

***Exploring Physical Stores In Omnichannel Retail Strategy:  
How Interaction Design Is Changing In-Store Behavior***

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**Abstract**

The research investigates the use of interaction design in retail environments in the current omnichannel scenario, where many different coordinated retail channels operate simultaneously. The growth of online shopping forced retailers to look for a new meaning of brick-and-mortar stores in which customer experience is more relevant than making a purchase. Today, where the transaction happens is not relevant anymore, the shop is the place where to trigger stimuli that are impossible to find online. One approach to improving the retail shopping experience is to integrate the physical dimension with digital interactive devices, amplifying both brand awareness and product placement. While any studies have been conducted on in-store technology and *retailtainment* (Codeluppi, 2000) within the marketing field, little has been said from the designers' perspective about what kind of technologies are enabling innovation, and how they are related to the physical space of the store. In order to fill this gap, this research has been carried out to highlight the latest avant-garde in design and propose a vision for the near future. Through the analysis of some significant examples, this work shows how shops are becoming more design-oriented, hyper-connected and experience-driven. In a dynamic environment such as retail, and in a fast-evolving sector such as digital interaction design, this research aims to frame the current scenario, pointing out interesting trends and showing the way for future development.

Keywords: Experiential Retail, Interaction Design, Retail Design, Shopping Experience, Omnichannel

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## **Introduction**

In the last decades, the spread of internet and digital technologies had an enormous influence on many fields of our lives. The retail sector is for sure one of those that have been impacted the most from this introduction. In fact, the emergence of internet-based purchase channels is considered, among the last innovations in retail, the most significant one (Alexander & Blazquez Cano, 2020).

A key player in this revolution is the wide diffusion of internet-enabled devices. The technological advancements of last years have transformed these devices from heavy, bulky and complicated computers to tiny, light and easy-to-use tablets and mobile phones, multiplying their possibilities of application and displacement. The availability of these products (at least their entry-level models) at increasingly competitive prices, has determined their diffusion on a broader basis among the population (Perry et al., 2019). All these factors have contributed to making today's consumers quite confident in using internet platforms for many purposes, including carrying out a purchase or any operation involved in the purchase activity.

Since its first appearance, internet has evolved greatly both in objective, dissemination and supporting technology. The online universe is in continuous expansion as currently shown by its circulation through devices such as smartphones and tablets, apps, gaming platforms and metaverse (most recently), and social networks. This multiplicity of virtual media reflects on the retail sector allowing as many purchasing options.

The increasing consumers' shift towards virtual channels, recently accelerated by the covid-19 pandemic, is making retailers questioning the purpose of physical store within this new, hyperconnected reality. Recent studies (Chen, 2020; Iannilli & Spagnoli, 2021) on the role of the brick-and-mortar store within the current retail panorama, agree on the fact that it is not disappearing, but facing a transformation in order to keep the pace of evolving purchasing methods and consumption models. Within this new context, the store is changing from being a place that simply provides products to buy, to being a place that provides experiences, regardless of where (or whether) the purchase is going to happen in the end (Chen, 2020). Since familiarity with digital devices grows among population, interactive technology is today recognized as a useful tool to provide a satisfactory customer experience, augmenting customers' engagement through their shopping journey.

In such a fast-evolving scenario, the purpose of this paper is to examine the role of technology and interactive digital devices in influencing clients in-store behavior and, from a designers' point of view, to understand how these new features are shaping the architectural space of the store of the future. The research identifies three significant case studies, belonging to different retail sectors, that show a successful digital integration of the physical store and an improved customer involvement using different interactive devices.

## **Physical Stores in the Omnichannel Strategy**

While only few years ago online shopping was considered a threat to the survival of the physical store (Pratte et al., 2014), today it is possible to affirm that this danger is not yet on the horizon. In fact, most of the retail sales are still taking place in physical stores (Iannilli & Spagnoli, 2021), reaffirming the importance of this channel even in a period of such rapid digital transformations.

