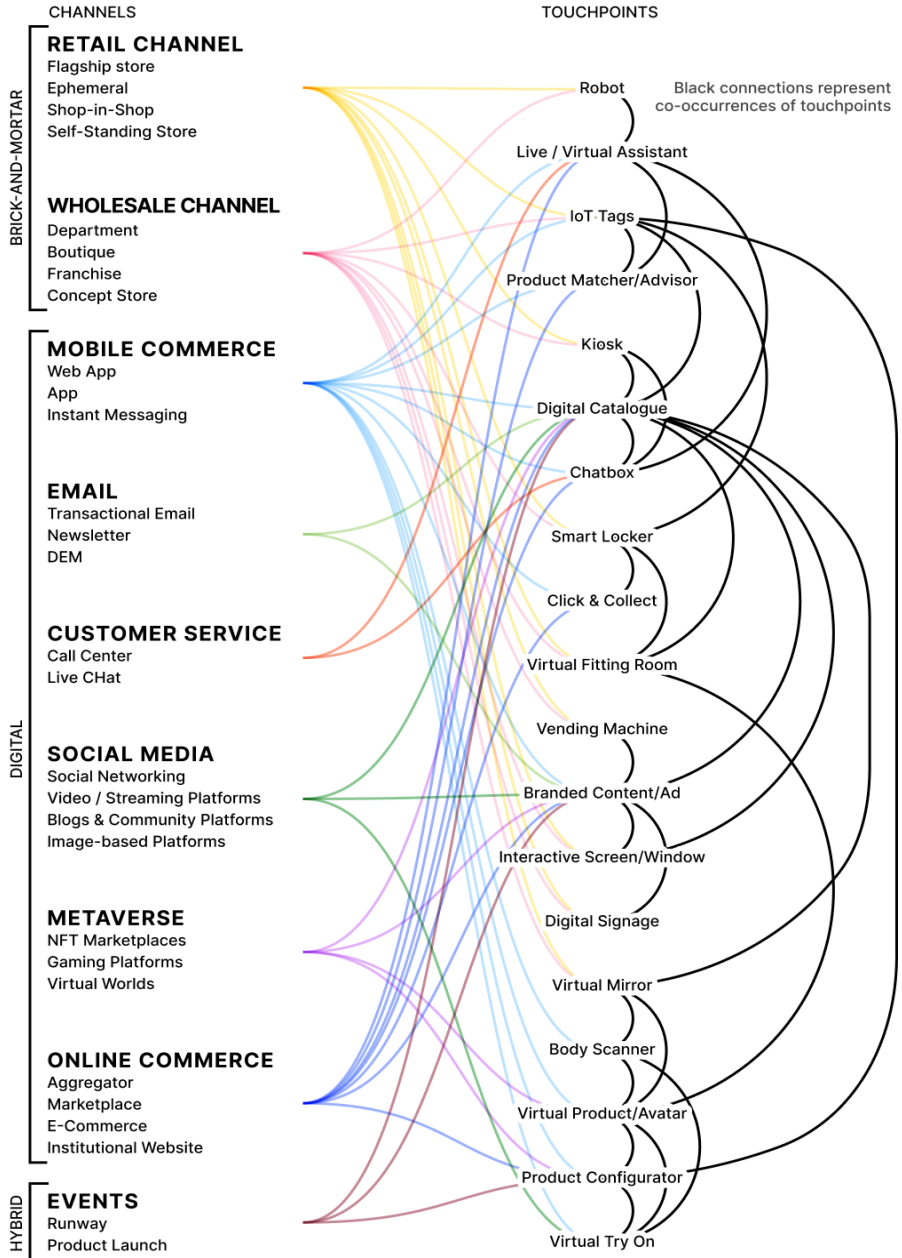


Fig. 2.1 Representation of channels and touchpoints' distribution and connections in the fashion omnichannel retail context (authors' elaboration).

