

New Technologies Applied to the Fashion Visual Merchandising

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Abstract

This paper presents how new technologies applied to visual merchandising at point of sale could influence on consumer buying behavior, mainly among the young cohorts, as well as generating experience and attracting new consumers. A critical review based in literature research was performed as methodology. The references are based on the theories of consumer behavior, buying experience, visual communication and new technologies applied to visual merchandising, more specifically focused in fashion market. Although young people are a key focus of actions of visual merchandising and that currently they are not only represented by the Generation Y (Gen Y), major part of the available literature on this topic is still focused on them. Thus, the most of following considerations were focused on Gen Y, which should be insightful regarded before being extended for other nowadays cohorts. It is concluded in addition that visual merchandising technological actions become themselves influencers in the unique shopping experience, these new technologies applied to visual merchandising could provide cognitive, emotional, sensory and behavioral values perceived by the shopper during the buying process.

Keywords

Marketing, Visual Merchandising, Fashion, Technology, Buying Experience

1. Introduction

In the current 2010s digital scenes, characterized by interactive and instantaneous network communication, as well as the purchase experience at point of sale (POS), fashion companies increasingly include these new digital processes in their visual merchandising.

According to Porter [1] [2] technological innovation is a key factor for the

success of any company. He states that in order to the companies survive technology, innovation and knowledge, it is necessary the key factors to remain in the economic scenario.

This issue is relevant in fashion and in the academic area, since there are still few researches that connect new technologies applied to visual merchandising and consumer behavior. In addition, the dependent variable in most of these previous studies is only behavioral intention including purchase, repurchase, loyalty, complaints and switching behavior. Mainly, purchase intention is the most popular element studied as a response to exposure to online stimuli. Also, a fair amount of research used the approach/avoidance theory as a behavioristic response to environmental stimuli [3].

The analysis of marketing tools jointly with branding actions, *i.e.*, technological actions, is also essential to the fashion retail companies because the technological differential applied at POS could attract more consumers and generate information to assist making strategic decisions in several sectors of fashion companies.

The visual merchandising techniques interfere in the buying process, being indispensable for marketers to identify circumstances that arouse from a specific need of consumers, mainly the younger generations, stimulating shopping experiences through these external techniques.

On the other hand, the retail landscape is overcrowded and customers are becoming desensitized to traditional marketing methods. That is where augmented reality comes in. As shoppers turn to a blend of online, mobile, and bricks-and-mortar shopping for their convenience, brands and retailers are being caused to think of new and innovative ways in which they can capture customer attention [4].

The purposes of this study are: 1) exposing the creation and emergence of marketing experience and technological shares used in visual merchandising at retail fashion POS in order to increase the consumption demands; 2) to provide examples of new technologies already applied in visual merchandising worldwide and specifically in Brazil; 3) to present considerations on the relationship between these new technologies in visual merchandising in shopper's buying experience.

2. Methodology

A critical review based in literature research was performed. Exploratory research provides further information on the subject and facilitates the definition of the theme of research [5]. In addition, Strauss and Corbin [6] [7] suggested the relevant procedures to the grounding theory analysis, developing a new approach and providing some possibilities, analysis and conclusions about the development stage about the proposed themes and some considerations about their mutual relationships. The analyzed references are based on the theories of consumer behavior, buying experience, visual communication and new technologies applied to visual merchandising, more specifically focused in fashion

market.

3. Role of Visual Merchandising

The visual merchandising is inserted in marketing and marketing communication. This is an area designed to identify, manage, acclimatize, accommodate and promote products within the POS [8]. It is also responsible for external projects, such as signs, frontage and window. Visual merchandising professionals should highlight the products making them more visible and attractive in order to increase their turnover. In addition to the physical and visual issues related to products, visual merchandising need to aid the positioning and unifying of brand image. In short, this tool is responsible for approaching and ensuring the visual communication, its product mix and target public [9].

In addition, visual merchandising is an area of marketing that aims to track the entire lifecycle of a product at the POS. The visual merchandising is responsible for adjusting the image of a product in its POS until the analysis of its performance for consumers. Nowadays, it is a tool highly valued by marketing teams, since it is the step that meets at the same time consumer, product and money [8].

The benefits of visual merchandising that can be mentioned are: increase in the volume of sales in relation to competitors; enhance the brand image branding; improvement in brand positioning; persuasion at the time of purchase; strengthening of partnerships with suppliers; rapid turnover of stocks; products with high added value and customer satisfaction. Frings [10] classifies specialized fashion stores: 1) single row of shops (clothing store); 2) own brand stores where the products have the brand name; 3) limited online stores, where they are intended for a specific market, a jewelry store for example; and 4) multi-line stores, which include stores of traditional and specialized departments.

