

The Use of Digital Technology to Reshape the Retail Store

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Abstract

The creation of a retail store able to offer multidimensional experiences is one of the main challenges of the last few years. The blend of physical and digital elements permits to create a new manner to consider the evolution of a fixed retail store. The traditional retail store is able to integrate physical elements normally placed in a store with digital technology in order to create immersive experiences where people can interact with digital content by using only hand gestures and natural movements, in an interactive environment.

From literature analysis, emerged that the Internet use and digital and interactive strategies are not being exploited in a broad way in order to revitalize retail stores normally placed within an urban area. Thus, this work will provide a new point of view about a traditional retail store becomes a multidimensional place by combining physical and digital elements.

Keywords: digital technologies, retail store, interactive experience

1. Introduction

The relevance of a traditional fixed store placed in the urban area of a city is correlated to the welfare of the cities and in general has always had a primary role in social and economic life of an urban area with broad impact on the environment (Albino et al., 2015). If the core of an urban area is considered the town centre it is obvious as this zone is one of the main attraction for people, with particular interest in the retailing (Caboni & Bruni, 2015). For this reason, retailers within fixed stores in the core of the urban area play a central role in the economic development of this area. The development of the vitality and viability (Schiller, 1986; 1988; 1994; Paddison, 2003) the urban area is strictly connected with the vitality and proactivity of retailers because as now as in the past people (citizen, tourist and investors) come to the shopping streets to buy and sell by meeting people and stay together. In the last few decades, academics but also practitioners focused their attention on the practice of urban revitalization (Coca-Stefaniak and Carroll, 2015) with specific reference to the retail sector. The development of retail sector in this era is strictly connected with the intensified use of the Internet (Singh et al., 2001; Ickler et al., 2009), and the increasing skills of people to purchase products and services online (Yadav et al., 2005). The introduction of Internet and digital technologies related to the commerce (Hart et al., 2000) are the main factors influencing people during their shopping process. Nowadays, people during the shopping process want to live and immersive experience anywhere, anytime and become a protagonist thank to the technology.

The impact of digital commerce and the importance of technologies are fundamental to help the retail revitalization and specifically to transform a fixed store in a place where people can interact each other and become as main actor in the shopping experience in a vibrant place.

By considering three ways of doing commerce on the Internet (electronic, mobile and social commerce), this paper tries to explain the main characteristics of this kind of commerce in relation the revitalization of a fixed store. The main purpose of this paper is to offer a new perspective on the possible evolution of a store from a simple physical place to an "Experience Place" (EP) enriched by digital technology. The development of an "experience retail place" is becoming a new evolution of the fixed traditional store in order to create a place with good quality products but first of all with a good quality of experience (Chen and Chen, 2010) with the adoption of digital technologies to help people to simplify their life. Taking into consideration the different levels of experience economy introduced by Pine and Gilmore (1999; 2011) this paper uses the term "Experience" and consequently "Experience Place" only from the technological perspective applied to the retail sector, through which people can live an immersive and interactive experience. In that sense, this paper considers an "Experience Place" as a

physical space within fixed store, in which all elements (shelves; products; accessories and other elements) are linked to a new set of technologies, devices, and applications. This paper considers an “Experience Retail Store” as place where people have the possibility to actively involved in the shopping journey during their daily life. More precisely technologies help people to live immersive experience with all of five senses (Pine and Gilmore 1999; 2011).

More specifically, the expression “Experience Retail Store” in this works refers to three main features:

- 1) Instrumented. An “instrumented” physical place with the capability of capturing and integrating live real world through the use of sensors, appliances, personal devices, and any other digital devices (Zygiaris, 2013);
- 2) Interconnected. An “interconnected” space with able to connect people and any kinds of elements using new technologies (Zygiaris, 2013);
- 3) Intelligent. An “intelligent” place capable of using different ways to connect and communicate with people (Zygiaris, 2013);

The new evolution of a simple physical store in a vibrant and interactive environment must transforms the place where people normally doing shopping by becoming an attractive space through the implementation of technology (Komninos et al., 2013).

The purpose of this paper is to understand how a physical store called in this work “Traditional Fixed Store” could reshape by using the integration of different ways of doing commerce through Internet and the combination of digital technology. Firstly, this work explores the literature regarding concepts of digital commerce, such as electronic commerce, mobile, and social commerce, highlighting their possible uses in the retail strategy for traditional fixed store. The choice to take into consideration these kinds of digital commerce is related to its large development in last years and in particularly also by considering the adoption of digital commerce by retailers. Secondly, this paper analyses some of the most important digital solutions can be integrated with digital commerce to create a new interactive place to enrich the shopping journey of people. Nowadays, people need to have new stimuli and the use of interactive technologies involve people in new immersive experience by engaging the five senses. Finally, a new perspective of retail store it is proposed basing on the three forms of online commerce and some of the most interactive digital technology to create a “experience retail store.