2.5 The Future Challenges of Fashion Omnichannel Retail: Augmented Spaces, Retail Platforms, and AI-integration

Despite the complexities that emerge in adopting fully effective and integrated omnichannel strategies, it is possible to read some development trajectories that, starting from some excellent cases and first experiments, outline a possible and positive path for fashion brands in the near future. A first trajectory sees the consolidation of the so-called “augmented space”. Despite the proliferation of online distribution channels, the physical space remains central: the space is equipped with new and powerful technological tools that shape engaging and emotional retail environments and a holistic customer experience (Alexander & Kent, 2022). A second trajectory is recognised in the emerging fashion retail platform model, which provides consumers with an increasingly broad content, service, and community-based interaction platform, thereby extending the brand experience (Wichmann et al., 2022b; Briedis et al., 2021). Finally, the third trajectory sees the adoption of Artificial Intelligence and Machine Learning to analyse, guide and build personalised, scalable, and consistent purchase paths, significantly impacting the entire fashion industry chain, from trend forecasting to design, from manufacturing to sales (Silvestri, 2020).

2.5.1 “Augmented” Retail: Technology-Enhanced Spaces

“Augmented” retail refers here to the tendency to equip stores with in-store technology by integrating the physical dimension of consumption with experiential modes that consumers are familiar with online. The “augmentation” of the physical dimension of the store translates into the integration, exhibited or mimicked within the customer experience, of different types of technologies that aim to enhance the customer experience, create connections between the in-store journey and other journeys provided by other digital channels, and make this connection more fluid and effective. Several studies have focused on mapping the in-store technologies adopted by brands in recent years, highlighting which technologies are the most

widespread and implemented and tracing their managerial implications (Alexander & Kent, 2021, 2022), discussing their impact and implications on each stage of the purchase path (pre-transaction, transaction and post-transaction) (Hoyer et al., 2020), or identifying innovation scenarios in the area of retail design (Iannilli & Spagnoli, 2021). Alexander & Kent (2022) propose two different models conceptualising the connection between customer experience and in-store technology: a “technology-induced customer experience in-store” model that differentiates technologies about the type of customer experience, whether utilitarian-oriented (driven by factors such as speed, convenience and efficiency) or hedonistic (driven by factors such as entertainment, play and immersion); and a “technology-enabled customer shopping journey in-store” model that connects technology with each stage of the customer journey. Both models aim to give retailers a more accurate picture of consumers’ technology use preferences and guide them in selecting which technologies to adopt. Other studies attempt a classification of technologies about their role and function within stores (Pantano & Vannucci, 2019). These classifications require constant updating due to the high speed of technological innovation and the level of uptake and application by companies.

IoT systems, virtual mirrors and virtual fitting rooms, and Augmented Reality (AR), Virtual Reality (VR), and Mixed Reality (MR) have been integrated into fashion retailing, thus enabling different consumer experiences. IoT has enabled fashion retailers to create smarter and more personalised shopping experiences. RFID tags, for instance, are used to track inventory in real-time, ensuring accurate stock levels and preventing out-of-stock situations. Smart mirrors equipped with IoT sensors have been introduced in recent years, enabling customers to interact with products digitally and providing retailers with relevant consumer behaviour and preferences data. Many brands, including Adidas and Rebecca Minkoff, have stores equipped with smart mirrors that recognise the products customers bring into the fitting rooms, displaying complementary items and offering customisation options through touchscreen interfaces (Brown, 2019; McDowell, 2023). Fashion retailers are also increasingly embracing AR, VR and MR to engage customers in

immersive experiences. While AR applications are mainly used to allow customers to try on products virtually, VR brings consumers into virtual environments within which brand identity is transferred. Zara, for example, introduced an AR fashion styling function in selected shops in this scope. From scanning QR codes on clothing tags, customers can see the garment worn on a virtual avatar, match different outfits and receive personalised advice by integrating physical in-store shopping with its online implementation (De Klerk, 2018). Finally, systems capable of integrating features typical of online commerce – such as immediacy, speed, and access to a product portfolio independent of store sourcing – complement the physical retail space. Among the most comprehensive examples in this area, capable of concentrating and fully exploiting stores for the delivery of highly targeted services to the customer, Nordstrom Local hubs offer a full range of possibilities: click and collect, drop off returns and order online – together with alterations and styling – serve the consumer’s needs and allow him/her to tailor a satisfying experience.