According to Harvey [11], companies that operate in the retail fashion must adapt their processes to changing market, new consumer demand and ongoing technological innovations. If the evolution of retail transition from the nineteenth to the twentieth century was considered radical in the context of 2010s these changes are so recurrent that they do not constitute specific changes but as a feature of the current market: volatile, fast and ephemeral.

In this scenario, it is the role of fashion companies sending messages to their stakeholders regarding their history, evolution and qualification, thus establishing strong bonds, competitive advantage or even the own survival in the fashion market.

The great trend by retailers is to transpose the facilities of the online stores for fashion retail stores. Following the great brands of this sector are increasingly investing in the employment of high technology to reproduce the shopping experience at the POS, which instead of the traditional point of sale, becomes a point of entertainment, after becomes a point of relationship and through the generated experience provides solutions to become itself a point of solution for the company [9].

The use of high-tech applications in visual merchandising is one of the strategies employed by companies to attract young people who were born in the midst of this technological revolution. Often these young people are not motivated to attend traditional concept stores, because they believe that consumer is beyond monetary exchange. This tool is responsible for approach and zeal of visual communication, its product mix and its target audience [12].

The technological environment is every day faster and more adapted to the developments in the visual merchandising. Currently, the most applied technological actions in fashion business to consumer (B2C) are: smart catalogs with information about the company through tablets and computers; interactive floors and carpets; interactive touch screen games reinforcing the bond between the company and the customer; interactive mirrors, which allow to explore more parts of the collection in order to compose looks; intelligent testers that facilitate and assist the purchase act; label, tag and chip with Radio Frequency Identification (RFID) which provide dynamic information about the products; intelligent racks that facilitate the replacement and location of products while preserving the time of the store employees; the employment of tablets by sellers and consultants to management and control of products; 3D technology in showcases; anti-theft systems that prevents damages to the company; smart POS integrated with RFID system and self-payment. These key technologies are best explained as follows.

4. Augmented Reality Technologies

Augmented Reality (AR) can be defined as a real-time direct or indirect view of a physical real-world environment that has been enhanced/augmented by adding virtual computer-generated information to it. AR is both interactive and registered in 3D as well as combines real and virtual objects. Milgram's Reality-Virtuality Continuum is defined by Paul Milgram and Fumio Kishino as a continuum that spans between the real environment and the virtual environment comprise Augmented Reality and Augmented Virtuality (AV) in between, where AR is closer to the real world and AV is closer to a pure virtual environment. AR aims to simplifying the user's life by bringing virtual information not only to his immediate surroundings, but also to any indirect view of the real-world environment, such as live-video stream. AR enhances the user's perception of and interaction with the real world. While Virtual Reality (VR) technology, or Virtual Environment as called by Milgram, completely immerses users in a synthetic world without seeing the real world, AR technology augments the sense of reality by superimposing virtual objects and cues upon the real world in real time. Virtual objects added to the real environment show information to the user that the user cannot directly detect with his senses. The information transmitted by the virtual object can help the user in performing daily-tasks work, such as guiding workers through electrical wires in an aircraft by displaying digital information through a headset. The information can also simply have an entertainment purpose, such as Wikitude or other mobile augmented reality. There

are many other classes of AR applications, such as medical visualization, entertainment, advertising, maintenance and repair, annotation, robot path planning, etc. [13].

According to these same authors, there are three major types of displays used in AR: head mounted displays (HMD), handheld displays and spatial displays. HMD is a display device worn on the head or as part of a helmet and that places both images of the real and virtual environment over the user's view of the world. HMD can either be video-see-through or optical see-through and can have a monocular or binocular display optic. The update example is Google glass [14]. Handheld displays employ small computing devices with a display that the user can hold in their hands. There are currently three distinct classes of commercially available handheld displays that are being used for augmented reality system: smartphones, PDAs and Tablet PCs. Spatial Augmented Reality (SAR) make use of video-projectors, optical elements, holograms, radio frequency tags, and other tracking technologies to display graphical information directly onto physical objects without requiring the user to wear or carry the display. Spatial displays separate most of the technology from the user and integrate it into the environment. This permits SAR to naturally scale up to groups of users, thus allowing collaboration between users, increasing the interest for such augmented reality systems in universities, labs, museums, and in the art community. There exist three different approaches to SAR which mainly differ in the way they augment the environment: Video-see-through, optical-see-through and direct augmentation.

