INNOVATION IN RETAIL

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Abstract: *This paper proposes an investigation of the trend concerning both to innovation in the field of retail trade and involvement of technology in streamlining the purchasing process, starting from the example given by Amazon- that is, implementing artificial intelligence and sensor-based systems in cashless stores, Amazon Go. The purpose of this scientific approach is to understand the influence of technological developments within the retail field and to analyze the current state of innovation in this industry for a possible shaping of the future buying experience.*

Key words: *retail, innovation, technology, change.*

1. Introduction

Technological advances in recent years have led to many improvements in various industries, reshaping them under the influence of strong innovation. The world of retail is no exception, where the impact of technological evolution plays a very important role in moderating the constant changes which occur in the field.

Historically, this evolution has shaped the concept of retail over time through the implementation of internet-based technologies, which have given companies the opportunity to reach customers through new ways (eg Google AdWords), revolutionize supplies, manage orders and deliveries and apply radical business models (e.g., Netflix, Amazon). These changes have directly affected consumers, who are in a position to interact with each other through blogs and forums, social networks, with the possibility of adding reviews of products and services (Varadarajan et al., 2010).

Given the frequent changes in this area, companies' efforts to maintain profitability, maintain market relevance and gain competitive advantage are based on the adoption of new technologies and innovations, especially those in the area of customer contact interface.

Traditional business models of retailers are confronting with disturbances, for new participants entering the maket are offering more value to their clients in an efficient manner. To stay competitive and to be able to survive in this diverse environment, marked by continuous changes, retailers must innovate by adopting new technologies with a positive impact on the retail industry (Oasthuizen, 2020).

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2. Retail Innovation through the Use of New Technologies

2.1. Artificial intelligence

Applications based on artificial intelligence include customization and referral systems, efficient sales / customer relationship management, customer service management, supply chain optimization and inventory management.

In January 2018, Amazon opened the first cashless grocery store, Amazon Go, implemented through artificial intelligence in Seattle, Washington. Amazon Go's innovation has been the sum of several technologies used throughout the company's time, such as artificial intelligence, machine learning, facial recognition, integrated payments, Qr Code identifiers and technologies based on a multitude of sensors.

Customers can enter such a "Just Walk Out" store through a mobile app associated with a credit card, select the desired products from the shelves and refrigerators, and then leave the store without waiting for the scan. The payment is made automatically, the total purchased products being withdrawn from the account associated with the exit application. This is possible thanks to the camcorders on the ceiling and shelves that follow the customer's movements through each frame. The software decides which items were selected using the depth sensors of the camcorder and the weight sensors on the shelves. Product records are reflected in a virtual shopping cart. If after the transaction, the customer is not satisfied with the purchase, he has the possibility of virtual return of the product through the mobile application for full recovery of physical return is not necessary (Ives, 2019).

Due to the current advances in Information and Communication Technologies, the sector of retailing is forced to pursuit innovation from the most recent technical solutions. Especially the use of virtual reality techniques offers tools for supporting the design of innovative systems capable of enhancing users' experience (Korves and Loftus, 2000).

2.2. Biometric technology

Retail managers continuously make decisions related to the adoption of new technologies available in the field. In recent years, biometrics has become a key word in technology circles, with more and more businesses, including many retailers and government agencies testing various forms of biometrics, from simple fingerprint readers to elaborate iris scans.

Biometrics is a process used to identify or authenticate the identity of an individual using one of its physical or behavioral characteristics. These features are not limited to fingerprints, palm geometry or iris scanning, and other options are available such as facial mapping, signature and writing style and, more recently, DNA maps (Clodfelter, 2010).

One of the simplest examples of biometric technology is the replacement of traditional authentication data (username and password) with a fingerprint for registration on a computer or network. Disney World uses fingerprint scanning at the

entrance of the theme park for season ticket holders while some casinos use face recognition technology to detect cheating players.

Biometric payment systems that use fingerprint scanning technology or the geometry of a palm represent another novelty implemented by some retailers.

An innovation in the field of retail involving biometric technology also comes from the company Amazon. Since 2020, Amazon Go cashierless stores have received an upgrade to the "Just Walk Out" system which involves replacing mobile phone scanning to facilitate on-premises access with a contactless method based on palm scanning as a unique signature which identifies the customer and enables the system based on artificial intelligence to assist him in making purchases. This technology, called Amazon One, has already been implemented in two of the Amazon Go stores in Seattle, with the initial registration of the customer lasting less than a minute. According to user reviews on the company's website, the improvement of the two concepts was a real success, appreciating the efficiency of the systems given the short time spent in the store and the safety it offers customers during the pandemic of COVID- 19, keeping physical interaction with staff to a minimum.

The strategy behind the Amazon Go store is to create a shopping experience without interacting with employees or making payments manually, making purchases as easy as possible.