2.5.2 Retail Platform: Multiple Interactions Supported by Retail Ecosystems

The shift towards fashion retail platforms is part of a broader pattern that sees the emergence of business ecosystem models, networks of companies and actors that bring to the market innovative sets of interconnected services through which users can satisfy a range of cross-sectoral needs in a single integrated experience (Hariharan Joshi et al., 2021; Kandiah & Gossain, 1998). The fashion retail platform model appears as a specific declination of these ecosystems, precisely termed “brand flagship platforms” as «product-brand-owned digital platforms that mediate versatile interactions between participants within the brand-related category space» (Wichmann et al., 2022b, p. 112). This typology of platforms extends the boundaries, activities, and purposes of brand sales channels by offering vast opportunities to cocreate value through interactions that go beyond commercial activities (Ramaswamy & Ozcan, 2018) by including the delivery of content (informational, recreational, educational) or

services (product- or community-oriented). As omnichannel management broadens the focus from customer-channel interactions to customer-brand interactions across channels, branding becomes a top management priority for retailers, and the brand experience becomes central to understanding customers' relationship with omnichannel retailers (Frasquet-Deltoro et al., 2021).

An emblematic example of this strategic evolution, which hybridises the potential of omnichannel with community building through offering multiple interactions, is Nike. The sportswear giant leverages its Run Club and Training Club platforms, orchestrated around athletics, to foster consumer engagement, creating deep and long-lasting connections. Beyond the simple presentation and offering of footwear and apparel collections, these apps serve as a gateway to tangible, interactive experiences that have become an integral part of the daily lives of a community that is as expansive as it is cohesive. The Training Club app offers personalised workouts and comprehensive fitness programmes, further cementing Nike's presence in the daily routines of its users. However, the brand's efforts go beyond the athletic aspect, as it uses these platforms to curate a complex and holistic experience: Nike organises events, offers expert guidance, unveils exclusive products, provides motivational music playlists, and extends personalised training programmes. In addition, these digital platforms allow consumers to engage in creative processes by consuming or generating content and products. In the case of the Run Club, users are encouraged to inspire others within the community. This is facilitated by sharing music playlists and workout videos, which individuals can contribute to the platform for others to integrate into their fitness routines. These service systems foster and nurture a positive loop characterised by two interconnected processes: consumer crowdsourcing, which derives value from the different player actors participating in the platform (such as other consumers, the brand itself or third-party companies), and consumer crowdsending, which in turn provides value, in terms of content and services, to the participants of the platform (Wichmann et al., 2022a). Nike is one of many brands that are exploiting this transformation potential. Other fashion brands are adopting platformisation strategies and adapting them to their specificities. Lululemon, an activewear

brand, has successfully built a brand platform centred on the core brand principles of mindfulness and well-being. Lululemon's mobile application allows customers to shop, access workout content and stay in touch with the brand. In addition, the connected loyalty programme, called Lululemon Collective, offers various services to members, including early access to new collections and events. The strength of the brand's platform lies in its ability to connect the digital dimension with the store's physical dimension, where yoga and fitness classes are open to the public, customised styling and fit sessions, and other community events and workshops, such as meditation sessions, nutrition lectures or run clubs, are hosted in a structured manner. These initiatives satisfy various health and wellness interests, creating a diverse and engaged community around the brand.