Augmented reality—or AR—has the power to bring an image, product label or even shop window to life. Customers can see brands and their stock in a new way and engage with them on a completely new level [4].

The technology of QR Code is a matrix code created by Japanese company Denso-Wave in 1994, and its name derives from the term “Quick Response”, as the creator intended the code allowed decode their swiftly content, even with low resolution images, taken by digital cameras in VGA format. This is a two-dimensional barcode (2D) currently quite popular due to the proliferation of smartphones, because the acquisition can be made with their cameras. To do this simply install the mobile device to any application of QR Code reading, available for free at many web sites, run the application installed and position the digital camera so frame the QR Code. Quickly, this is decoded, displaying its contents or showing an electronic address that redirects access to content for any site [15].

As this author, companies that create QR Codes dynamic services also offer access monitoring services and statistics related to the created codes, as well as pre-configured alerts to change the content or simply reading warnings. Thus, all the generated activity is controlled, making it an excellent marketing tool to customer disposal.

According to a study conducted by Forrester Research, 5% of adult US smartphone users now scan 2D bar codes—including QR codes—up from 1% in 2010.

Based on this growth, mobile barcodes will continue to gain traction in 2012, thanks to greater smartphone penetration, increased consumer awareness, and brand confidence and understanding. QR codes also will cement their place as the dominant 2D code, becoming the most utilized mobile media elements leveraged by marketers across all sectors [15] [16].

The use of QR Codes in the fashion world is also something that is already in place and expansion. They can constitute powerful tools for product traceability. However, in many cases these codes are only for the buyer can, after the acquisition of the code, watch a promotional video; to point the electronic address (URL) of the website of the brand; for the purpose of marketing or linked to augmented reality [15].

5. New Technologies Applied to POS

Interactive showcases were established in the fashion market some years ago. Fashion companies, when faced with a highly competitive and tight market, decided to invest in innovations that could attract consumers. The first models of interactive fashion showcases were developed in Japan and in the United States.

According to the website Cinex [17], the department store Bloomingdale's in New York developed an interactive showcase where customers can sample models of sunglasses without entering into the store. Initially, the customer should align his face with screen markers and, after recognition, to try and choose the model. The customer can observe the proven models of front and profile. If he liked the proven model also has the option to take a photo and send it directly to a salesman in the store who will meet him in an agile and exclusive manner. Such technological strategies besides provoking the curiosity of passersby are intended to provide a new consumer experience. This action also aims at consumers of practical outlines that have some resistance in exploring the huge selling point searching the product.

According to Sandes [18] from the site Fashion 2.0, in late 2012, the British brand Burberry opened an innovative concept shop in London, a POS completely connected to the Internet. The gigantic store has many items of visual merchandising which resemble those tools found in the virtual company store. The Burberry's flagship has interactive mirrors that provide to customers' information such as: data about the piece manufacturing, its drapeability on human body, options for color charts, videos of the piece in fashion shows, suggestions of combinations with other pieces of the same brand. The articles contain a transmitter chip that emits radio frequency signals to the mirrors. In the inner area of the store there are over a hundred screens and panels presenting corporate videos which are also available in the Internet. At checkout, the customer does not need to go to payment cash, because the store does not have them. The shopper waits for the credit card machine sitting in comfortable rest areas. "We designed (the store) as well because when you are shopping online at home, you are on the couch with your credit card. You do not get up and go to the queue," said Christopher Bailey, creative director of the brand.

An example of a Brazilian brand which applies technology in their visual merchandising is the brand FARM (Rio de Janeiro, RJ). According to Littmann [19], the brand offers in some of its stores interactive mirrors that allow the customers to browse products and virtually prove without removing his clothes. Further according to FARM, the goal of these mirrors is to awaken the playful side in their customers through experience, as well as to promote quickly and easily upon purchase. Since 2007 FARM has one more item to interact with their customers. In all tasters' music channels were installed in which the customers can choose their soundtrack while sampling products. The aim of the company is to generate greater permanence in the dressing room and awaken emotional memory in relation to the brand.