What is happening nowadays is that material and immaterial purchase channels are becoming complementary parts of a broader, more articulated approach to retailing: omnichannel (Blázquez, 2014). Within the omnichannel strategy, different entities like physical stores and virtual platforms (web pages, apps, social networks...) are no longer considered as different channels, but as parts of one interconnected system that operate in a new fluid dimension. The goal is to eliminate the distinction between different channels, making all of them operate together as a whole. This allows clients to take advantage of each channel's strong point (Alexander & Alvarado, 2014), experiencing a more consistent shopping journey that encompasses all of them. An example of a frequent customer shopping pattern is browsing products online and then purchasing them in the shop or vice versa. The ability to switch easily and quickly between mediums meets the purchasing expectations of the contemporary consumer. The aim to create a coherent and seamless shopping experience between online and offline channels, leads also to losing the connection between the shopping activity and the specific place (be it tangible or intangible) where this activity is happening, enhancing instead a more direct relation with the brand (Bonetti & Perry, 2017).

Blurring the boundaries between different channels, online shopping is assuming functions that once were provided only by the brick-and-mortar store, forcing the latter to look for a renovated significance to fit into the new omnichannel panorama. Despite a continuous shift towards digital media, the physical store maintains its centrality as the space that allows interaction between the client, the product, and the environment. The material presence of the store, opposed to the immateriality of virtual media, allows physical interactions that are quite difficult to recreate online, particularly in the field of fashion, where trying on a product is fundamental to understand how it fits. For this reason, the store is still necessary, and it is the perfect complement for digital purchase channels. The store has now the opportunity to develop its full potential as a place for spatial experimentation (Chen, 2020), an essential touchpoint for generating memorable shopping experiences, also helped by digital interactive technologies.

### **Shaping in-Store Experience with Interaction Design**

Considering shopping as a leisure activity and not a necessity anymore, the focus has shifted from the purchase of the material product to the provision of a satisfactory experience (Gehring et al., 2011). Store atmosphere is widely recognized as a factor that has a profound influence on shopping experience and, consequently, the careful design of the retail ambience can positively affect customer's decision-making process (Kotler, 1974).

Before the digital revolution, the shopping activity inside physical stores was usually enhanced with an accurate design of the interiors, showing products in museum-like settings, providing relaxing areas or in-store cafes. Customer experience was a top-down process, controlled by the retailer. Today, increasingly digital-confident consumers have higher expectations and seek for a wider variety of stimuli such as information, suggestions, usability, customization, engagement, thus inducing retailers to pay great attention in the design of a fulfilling shopping journey across each channel through which they operate. The kind of experience that a physical store must provide nowadays comprises inclusion and participation, it must not offer a static experience but a dynamic one, in which clients can be active creators of their own shopping journey. Technological internet-enabled devices, thanks to their current degree of development and availability, have a significant weight both in fostering this demand and in providing the instruments to fulfill it. Through these resources, the traditional point-of-sale is implemented in order to enhance its physical dimension,

blending it with the virtual one. Retail design intervenes in this transformation transposing virtual stimuli into the offline world, turning the shop into a more interactive environment with the use of innovative devices that confer added value to the space (Iannilli & Spagnoli, 2021).

A well-integrated system can contribute to shaping customers' experience during all the phases of the shopping process. The first in-store interactions are related to the provision of information and suggestions or to the induction of a desire. Digital panels or interactive screens are both useful in providing product information to clients and in stimulating their will to make a purchase through advertising and recommendations. During the purchase, technological tools intervene influencing customers through personalized advice, giving price, availability information, and simplifying buying operations. The first goals are often achieved with digital signages and info-points or providing products with a Quick Response (QR) code or a scannable tag that can be read by a specific in-store device or by customers' smartphones. Regarding the second one, self-check-out machines or buy-online devices allow clients to speed up the payment phase, thus decreasing friction and frustration and improving the overall shopping experience. A difficult challenge for retailers is to hold clients inside the store once the sale is completed, to extend customers' journey beyond their shopping activity in order to establish brand loyalty. To this end, interactive platforms can still play a fundamental role. In fact, all kind of devices providing social media interfaces of feedback options, might be used to keep the clients engaged and active inside the shop space after the purchase, encouraging them to share or comment their experience. Giving value to consumers' opinion is crucial to successfully conclude the shopping journey, making them feel important and considered, and contributing to captivating new customers if the comments or information shared are positive (Bonetti & Perry, 2017).