2.5.3 AI-led Retail: Enhanced-Customer Experience Interactions and Operations

The term AI is used to indicate a group of digital technologies that have the potential to fundamentally change all aspects of society (Makridakis, 2017), including retail systems and the consumer sector, more generally. AI is not an entirely new issue (Nilsson, 1998), but today, we are witnessing a speeding up of the production and application of increasingly complex and high-performance AI systems, which allow more natural interaction with digital channels and touchpoints (Cortinas et al., 2021). AI, having the ability to learn and solve new problems in an ever-changing environment, has at its base a continuous data collection (Cao, 2021) and generation of new information, hence value. Retail inherently has to deal with large amounts of data of a dual nature: data beneath the supply chain, where the flows of goods and information proceed in parallel and inextricably, and data beneath the dynamics of consumption that describe, in minute detail, the behaviour, preferences, and habits of consumers. For this reason, AI can potentially change the future in two major areas: by integrating both online and offline interactions with consumers and by supporting supply chain operations (Guha et al., 2021). The main applications of AI in retail include personalisation

and recommendation systems, sales and customer relationship management, customer service management, supply chain optimisation, inventory management and shop asset creation (Shankar et al., 2021). Among the various applications of AI, those most focused on customer engagement enable retailers to build relationships with their customers and have a significant impact on the customer journey as they enable high-level personalisation of the experience, speed-up customer service and sales support functions (Oosthuizen et al., 2020).

Virtual assistants and chatbots are AI-based systems and have become integral to customer service in recent years. Providing immediate answers to customer queries, recommending products, and personalising interactions, they are designed to help brands maintain continuous, fast, and effective contact with consumers, increasing their satisfaction and loyalty. In this regard, Zalando launched the beta version of a virtual assistant using OpenAI technology on both the website and the app in spring 2023. The chatbot allows customers to converse naturally and intuitively by obtaining suggestions relevant to their requests – describing, for instance, occasions of use and preferences – within the retailer’s vast assortment (Wightman-Stone, 2023). Macy’s has implemented a virtual shopping assistant in selected shops that guides customers through the shop, provides product information and facilitates mobile checkout. The adoption of this technology, in this specific case, is aimed at improving customer engagement and speeding up the shopping process. AI-based systems are used to guide and assist customers, offer personalised product recommendations, optimise inventory management, and simplify supply chain operations. Nike has implemented AI technology in major flagships, experimenting with new, highly advanced ways of selecting and customising footwear. Customers can use AI-powered foot scanning technology to obtain precise measurements and gait analysis, and based on this data, the AI system recommends the most suitable shoe models and customisation options (Cheng, 2019). AI-based systems can also optimise inventory management and simplify supply chain operations. For example, Zara, H&M and many other brands are introducing AI algorithms to predict fashion trends and optimise inventory levels. This allows brands to reduce excess

inventory and respond quickly to changing consumer demands (Hickman, 2023).

2.6 Conclusion: Barriers and Opportunities for Fashion Omnichannel Retail

Despite the imperative to pursue a fully omnichannel retail – leveraging the need for companies to remain competitive and the different strategies that companies can adopt to pursue their distinctive approach to omnichannel – the path towards this goal is far from complete and often held back by different types of barriers that slow down or make it difficult to operationalise. From a strategic point of view, the main obstacles lie in a lack of clarity of vision on the value that omnichannel can bring to brands and, at the same time, a tendency to be uncritically influenced by the rush of technological innovation (Briedis et al., 2021). For example, the tendency to prioritise “new” or flashier technologies – such as Smart Mirrors, AR/VR, or, recently, the Metaverse – collides with the need to carefully consider customer needs and how these innovations in retail can create sustainable value at scale. Focusing on consumer value rather than technology allows for long-term strategic alignment while defining which omnichannel approach is most appropriate for the company and the customer community. From a managerial perspective, other barriers have been identified as strategic, logistical, and operational (Hajdas et al., 2022). As described above, strategic barriers include the lack for a long-term vision and mainly the misalignment between the company’s overall strategy and the omnichannel initiatives adopted, resulting in a dispersion of processes and resources. Logistical/organisational barriers mainly concern the difficulty in centralising systems and processes, technologies, and structures, resulting in a fragmentation of data and internal flows and difficulty achieving a consistent customer experience. Finally, barriers of an operational nature refer to the management of human resources, which is confronted with the existence of “silos” of knowledge and procedures that are still strongly compartmentalised and the lack of interdisciplinary competencies and skills.