Another technology available for fashion business is Radio Frequency Identification (RFID). It is an identification process using radio signals, which are retrieved and stored remotely on devices called RFID tags or chips. The RFID tag is a small element that can be inserted in fashion pieces, smart tags and items of furniture of the POS. These durable and reusable devices are responsible for responding to radio signals sent by a transmitter base that does not require proximity to the tag. The RFID system allows companies to develop the following actions: tracking precision of pieces and lots reducing time and operating costs; optimization in company management, storage, reading and sending data; centralized control and rapid measurement of inventories; flexibility in location of products in stock and point of sale; integration of flows in the supply chain Supply Chain Management and agility in detecting thefts and pieces out of place [20].

Retail technology is also part of the company strategies of sales. The sellers, for example, can carry a tablet that contains an application able to register the purchase history of the brand customers. This software, Customer Relationship Management (CRM), helps the sellers to indicate pieces by customer preference. Infant areas should also have tablets that distract children while parents go shopping. Berson and Smith [21] state that the CRM is the first step of the companies that want to know their customers and make profitable strategies. The companies in order to be competitive must develop customer-centric strategies in order to build lasting relationships. The informations can be collected by different ways and should be transformed into strategies that idealize customer satisfaction, delight and loyalty. In addition, they could encourage integration between the back and the front offices of the companies. Front office is relative to the sectors of a company that interact with customers, such as sales and marketing sectors. Back office is the area of organization involving management and its activities, such as human resources, accounting, logistics and information technology [22].

Many companies, besides offering entertainment, acquire information in order to identify the lifestyle profile of their target public. This constitutes the marketing research, which employs the data mapping of its public in order to define strategies relatives to the brand universe, the creation of new products

and making decisions [23].

Another example of interactive technology applied to POS is the 3D showcase. In this type of exposure, the technology is employed to create the illusion that the products are traversing the glass. According to Foroni [24] from the site “Moda Digital” (“Digital Fashion”), H. Stern jewelry employed such technology in its store in São Paulo city (Brazil). The illusion was created in the window display of traditional watch brand Patek Philippe. In this showcase, customers could see without 3D glasses watches beyond the shop glass, as if they were floating in air.

Another technological feature applied to items of fashion visual merchandising was presented, according to the own company website, by Chilli Beans flagship [25] in São Paulo city (Brazil). This store presented a three meters high interactive LED totem, in which customers could choose singular landscapes transmitted in real time from places as Kuwait, Medellin, São Paulo city, Lisbon and Los Angeles all places that have POS of this brand of sunglasses. This strategy is an example which provided experience at the time of consumption, attracting the consumer to know the brand structure, positioning it as a global company that achieves universal public.

Magic mirror consists in another new technology feasible to be applied to POS. According to Carmigniani *et al.* [13]:

Shoes are the accessories that follow fashion trends the most and are renewed annually, especially for those who live in fashion capitals, such as Milan, New York and Paris. For these people, it is more important to wear trendy shoes at the sacrifice of comfort. With the Magic Mirror, the ITIA of CNR in Milan has created a system which, jointly with high-tech footwear technology for measurement, enables the user to virtually try on shoes prior to buying/ordering them [26]. The user is able to see his/her reflection in the Magic Mirror with a virtual model of the pair of shoes s/he would like to try on. The advantage of such a system over going to the store is that once the user selects shoes for trial, s/he has the ability to change a few details, such as the color, the heel, and/or even the stitching. To do so, the user puts on some special “socks” with spherical, infrared reflective painted-on markers that serve as a tracking system for the Magic Mirror, which is in fact an LCD screen that actually processes the information from the electronic catalog and inputs data from the customer to see if the model chosen is approved, to detect and mirror the movements of the customer.

Magic Mirror employs AR for advertising and commercial applications in fully replacing the need to try on anything in stores, thus saving considerable amount of time for customers, which would most likely be used for trying on more clothing (shirts, dresses, watches, pants, etc.) and thus increasing the stores chances for selling. As example, the system of Cisco’s retail fitting room [13].

The University of Minho (UMINHO) and Textile and Clothing Technological Center (CITEVE “Centro Tecnológico Têxtil e Vestuário”), both institutions

from Portugal, also announced that they have also created a “virtual dressing room” and there are some brands interested in this device [27].