Digital elements that offer an interaction with the client are integrated inside the physical store in many different ways and can perform a multitude of functions that improve shopping experience and customer's satisfaction. Information can be accessed through connected devices such as screens or tablets or can be provided through scannable tags. Suggestions, advertising, and other hedonic stimuli are conveyed through digital mirrors, videos, or beacon technology. The purchase activity can be improved with the aid of technological tools like self-check-out cashier, i-Kiosks, interfaces set up to allow online purchases. Through all these media, shoppers can independently interact with the product and/or with the brand and participate in creating their own shopping experience, which may start in-store, but can continue elsewhere thanks to digital integration (Bonetti & Perry, 2017).

## **Case Studies**

The physical reality of a retail store evolves constantly. As a result, it is possible to find a broad panorama of exhibit design strategies, guided by different communicative purposes. Retailers are increasingly interested in incorporating new technologies into their stores, with the intent of being more competitive with other companies and to provide a contemporary shopping experience. The user experience must benefit the customers and encourage them to return to the store, ideally combining the best of physical engagement and online services. After a careful review of literature, an in-depth research was carried out to determine significant case-studies, in different market sectors, in which interaction design is applied in the most innovative and effective way. The selected case studies are the Burberry Social Store in Shenzhen, the Google Store Chelsea in New York, and Hema supermarkets in China.

It is interesting to point out that two out of three cases are located in China, due to a generally higher level of confidence in the use of technology among Eastern consumers.

### **Burberry Social Store**

In July 2020, the British fashion brand Burberry opened a forward-looking flagship store in Shenzhen, China. The 5,800-square-foot store is specifically designed to blend the physical experience with the digital dimension, embedding social media engagement into the flagship space for a digitally immersive customer journey.

The central element that enables interaction inside the store is the smartphone. The instant communication platform WeChat has been upgraded by its developer Tencent Technology with a dedicated mini program that works as a bespoke digital companion for Burberry Shenzhen customers. Inside the shop, clients are encouraged to interact with the space in order to discover additional contents and share their experiences online. All the products and some specific areas inside the venue features QR codes that, once scanned, display information and extra contents both on clients' personal devices and on the closest digital screen among the numerous inside the store, enhancing Burberry's narrative through a multimedia responsive storytelling. Burberry Shenzhen social platform is a complex and articulated digital ecosystem where customers can earn a social currency as a reward, impersonating in animal avatars that evolve over time like a video game character. Clients are paid back for interacting inside the store or playing through their avatars to videogames provided on the app. The earned virtual currency is used to unlock exclusive contents that can be both physical (exclusive dishes at the in-store Thomas's Café) or digital (avatar outfits, unlocking new items on the application).

The concept behind this innovative store is the idea of *Social Retail*: rewarding customers for engaging with the brand both online and in-store, creating a plus to traditional retail by using the soft power of gamification. According to Mark Morris, Burberry senior vice president of digital commerce, "Social media is an increasingly important part of the customer journey and the interaction between social media and physical surroundings is ever more seamless, our social retail store in Shenzhen is our response to this. It is a space where the social and physical worlds merge, taking interactions from social media and bringing them into the physical retail environment" (Block, 2020).

### **Google Store NYC**

In June 2021, the giant tech company Google unveiled its first permanent store in New York City, after experimenting with pop-up stores in the last years. Google Store occupies the ground-floor of the former Port Authority Building that houses the company's office on the upper levels.

Unlike other tech companies, the store, designed by Reddymade Architecture, does not feature a minimalist and hyper technological aesthetic. The venue is a relatively small space, characterized by a warm atmosphere, that aims at creating a friendly, comfortable, and homey environment. The project achieved the LEED Platinum certification, a rating system that certifies green buildings, thanks to a careful selection of sustainable materials such as recycled flooring, cork furniture and wood panelling: every detail contributes to communicating Google's philosophy and to enhance its narrative. The store's concept is strongly influenced by 'A Space for Being', a previous research conducted with Reddymade

Architecture, Muuto and Johns Hopkins University to create an exhibition at Milan's Salone del Mobile 2019, focused on how the aesthetic experience of the surrounding space have the potential to impact our health and well-being (Scarano, 2019).