2. Method and Materials

The literature review was conducted in three steps: literature search and analysis basing on the three main ways of commerce mediated by Internet (electronic commerce; social commerce; mobile commerce), and finally the creation of a new perspective of a retail store. The first step was fundamental to understand the connection between the above forms of commerce and the traditional store. The literature search was conducted by using only the Scopus database because its indexing approximately 70 per cent more sources than other databases, such as Web of Science (Brzezinski, 2015). The literature search was limited to published articles and scientific book chapters edited in English within academic journals (Green and Hall, 1984). This choice is connected with the quality of peer review process offered by academic journals and scientific books, while the quality of books, conference papers and non-academic material is less ensured (Lucarelli and Berg, 2011). The literature search was conducted by combining the keywords – electronic commerce; social commerce; mobile commerce - with the keyword traditional store. The third step consisted of a development of a new perspective of a traditional store basing on the three forms of online commerce and some of the most interactive digital technology (Quick Response Technology; Augmented Reality; touch Window; Holographic Technology) to create a “experience retail store.

3. Theoretical Background

The electronic commerce (e-commerce) is considered as the digital commerce by using the support of the Internet. Internet is the tool able to permit the exchange of information, goods, services, and payments (Harrington, 1995; Singh, 2001; Terzi 2011) and which affects the perception and attitudes of traditional market retail (González and Waley, 2013). Thanks to the development of Internet and its large and broad diffusion around the world it was possible the development of electronic commerce by creating a fast way to sell and buy products also by offering attractive opportunities for retail growth (Palmer, 2000; Wilson and Abel, 2002; Yang *et al.*, 2009; Turban *et al.*, 2015) and in particular for retail owners. After the first development of e-commerce a lot of small retailers around the world got in crisis due to the competition with the online commerce. But in a new vision of integration of physical and digital elements nowadays e-commerce could be considered as a support for retailers want to integrated their traditional form of selling also on the Internet and stay connect with their clients anywhere, anytime. The adoption of electronic commerce by retailers represents a simple solution able to sell products also in a digital world. Nowadays the number of purchase online constantly growth, and a lot of people prefer to buy from

home, and retailers should consider this trend (Terzi, 2011; Turban *et al.*, 2015). The join of electronic commerce and fixed traditional store permit the evolution of a new place with two different levels of windows to their client: online and offline contemporary.

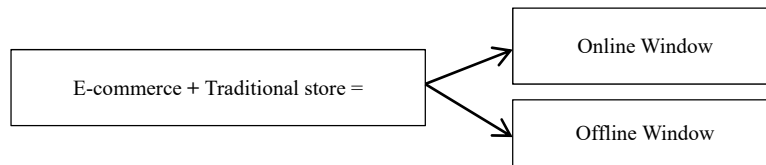


Figure 1. Electronic commerce and traditional retail store

Source: Author data elaboration.

Another element useful to enrich the retail store is the consideration of the mobile commerce (m-commerce). The last decade was characterized by the rapid and broad proliferation of mobile devices (Khalifa *et al.*, 2012; Lu *et al.*, 2012) and in relation of this, the mobile commerce influenced also the retail sector. The emergence of mobile commerce is specifically related to the growing number of consumers using smartphones or other Internet mobile devices (Siau *et al.*, 2004; Bhatti, 2007). The use of mobile devices in the retail context permits people to acquire a “mobile” way to access worldwide information and particularly to buy products or services during their daily life. In this optic, the mobile commerce could be considered as an extension of e-commerce (Siau *et al.*, 2004; Bhatti, 2007). The integration between mobile commerce and electronic commerce could be a strategic way to keep in touch with client and offer them another opportunity to buy products also abroad their home. The first and main opportunities offered by mobile commerce are the mobility and broad reach. Mobility, in particular, implies that people can purchase something through their mobile devices and that they can be reached at any time via a mobile device (Ngai and Gunasekaran, 2007). Retailers can exploit the great opportunity offered by mobile commerce to connect their online presence and fixed store using mobile technologies.

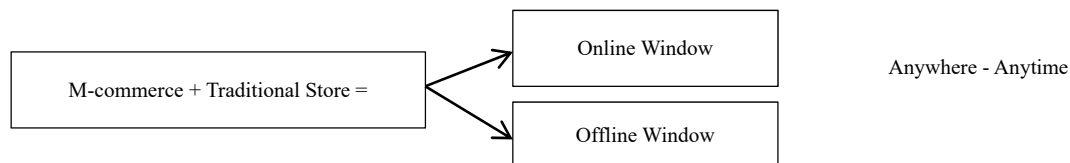


Figure 2. Mobile commerce and Traditional retail store

Source: Author data elaboration.