According to Castro [15]:

There is the example of the New York fashion designer Rachel Roy who in the creation of her line sold at Macy's, printed and held next to the label a series of Microsoft Tags [28]. In this particular case, consumers can use the Microsoft Tag Reader application to acquire a code to watch a video with a model which explains why to like the piece in question and gives some suggestions on how this can be used. In the case of Ralph Lauren, the use of technology has been recurrent, with the brand in the top spots of innovation. One of its initiatives is a touch screen showcase in one of its stores in New York, where you can get in touch with the store's catalog and buy what you want, anytime, without even requiring a posterior displacement there by selecting the products through your QR code that sends them to the shopping cart of e-commerce page of the respective store [29]. There are already other brands that do something similar, trying to make the crossing between the physical store and the online store, although some use only the traditional bar code, the latest versions of their apps for mobile. The Top Shop, Debenhams, New Look and Miss Selfridge are examples whose applications for mobile devices have the scan option or manually enter the numbers of the barcode of your clothes when they are in the store, to the customer to find the garment in the app and so add it to the basket electronic shopping, if there is not the size or the color you want in or to make the purchase later [30]. In addition to barcodes, Debenhams and Miss Selfridge, still have the ability to scan QR Code.

Evans [4] presents some other examples of applications of augmented reality in retail:

1) Topshop Kinect Dressing Rooms—Trying on clothes can be pretty off-putting for many shoppers, especially those in a hurry. Always one to test the boundaries of technology, Topshop has partnered with Kinect to created AR dressing rooms. This fact allows shoppers to virtually try on their purchases quickly and easily. Topshop also experimented with virtual reality further at London Fashion Week 2014. **2) Shiseido Makeup Mirror**—Many women struggle to find the right shades of makeup or want to know how things will look before they execute the purchase. The augmented reality makeup mirror from Shiseido takes an image of a shopper's face, before showing them what the latest cosmetics products will look like on their face. **3) American Apparel Color-Changing App**—American Apparel is renowned for their colorful product collections, so have turned to augmented reality to make finding the perfect product in the right color easier than ever before. To find out what it involves and how it works, please read Creative Guerrilla Marketing's full post on this here. **4) De Beers “Forevermark Fitting”**—Diamonds may be a girl's best friend, but

choosing the right ring for a loved one can be a difficult task. That's where "Forevermark Fitting" from De Beers comes in. The AR download allows shoppers to try on the Forevermark collection through their webcam, and see how pieces would look in certain lights and against certain skin tones.

5) IKEA AR Catalogue—In the summer of 2013, IKEA launched their augmented reality catalogue to enable shoppers to visualize how certain pieces of furniture could look inside their home. Not only that, but the app also measures the size of the products against the surrounding room and fixtures to offer a true-to-life size where possible.

6) Sayduck Furniture Visualizer—Sayduck have also released a similar mobile app that supports the users to visualize what certain products and fixtures would look like in their homes. The AR app displays items in real size by projecting a visual replica through the camera on a smart phone. You can reposition the items to any angle and really see how it could look in the space you have at home.

7) IBM App—Research by IBM showed that 58% of consumers want to get product information in-store before a purchase, and that 19% of customers will browse mobile devices whilst shopping. To address this consumer need in a way they are using, IBM launched their AR app. Acting like a personal shopper, it uses augmented reality technology to provide shoppers with personalized information whilst browsing the shelves.

8) Converse Shoe Sampler—The Converse Sampler iPhone App uses augmented reality to allow shoppers to virtually try on any trainer from their range, simply by pointing their phone at their leg. Customers simply select a shoe from the app's catalogue and see it appear on their foot. Customers can even buy directly through the app, which means they don't need to leave their homes.

9) Burberry Beauty Box—Another beauty example now, and the Burberry Beauty Box store in Covent Garden, London uses AR in a number of imaginative ways. The most prominent is their nail bar. Here, customers can select their skin tone and then place different polishes on the bar. The display then shows how the polishes look in real life.

10) Moosejaw X-Ray App—Our final example-if you are that way inclined-is the Moosejaw X-Ray App. The outdoor apparel brand allows customers to see much more (or less depending on which way you look at it!) that the sweaters and jackets donned by the models. Simply scan the models with a smart phone, and the AR technology undresses the models.

5.1. High-Tech Sound Environment

According to Amorim [31], the "One-to-One Experience" project was presented at Fashion Business Tech. by Gorus agency. Developed for various fashion companies, clothing dressing rooms automatically play songs compatible with the style of chosen clothing by the customer. The system works as follows: RFID tags were distributed on the labels of the pieces and RFID readers were installed in the dressing rooms. Once the customer wears the piece of clothing, a signal is issued and music plays compatible with clothing style. The agency provides ten

thousand musics among sixteen musical genres.

Then, after the product acquiring the system sends a SMS to the customer offering free download of listened music. This agency believes in the bet of technology, since states that young people define themselves by the music they listen as well as express themselves by the clothes they wear [31].