Along the external perimeter of the store, large windows create a close relationship with the street, allowing passers-by to interact with screens installed on them and to feel as if they were inside the store. Through their smartphones, people can visualize augmented reality contents related to different Google products without even entering the shop. Once inside the store, customers are able to experience how Google's products and services work together in real-life scenarios. The internal space is divided in thematic rooms called *sandboxes*, an evocative naming that explicitly refers to the act of playing. One of them is the Nest Sandbox, a simulated living room where it is possible to see how all Nest devices work together. In this space, clients are immersed in a domestic environment where they can interact with the domotic system powered by Google. Another sandbox is the Pixel one, a dark room with a site-specific light installation where it is possible to test the newest Pixel smartphone by taking group selfies. The only area of the store in which hi-tech performance is clearly highlighted is the Google Imagination Space, a seventeen-foot-tall installation characterized by a semi-circular structure made of cylindrical glasses, with three vertical interactive screens installed inside. There, customers can simultaneously view a real-time translation of their speech into twenty-four languages, while a dynamic data visualization explains the machine learning capabilities behind the famous Google Translate software.

In this store, Google exhibits its vision of the 21<sup>st</sup> century where people return at the centre. The setting emphasizes the possibility of human-to-human interactions mediated, but not overcome, by technological devices that must integrate discretely.

### **Hema and Alibaba's New Retail Concept**

In 2016, Jack Ma, founder of the e-commerce giant Alibaba Group, coined the term *New Retail* to describe his vision for the future of retail, which is not about a total domination of e-commerce, but consists in the complete digitalization of all commerce typologies. In his opinion, the key to keep physical retail alive is to integrate both dimensions in a single hybrid system, not only in terms of customer interface, but also in terms of services, logistics, and data, providing a better shopping experience tailored to each client. The New Retail concept represents a pillar of Alibaba's strategy to spread its services ecosystem from China to the rest of the world. According to Daniel Zhang, CEO of Alibaba Group, "Physical stores serve an indispensable role during the consumer journey and should be enhanced through data-driven technology and personalized services in the digital economy. By fully integrating online and physical channels together with our partners, we look forward to delivering an original and delightful shopping experience to Chinese consumers." (Wang & Coe, 2021).

Alibaba's project to expand in the large-distribution field is achieved through Hema, a new high-tech supermarkets chain. Since 2016, when the first Hema store opened in Xiansheng, the brand is rapidly expanding, counting to reach more than 2000 stores by 2023 (Wang & Coe, 2021). Compared with similar examples in Western countries, like the Amazon Go stores, the growth of Hema is impressive in terms of numbers (McKinnon, 2021). The whole shopping experience is built around the customer's smartphone, eliminating the need for nearly any other form of in-store equipment. Every action is controlled by Hema smartphone app: once customers have logged in, they can scan products with their phone to add them to the purchasing list, scan QR codes on price tags to get product information, receipts, or

recommendations. Since Chinese customers are particularly concerned about the freshness of their food, Hema app provides an individual web page for each product where much information is recorded, such as the product origin, the company name and background, transportation information, food safety certificates, ingredients, recipes suggestions, buyer reviews and so on. Shopping experience is improved also thanks to digital payment devices that speed up the purchase process, thus making it less stressful. The check out is linked to Alipay, a payment system provided by Alibaba that allows a completely cashless service through self-check-out devices, including also looking forward methods like payment by facial recognition.

The purchase activity in Hema is mainly driven by the interaction with its own smartphone application, allowing the client to reach a large amount of information without creating an overwhelming visual communication inside the store. The digital dimension is overlaid on the physical one, making the online experience a part of the in-store purchase process. Eliminating discontinuity in the perception of virtual and physical purchase, Hema provides to its clients a more coherent shopping journey compared to other competitors.