Finally, the third element of commerce by Internet useful to considered in the development of new form of traditional store as an “experience place” for actual and potential customer is the social commerce (S-commerce). The social commerce can be defined as word-of-mouth applied to e-commerce (Dennison *et al.*, 2009; Hajli 2015). As stated by Robleck *et al.* (2013) the s-commerce allows people to share information and opinions. This way of doing commerce by interacting constantly with other people changes completely the way people approach to the shopping process with the creation of a connected environment. The social commerce is also a way permits retailers of traditional store to stay constantly connected with actual and potential clients and also offers customer a possibility of interact each other. This kind of commerce is possible by introducing the function of social media in the electronic or mobile commerce. By exploiting the potentiality of social commerce people can have the possibility to interact during their shopping journey (Shen 2012; Kim *et al.*, 2013), and create a new interaction with other people with the same attitudes to shopping. In the social media era people have the possibility to become active producers of content over the Internet (Ickler, 2009) and also create a specific content to share with others as an active protagonist of their activity. The social interaction (Kim *et al.*, 2003) is one of the main element characterizes the social commerce process, by the creation of relationships between people. The phenomenon of social media needs to be considered by retailers especially in the creation of an “experience place”. Through the social commerce a new dimension of commerce has been created with a process of socialization, communication, and exchange of information that goes beyond the single purchase.

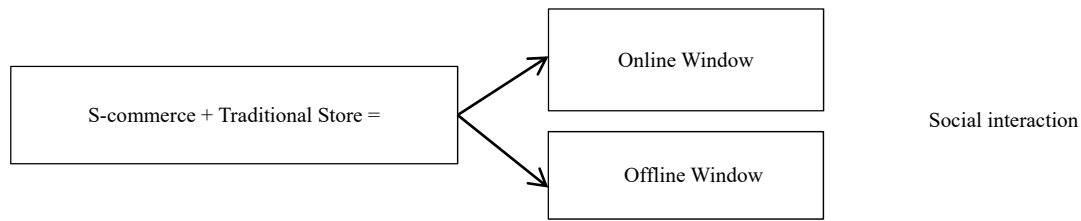


Figure 3. Social commerce and Traditional retail store

Source: Author data elaboration.

4. Experience retail Store

To create an “Experience Place” as considered in this work as an “Experience Retail Store” could be necessary to join three forms of commerce mediated by Internet (electronic, mobile and social) with the extra value of features offered by some of the most important digital technologies (fig. 4) useful to create an immersive and interactive environment. In particular, the digital technologies explained below could be considered some of the most interesting solutions for the traditional store where people can live a more immersive experience-shopping journey.

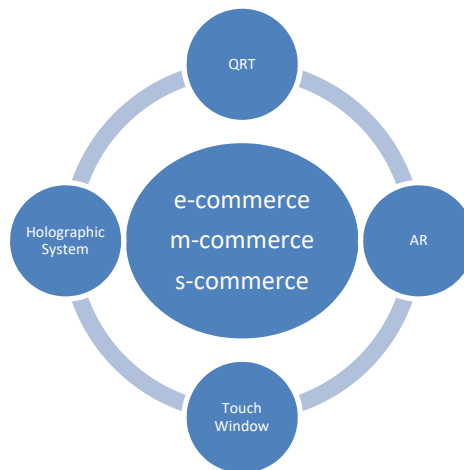


Figure 4. Relationship between online commerce and digital technology

Source: Author data elaboration.

4.1 Quick Response Technology

The Quick Response Technology (QRT) is a particular kind of technology based on the bar coding and scanning. Thanks to this technology retailers that possess a Quick Response code in their products/ shelves or in their store window could have a major interaction with their clients. In fact, retailers can obtain profits in return for delivering satisfaction through improved store attributes (Meydanoglu, 2013). The QR code is a digital technology permits the interaction between retailers and customers, offers a big amount of information just by scanning the code place on the products/shelves/ window, and for that reason could realistically be part of a retail store strategy. To achieve the goal of having better operational efficiency and retaining effectiveness, Quick Response Technology could be a crucial element of a retail store strategy for small and big retailers. In fact, the principal differences between a traditional barcode and QR code are based on the interaction and functions. The first code (traditional barcode) is a static code, useful only for retailers. The second one (QR code) is an interactive code useful for retailers and consumers, available through a free mobile app, permits to find information and to complete the purchases. Retailers that implement this kind of technology in their physical store have the possibility to connect the physical shop to the digital world via mobile devices, and also offer a new possibility to complete the shopping process via mobile. In other words, QRT technology can be considered a tool that helps retailers to connect their physical store to the world of the online commerce.