A further relevant aspect relates to the issue of non-neutrality of technologies, especially in the case of data collection and AI implementation. Nowadays, the most popular AI-based technologies are relying on a learning process built on data that cannot, by its very nature, be “objective”. These data incorporate the *biases* (prejudices, disbeliefs) of those who contributed to their collection/creation. These AI systems bring with them the risk of perpetuating these biases and, ultimately, prejudices and power imbalances already inherent in society (Sandvig et al., 2014). From this point of view, the AI-led integration in the omnichannel environment could represent a risk of worsening the customer experience. However, on the other hand, it could allow brands to start considering these aspects that will be increasingly relevant in the future.

Despite these barriers, in contemporary fashion retail, the amalgamation of technology and consumer-centric strategies fosters an age of transformation, and the three trajectories outlined above demonstrate the vitality and potential in this field.

Augmented spaces, characterised by the infusion of technology within the retail store, are promising ways to enhance the customer journey. Such spaces can increase their physical borders and integrate digital elements to break down traditional boundaries between retail channels. From a customer experience perspective, during the pre-transaction phase of the customer journey, technologies such as smart mirrors and IoT sensors enable customers to interact with the offering digitally. The transaction phase benefits from streamlined processes, such as RFID tags and mobile checkout options, ensuring efficient and frictionless transactions. Furthermore, in the post-transaction phase, augmented spaces support customer engagement by suggesting complementary items, providing style advice, and enhancing product care information. These augmented spaces multiply the touchpoints and allow the end customer to gain an enhanced experience that benefits from all the features of online and physical consumption.

At the same time, retail platforms have evolved into dynamic ecosystems, extending the customer journey beyond the boundaries of pure sales, and facilitating a system of relationships spanning time and space. These platforms offer comprehensive content, including product information, reviews, and educational resources. E-commerce

features built into these platforms facilitate direct purchases, while loyalty programmes, early access privileges and exclusive events complement the transaction phase. Beyond the point of sale, retail platforms nurture customer communities, fostering interactions, participation, and content contributions.

Complementing augmented spaces and retail platforms, AI integration is a crucial and potentially disruptive aspect of omnichannel fashion retail, revolutionising both customer experience and operational efficiency. AI's ability to analyse vast amounts of data and provide real-time insights is critical to shaping the customer journey. AI-based systems have the potential to impact the entire consumer experience cycle: proposing tailored product recommendations, providing immediate assistance and relevant information, offering post-purchase support and suggesting additional products or services. Despite these assumptions, AI's short- to medium-term impact on retail may be less pronounced and more relevantly concern back-end applications (e.g., optimised inventory and supply chain management) rather than customer-facing applications (Guha et al., 2021).

While aware of critical issues, this convergence of technology and customer-centricity overall exemplifies the evolving landscape of fashion retail, foreshadowing a future in which consumers and brands co-create value in an interconnected and meaningful fashion ecosystem.

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Alessandra Spagnoli (editor). PhD in Design and Technologies for the Enhancement of Cultural Heritage, Assistant Professor at Politecnico di Milano, Design Department. She is member of the Fip – Fashion in Process Research Lab. She is Faculty Member of the School of Design, Politecnico di Milano, where she is Secretary of the Fashion Design Programs (BA and MSc) and teaches Visual Design Elements (BA) and Fashion Retail Experience (MSc). She is member of the PhD Faculty of the PhD Design School at Politecnico di Milano. Her research interests concern managing design-driven processes for developing and enhancing Cultural Heritage and CCIs, exploring new paradigms and narrative structures in retail and exhibit design,

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Francesca Bonfim Bandeira. Fashion Designer, she graduated from Politecnico di Milano and ventured into design, research, and technology. Collaborating with Politecnico di Milano's design department, she began her career at M-Cube. In her role as Omnichannel Product Specialist, she shaped the platform's strategic direction, evolution, and internalization. Francesca also shared her expertise through lectures on retail evolution and customer experience design. She later explored the creative sphere by joining Milan's Collettivo D'ORA, contributing to events, immersive installations, and supporting local art galleries.