The project mentioned above shows that the right soundstage can be an important factor in the customer purchase decision. The custom soundtrack sets the tone for the young brand, as well as generates the identity of the collection products, allowing the youth to reach psychologically engendered cognitive dissonance in their perception, motivation and emotion. Somehow the music induces them to imagine wearing the piece, idealizing the environment and people around you.

5.2. Crowdsourcing

Most companies expanded their focus from selling products to engage and empower customers with the ultimate goal of creating a rewarding experience [32]. Some fashion companies apply technology into their POS aiming to attract individual or collective collaboration of their target consumers. This model is known as crowdsourcing and it is defined by exploiting the idleness and the creative potential present in the digital network. There is the use of free and paid collaboration to generate problem solving, new ideas, information and feedbacks to the company. The crowdsourcing model should be applied in companies that rely on their reputation and are open to listen about the views of their publics. This model can be provided in several ways: ombudsmen, web pages, contests and visual merchandising [33].

The pioneer company in Brazil to develop a crowdsourcing action in its visual merchandising was C & A. In 2012 the brand developed digital hangers containing a “like” button in every clothing models. This mechanism enabled consumers to manifest their opinion on the exposed article. At the end of the deployment week, the consumers and the company could see through the displays on hangers which models took more “likes” from the public. The vote was connected to the Facebook brand fan page, so all customers could know in real time which the most desired pieces. Spontaneously the company managed to collect free and voluntary opinions on the design of its products. This action garnered awards as four Bronze Lions at the Cannes Festival and the award of the World Retail Awards, in the category Innovation Concept, the highest award in the world retail [34].

5.3. Cyberquins

This neologism refers to the union of traditional static dummy to the technology. “Cyberquins” [35] are models that move like humans. As the site of Âme Consultoria [36], this product is registered since 2011 by the English company ADM LTD. The exhibitors were widely employed in fitness segment businesses, but with time their use has been expanded to various segments of fashion due to

its high highlighted power in the showcase.

According to Roberts [37], another example of technology applied in the dummy is the case of Italian company Almax. This company developed exhibitors containing in their eye cavity a camera with software able to perform facial recognition, detecting the gender, age and ethnicity of the people who watch the showcase. In addition, the dummies capture the direction of the retinas of observers, helping the company to define which products were most viewed, comprising faster the preference of their publics. For example, the Eye See (name of the dummy) showed to a customer store of Almax that the window in the afternoon was much observed by children, which caused the brand to develop its line of children wear. Another retailer enterprise hired staff fluent in Chinese after detecting through mannequins that a third of people who transited the POS were from Asian origin.

6. Buying Experience and the Relationship with New Technologies in Visual Merchandising

First of all, it is important to emphasize that although young people are a key focus of actions of Visual Merchandising and that currently they are not only represented by the Generation Y (Gen Y), major part of the available literature on this topic is still focused on them. Thus, the most of following considerations were focused on Gen Y, which should be insightful regarded before being extended for other nowadays cohorts.

Kawaf and Tagg [3] reported a “Stimuli-Organism-Response” theory (S-O-R) based review. Content analysis shows that two main themes have emerged in literature: one investigates the influence of online environmental stimuli on consumer trust and risk perception; whereas the second theme is more emotion-centered. Also, according to these authors, taking fashion to the online market is a dramatic shift in this social experience. Absence of helpful staff can also challenge this experience especially when fashion products are heterogeneous in nature. This emphasizes the importance of contemporary technologies in advancing the online shopping environment for fashion sites.

Whereas cognitive factors account for store selection and most planned purchases, the retail environment and emotional states contribute to purchase behavior [38]. Hedonic benefits desired by consumers are linked with the uniqueness of the in-store shopping experience [39]. Both utilitarian and hedonic motivations influence purchase behavior and shopping motivations [40]. Consumers that see shopping as fun (hedonic) had a higher purchase frequency and made more easily unplanned purchases than the utilitarian shoppers who purchased less often and unlikely continued shopping once they found what they needed [41].

Experiential retailing realizes connections with consumers who visit brick-and-mortar stores to interact, not merely to buy merchandise [40] [42]. This strategy applies a holistic approach to consumption that 1) uses emotional, as well as rational, triggers to stimulate buying; 2) focuses on what customers want

out of the retail experience; and 3) strives to engage customers with more than raw product. The shopping experience and related lifestyle of the consumer become salient in differentiating one retail bundle from another. Involvement also is a significant predictor of overall shopping center satisfaction [43]. Thus, shopping involvement is tied to retail patronage [40].