## **Conclusion**

The case studies presented above show how digital interactive technology can be effectively introduced in physical stores in order to enhance consumer's shopping experience, creating a *phygital* reality where online and offline dimensions merge into a hybrid new one. The research highlights that there is not a standard to follow when integrating digital devices into the point-of-sale, instead retailers are currently showing that there is a multitude of different possibilities to face this new challenge. This multiplicity of choices is due to a proliferation of technological devices that have been lately developed and can be applied for this purpose, but it depends also on factors such as the product category, the brand values, and the average consumer attitude. As a consequence, the best practices described in the paper show that also the experiences provided by these digital interactive devices are not all the same.

Within the Burberry store, the accent is on the social dimension of interaction. The specifically designed app, the gamification of the experience, the reward for taking an active role inside the shop: all these features insist on a "social network" vision of the store, which is designed accordingly. Inside the Google Store, the client is immersed in a universe in which every action is actually a direct interaction with the space, which is set to provide an immersive experience, aiming at recreating the environments in which the products might be used at home. Hema supermarkets are instead an example of how the implementation of interactions inside a store can positively affect the shopping experience also from a practical point of view. The innovations introduced in these grocery stores, in fact, do not provide additional services or particular experiences but support clients through their purchase activity making it easier, informed and thus more enjoyable.

While the case studies show multiple good ways to integrate interactive digital devices into physical stores, it is also necessary to highlight that the retail universe is not united along the way to technological implementation. The cost for digital transformation, which means to create an expensive physical and digital infrastructure, is affordable only by wealthy companies. In addition, some brands (but they are becoming less and less) are linked to a more traditional image and prefer to reduce digital innovation in order to preserve their identity (Bonetti & Perry, 2017). This means that the retail environment is splitting between big and forward-thinking brands that are already investing into the design of hybrid spaces,

stores of the future, and small and medium companies or more traditional brands, that are evolving at a quite slower pace. Another important point to report is that, despite the best practices shown in this work, it often happens that retailers struggle to understand how to effectively combine the physical and the virtual dimensions. It is common to find a lack of awareness in the use of interactive devices, that are often introduced as hi-tech pieces of furniture without fully exploiting their potential, which means not only to install technological interfaces inside the store, but also to improve logistics, services, and all supportive infrastructures. This means that, even if people are increasingly confident in shopping online and using in-store technology, they might not always benefit from these features as an effective permeation of physical and virtual realms is not always fully accomplished.

An important fact that emerges from the analysis of these case studies, and, more generally, from the existing literature, is the growing predominance of smartphones as a tool of digital interaction inside the store. Mobile phones have become the preferred medium to browse on the internet for a few years already, surpassing personal computers for the first time at the end of 2016 (StatCounter, 2016), and their usage for purchase purposes is constantly increasing. The act of consulting the personal device while shopping is becoming more and more common among customers, a fact that represents a great opportunity for retailers to get the virtual and the physical world closer, to accelerate digitalization, and to enhance store interactivity. Clients willing to use their smartphone inside the store reduce the need to install additional equipment. In fact, personal device, through specific apps or interfaces, allows to provide supplementary services, information, and suggestions creating engagement, enabling contents, fostering interaction. Customers are pushed to reconsider the dimension in which their shopping journey is happening, that is at the same time material (physical interaction inside the store) and immaterial (digital interaction on online channels). The usage of the smartphone as an in-store interactive tool creates continuity from physical to virtual purchase operations, allowing clients to save information acquired during the store visit and to review them in a different moment and place, resuming the shopping activity when already out of the store, and expanding the shopping experience in place and time.

The current scenario is still evolving since digital and interactive technology is being constantly upgraded. It is then quite difficult to clearly indicate a path for future development, even if, as illustrated through the selected best practices, some interventions seem quite promising. What is clearly emerging is that the separation between the virtual and the physical dimensions is more and more blurred, and that their integration is becoming stronger each day.

In order to get a more complete vision, it would be helpful to support the theoretical research with interviews to clients, retailers, and designers, collecting insights from the subjects that deal with these spaces most frequently. A continuous update of the technical advancements, combined with feedbacks from different type of users, could be an effective method to understand such a dynamic situation and an interesting field for further investigation.

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