Today, she is Research fellow at Politecnico di Milano in PNRR project MUSA investigating on technology and sustainability in the retail sector while consulting for an Italian sustainable brand, advocating for innovation in fashion, technology, and retail.

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In the past she led Communication Design and Graphic Design courses at Free University of Bozen-Bolzano, IED Milan and NABA Milan. As a designer, she collaborated with i3Lab – Politecnico di Milano, Corraini Publishing, Pietro Corraini and Matteo Ragni Design Studio. She received honorable mention at the Compasso d'Oro Award for the workshop “STAMPATELLE: good-to-eat messages”.

Tommaso Elli. Design researcher, information designer, and front-end developer. He owns a PhD in Design with a thesis about visualisation and literary studies, and he is currently a researcher at the Design Department of Politecnico di Milano. Since 2023, he has worked within the MUSA project (PNRR), focusing on fashion retail, sustainability, and circularity.

His interests include data and information visualisation, interaction design, digital humanities, cultural heritage, creative coding, and fashion retail. Since 2016, in collaboration with the research group DensityDesign, he has participated in several research projects and teaching activities for private and public institutions. He is part of the development and design team of RAWGraphs, a free and open-source software for data visualisation, and is one of the founders of the non-profit organisation Associazione Abilitiamo Autismo.

Gabriela Fabro Cardoso. MSc in Design for the Fashion System, she is a Fashion Designer post graduated in UX/Experience Design and is currently a PhD Candidate at Politecnico di Milano, Design Department. She is part of Fip –Fashion in Process Research Lab, where she previously worked as a Research Fellow investigating how design can intervene in the development of phygital experiences and retail processes.

Her current research interests concern the investigation of how the field of Design can embrace the challenge of stand up as an agent of change, contributing to the transformation of the Fashion System into a more sustainable paradigm. The scope of her research is designing new sustainable Fashion Retail Models related to community-driven consumption dynamics.

Gabriele Ragusa. Research fellow at Politecnico di Milano in PNRR project MUSA on innovation drivers in the fashion retail industry, new sustainable and integrated fashion retail experiences. He is part of FIP – Fashion in Process Research Lab. He was for three years in a row a teaching assistant at Politecnico di Milano. He has a master's degree in Interior and Spatial Design at Politecnico di Milano and a master's degree in Environmental Art Design at Tsinghua University.

He worked for Scivola, a project of Fondazione Cariplo in collaboration with Politecnico di Milano, that was selected for the publication ADI design Index 2020. He designed and realized a group project 'UNTITLED' at Linz Ars Electronica Festival 2020. He worked as communication and marketing consultant at Oneshot Real Estate Solutions.

The fashion industry is entering the dynamic global competitive market, promoting various actions prioritising design, creativity, sustainability, and technological advancement as pivotal factors. At the same time, it is re-imagining its business models to adapt to the changing landscape. The rise of pervasive connectivity, intuitive interfaces and innovative interaction channels has triggered a revolution in fashion retail, reshaping customer behaviour and expectations. The traditional retail framework has evolved into a fully interconnected omnichannel system. This transformation is characterised by the proliferation of physical and virtual channels and touch points and by the adoption of a more flexible and integrated approach.

In this dynamic context, design plays a central role, possessing the ability to impart meaning to the production and distribution system. Design-led innovation represents an incremental form of innovation that injects a nuanced range of meaning into the marketplace, extending beyond tangible objects, including discourses, expressions, narratives, visual images, symbols, metaphors, and spaces.

The book analyses the multifaceted nature of the fashion retail experience through the lens of the design discipline, aiming to contextualise the evolution of retail within increasingly complex processes, networks and interconnections, both theoretically and practically. The focus is on retail design, delving into the new skills required and the valuable tools needed to apply them in inherently multidisciplinary contexts. Ultimately, the aim is to navigate the intricate terrain of retail evolution and shed light on the evolving role of design in this multifaceted sector.

FrancoAngeli

La passione per le conoscenze