Coelho and Las Casas [44], in a survey through interviews, which main purpose was to relate attributes of young consumers with the acquisition of technological products at POS, concluded that the interaction with the product, the seller's cooperation, the chance to live a differentiated experience at POS and share it with their friends are key factors for increasing the sales conversion rate. In this way, for Gen Y the purchase is a form of entertainment and brand extension. "The creation of these 'unique and memorable experiences' is achieved through dramatizing the service encounter, appealing to all the senses telling stories about the brand—in other words employing a Disney-like blend of imaginative and technological approaches" [45].

According to Sullivan and Heitmeyer [40], consumers will choose and pay for the best experience, online or in brick-and-mortar stores. Understanding what differentiates the shopping experience is important to brick-and-mortar stores, particularly apparel retailers, when creating a differentiated market position. Experiential retailing is an emerging strategy that attracts consumers through a combination of hedonic and utilitarian values communicated through multi-sensory retail marketing strategies.

On other hand, shopping for apparel is one of the most popular pastimes the world-over [46]. In American society, most consumers consider shopping a fun and social activity and there is evidence in the literature that people visit shopping malls as tourist attractions while traveling even though there are comparable stores in their home city [43].

The self-expressive nature of clothing allows to consumers a means through which to capture their own identity. This leads to the personal relevance of clothing which causes the consumer to become more involved when making purchases. The involvement varies with the desire of consumers to use clothing as a means to enhance their self-images, and to engage in self-expression and pleasure through selection [47].

Kinley *et al.* [46] reported an endeavor which purpose was to determine whether the degree of involvement with shopping for clothing affects the frequency with which Gen Y consumers seek the opinions of others when making clothing purchases for themselves; the non-personal sources that influence the frequency of clothing purchase; and certain shopping behaviors. These researchers found that most of the participants were determined to be high involvement shoppers who sought opinions of female friends and co-workers, used most of the non-personal idea sources, shopped more often, spent more money, and were more comfortable shopping for clothing.

In addition, according to these same authors, research has shown a positive correlation between involvement and clothing purchases. Taking in account that

Gen Y does not respond to traditional sources of product promotion like older consumers did at their age, atmospherics and sales personnel are vitally important in this regard, but the presented data indicate the customer is also interested in the visual aspects of shopping.

In the past, there was the perception that more time consumers would spend in the POS, greater the volume of sales. Thus, visual merchandising professionals began to use strategies to “hold” this customer to POS. Today this concept has changed and became the focus on making the store so enjoyable that consumers feel attracted to interact with the products and the brand universe.

In the current fashion retail both products as prices have become commodities of extreme similarity. Thereby companies need to differentiate their position through intangible benefits, such as digital actions at the POS. Moreover, with the advent of new digital technologies, there has been a high growth of online shopping. This advancement has changed consumer expectations in relation to physical stores and, as a result of these changes, the digital components are becoming indispensable items for the fashion stores and doing the shopping experience more personalized. Gen Y brought a new challenge for leaders and managers of companies. Investment in technology has become essential to conquer this group of consumers. However, companies should develop tactics to understand, organize and apply this large volume of volatile information that rapidly are generated by digital processes. According to Riezu [48], “The findings could be the starting point for making decisions about the strategies of a brand or a company”. In this case, it is essential to connect and analyze the information via a data warehouse.

In the present study, some fashion companies employing digital systems in their retail were analyzed. The most of the initiatives were born of international brands, cutting-edge technology holders and avant-garde movements. Rogers [49] argues in his theory of diffusion of innovations that time is crucial in their adoption. This theory has three dimensions: 1) process in which the individual becomes aware of innovation, through the persuasion stage, decision, implementation, verification and possible acceptance or rejection; 2) innovativeness and category of adopters: classifies individuals based on the relative time that they take to adopt an innovation: innovators, early adopters, early majority, late majority and laggards; 3) adoption rate: is the relative speed with which an innovation is adopted.

In this way, for the adaptation, surviving and growing of enterprises the so-called “one to one marketing” is important: an individualized strategy marketing which seeks to identify their publics, differentiate themselves from other competitors, approach themselves to the customers and offer them tangible and intangible goods in a personalized manner, conquering their preference and confidence [50]. However, even the technology representing a new way of approaching, entertain, inform and influence, it is facing some resistance from businessmen, since researches that measure the return on such investments are insufficient. Unfortunately, the Brazilian retail still faces a mindset focused on cost

reduction and low-skilled workers. Many entrepreneurs still have the mindset that this bet is expenditure rather than a long-term investment [44].