Adopting this strategy is the exact opposite of the classic ways of retailing. Instead of interrupting the customer making them interact with the technology or asking them to get in touch with the brand online, Amazon wants to keep the technological aspects hidden, to run in the background without disturbing the consumer, thus shaping the shopping experience in a activity that gives the client the impression of an intimate, personal atmosphere.

3. The Role of Marketing in Amazon Go Innovation

The market segmentation strategy involves dividing it into small accessible groups, with the aim of concentrating resources efficiently in those groups with the greatest possibility of buying the product or using the service. In the case of Amazon Go, the target market is that of smart shoppers, a marketing segment which represents a group of people who prefer the ease of the purchase process despite the price. They seek to buy as much as possible, investing as little time and effort as possible.

The justification for focusing on this segment is given by the fact that the store uses a lot of technology to facilitate the customer experience, thus perfectly molding the pattern of the smart buyer whose only desire is to make purchases as efficiently as possible in a short time.

Amazon's most valuable asset is branding, which is one of the causes that led to the company's success. The main strength of Amazon is given by customer loyalty, the company being famous for its innovative and reliable products. Other factors that can be taken as strengths are sustainability and efficiency in terms of environmental protection. The brand ranking really matters for business growth, and Amazon is one of the most innovative names in the world, their aim to offer state-of-the-art technology and unique

features along with innovative products.

As Amazon Go introduces the concept of automated stores, a new and easier shopping experience can emerge, where the main goal is to become a pioneer in the market. Positioning the brand will not be so difficult due to the existing name of Amazon, the existing branding strategy proving useful in the case of Amazon Go.

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Amazon Go stores will be able to keep track of every customer movement, the brand having a greater amount of marketing data available than ever before.

Consumers are accustomed to personalizing the experience based on registration data from previous uses, which is reflected in a better service. An example of this is given by the recommendations made by the Netflix platform or by the playlists made by Spotify.

In the case of Amazon Go, consumers will waive the right to privacy when entering the store while making personal purchases, being monitored at every step whit every product taken from the shelf and every route taken inside the store. All this information will be available to the company. Many retail companies have tried over the years to track customers in order to extract data, leading to problems, such as the case of the American retailer NordStorm which was forced to give up tracking people in the store via Wifi due to consumer riots.

For Amazon Go, the goal is to use the retrieved data in a smart and relevant manner, and to perform monitoring in a way that does not endanger consumer privacy.

4. Conclusions

The adoption of new technologies in retail outlines the shopping experience of the future characterized by short lead times, reduced physical interaction and increased efficiency.

The importance of technology has reached critical levels during the COVID-19 pandemic, becoming the helping hand that humanity needs. Following restrictions and warnings designed to slow the spread of coronavirus, many retailers have been forced to close their physical stores, to rethonk strategies of providing security to customers. The imposition of new regulations has led to a much greater need to adopt technology-based solutions such as click and collect, online orders and robot-assisted operations.

Strategic returns management lets retailers get ahead of returns in a way that's cost-effective and appealing to consumers.

Buyers want to interact with retail brands that offer convenient experiences. Business ecosystems, a network of companies connected by data, products and services, have evolved in response to this demand, focusing on minimizing the number of steps a person must take to obtain the products they need.

A lot of data held leads retailers to create their own media platforms, in direct partnership with suppliers or other brands to provide highly personalized data and commitments on owned channels. These relationships are closely linked, with partners and retailers exchanging direct information about the target audience (eventually

consolidating their primary data over time), and retailers benefiting from new revenue by monetizing the data.

The process of accelerating the digitalisation of the industry will have as an effect the emergence of many new technologies in a wide range of fields, with retail being one of them. If until now the involvement of technology in the physical shopping experience was meant to improve the brand image, bring a competitive advantage or increase profits and reduce costs, in the near future this trend will become a standard whith pioneers in the field, such as Amazon enjoying leading places in the top of retailers.

For almost two years, retailers have faced restrictions on COVID-19, with e-commerce changing consumer expectations and the role of physical stores and online channels. Consumers' desire to return to physical retail can be seen in store profits after lifting restrictions.

Increasing the diversity of technologies within the field of retail, such as augmented reality, virtual reality and artificial intelligence-based information systems, raises a number of relevant questions regarding the protection of customers' personal information. Addressing potential privacy threats in the online and offline context is a complicated issue, as offline consumers are easily influenced by the shopping environment, being a tangible environment, customers feel closer to it and have more trust. Offline retail media could incline consumers to disclose more personal information than they would in an online context, including not only registration data but also the biometric characteristics of the individual, such as face, ethnicity- and behavioral reactions (Pizzi, 2020).

In the case of "Just Walk Out" type stores, the biggest impediment that must be solved by the companies that implement this concept, is represented by the customers' confidentiality, the system being based on most of their personal data. The success of the cashierless store model lies in the correct balance between the numerous advantages offered after the implementation require an accompaniment with a strict privacy policy which respects the privacy of the consumer.

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