4.2 Augmented Reality

The Augmented Reality (AR) is considered as a particular kind of digital technology permits to physical and digital elements to coexist in the same space as the real world (Watson *et al.*, 2018). The principal difference between Virtual Reality (VR) and Augmented Reality is the presence of a real environment where people are completely immersed and contemporarily people can interact with digital objects reproduced by a computer (Azuma *et al.*, 2001). The Augmented Reality is able to create a new kind of environment for the revitalization of the physical retail store by matching data generated by a computer into the user's view of the real world (Wang *et al.*, 2013).

By using the Augmented Reality, it is possible to create an immersive and interactive experience inside a physical store and permitting customers to see the real world with digital objects composited within the real world. Through this technology, customers visiting a traditional retail store can stay in a physical space but live an intense, immersive and interesting experience where the physical and digital worlds are fused together. The blend between real and digital worlds creates a new dimension of experience, providing the possibility for people to interact in real time and live a new experience in three dimensions.

4.3 Touch Window

The technology based on touch systems is an innovative solution that can be useful for different kind of business but particularly for retailers and their physical store. This kind of technology is based on a system able to allow people to interact in a smart environment. The creation of a touch window permits people also outside the store to interact with products and to start the shopping process before entering in the store. Through a touch window potential and actual customers have the possibility to search some products before their purchasing and enter in the store only if it presents the goods they need. Customers can view images or videos on multiple displays, and where they also can have the possibility to create their own personal solution. If retailers decide to adopt Touch Windows can customize the shopping experience for their potential and actual customers. The touch technology placed on the store window, permits customer to explore the store and interact with interactive content and have a dynamic and engaging multi-touch experience without ever going inside. Overall, the touch window allowing people to share content in a digital, interactive, exciting, and stimulating space inside and outside the retail store. The value of this technology is twofold. On one side, retailers can get their clients (potential and actual) involved, promoting and collaborating. On the other side, touch technology allows retailers to promote an interactive technological experience, to boost, improve, and accelerate the shopping processes.

4.4 Holographic Technology

The holographic technology is an old technology developed in 1947 by a Hungarian physicist created the hologram. It is composed of a transparent glass on which multimedia contents are projected. This technology could be used in a new and interactive way in the retail sector by using the Virtual Shopping Assistant (VSA) or also to reproduce some famous person related to some brand, in order to attract the customer's attention. This technology could be also integrated by retailers and placed on the window in order to permit people to interact with digital content, browse catalogues, watch videos. It is an extremely immersive retail activity with a high visual impact. Through holographic technology, images are projected on a completely transparent touch glass composed of thousands of holographic prisms receiving light from the projector in order to create an exciting and spectacular three-dimensional effect (Elmorshidy, 2010). This technology allows retailers to create a touch information point where potential and actual customers can interact, through simple gestures and natural hands movement, with digital content.

5. Conclusions

The actual technological era has completely changed the way how people are connected to the world. Nowadays, people want to be connected anywhere and anytime during their normal daily life. After a long time of crisis affected the world economy and in particular retail sector around the world, today a "new retailer" should be able to stay connected with its potential and actual customers and offer an immersive, digital and exiting shopping experience. The three main elements to observe in order to create an "Experience Retail Place" are based on the connectivity, authenticity and style. The first element of connectivity is related to the ability to send vast amounts of data instantly, constantly and globally. The "connectivity" is connected to the new kinds of relationships among people developed by the use of digital technologies. The second element is based on the "authenticity" and is related with the attitude of people want to stay connected with other authentic and real people during their daily activity and specifically during their shopping journey. The third element connected with the "style" is basically constructed on the way retailers can sell and interact with their customers. Fundamentally, the new retailer in the creation of a new "Experience Retail Store" should be constantly and timely connect with its customers in a

digitally and interactively way. Bearing in mind all of these considerations the “Experience Retail Store” represents a combination of several elements that are normally used alone. In fact, this paper proposed a blend of these elements that, through a systemic approach (Von Bertalanffy, 1972), can increase the intrinsic value of a “Traditional Retail Store”, transforming it into an experience retail store. From the combination of these technologies is born an experience place where people are completely involved and immersed in the retail store. Each of the elements analysed here could be used in the commercial or business world and their combination together creates new value for the retail store able to offer people an immersive experience. The use of commerce mediated by Internet (electronic, mobile and social) becomes a usual part of the offer developed by retailers and a huge value is added by the use of digital technology (such as: Quick Response Technology; Augmented Reality; Touch Window; Holographic System) in order to create an immersive shopping experience.

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