The Brazilian brands often employ such technological media only in special situations and dates as inaugurations, releases of collections or even only in flagship stores, innovative concept shops that should guide other company stores. The informations presented in this paper could contribute to the advancement of digital marketing activities in Brazilian stores. Moreover, due of the scarcity of information, it becomes a starting point for future investigations in this area assisting in research and creation of digital visual merchandising strategies.

Thus, the present study indicates that besides visual merchandising technological actions are influencers in the unique shopping experience, the new technologies applied to visual merchandising could help the attraction, capitation, and enchantment of young cohorts.

7. Conclusion

In this study the application of new technologies in visual merchandising, mainly associated to fashion brands, was discussed. It demonstrates that traditional brick-and-mortar store formats need to be modified to interact with the buying expectation of customer, mainly the young people. The consumption habits of this cohort cause the companies to reformulate their marketing strategies and develop new digital strategies. Today companies know the importance of offering tangible and intangible goods to consumers upon purchase, including investments in technology in POS visual merchandising. The technological environment is every day faster and more adapted to the developments in the visual merchandising. Understanding what differentiates the shopping experience is important to brick-and-mortar stores, particularly apparel retailers, when creating a differentiated market position. Experiential retailing is an emerging strategy that attracts consumers through a combination of hedonic and utilitarian values communicated through multisensory retail marketing strategies. Thus, it is concluded that besides visual merchandising technological actions are influencers in the unique shopping experience, these new technologies applied to visual merchandising could help the attraction, capitation, and enchantment of young cohorts.

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References

- [1] Porter, M.E. (2002) *Estratégia Competitiva: Técnicas para análise de indústrias e da concorrência* [Competitive Strategy: Techniques for Analyzing Industries and Competition]. 7th Edition, Campus, Rio de Janeiro.
- [2] Porter, M.E. (1999) *Competição on competition: Estratégias competitivas essenciais* [Competition on Competition: Essential Competitive Strategies]. Campus, Rio de

Janeiro.

- [3] Kawaf, F. and Tagg, S. (2012) Online Shopping Environments in Fashion Shopping: An S-O-R Based Review. *The Marketing Review*, **12**, 161-180. <https://doi.org/10.1362/146934712X13366562572476>
- [4] Evans, C. (2014) 10 Examples of Augmented Reality in Retail. Creative Guerrilla Marketing. <http://www.creativeguerrillamarketing.com/augmented-reality/10-examples-augmented-reality-retail/>
- [5] Marconi, M.A. and Lakatos, E.M. (2002) Técnicas de pesquisa: Planejamento e execução de pesquisas, amostragens e técnicas de pesquisas, elaboração, análise e interpretação de dados [Research Techniques: Planning and Execution of Research, Sampling and Research Techniques, Preparation, Analysis and Interpretation of Data]. 5th Edition, Atlas, São Paulo.
- [6] Otieno, R., Harrow, C. and Lea-Greenwood, G. (2005) The Unhappy Shopper, a Retail Experience: Exploring Fashion, Fit and Affordability. *International Journal of Retail & Distribution Management*, **33**, 298-309. <https://doi.org/10.1108/09590550510593220>
- [7] Strauss, A. and Corbin, J. (1990) Basics of Qualitative Research: Grounded Theory Procedures and Techniques. Sage Publications, London.
- [8] Parker, K.W. (2003) Sign Consumption in the 19th-Century Department Store: An Examination of Visual Merchandising in the Grand Emporiums (1846-1900). *Journal of Sociology*, **39**, 353-371. <http://journals.sagepub.com/doi/abs/10.1177/0004869003394003>
- [9] Guidé, G., Hervé, D. and Sackrider, F. (2009) Entre vitrinas: Distribuição e Visual Merchandising na moda [Between Windows: Distribution and Visual Merchandising in Fashion]. Senac, São Paulo.
- [10] Frings, G.S. (2012) Moda: Do conceito ao consumidor [Fashion: From Concept to Consumer]. 9th Edition, Bookman, Porto Alegre.
- [11] Harvey, D. (2004) A arte de lucrar: Globalização, monopólio e exploração da cultura [The Art of Profit: Globalization, Monopoly and Exploitation of Culture]. In: Moraes, D., Org., *Por uma outra comunicação: Mídia, mundialização cultural e poder* [For Another Communication: Media, Cultural Globalization and Power]. Record, Rio de Janeiro.
- [12] Churchill Jr., G. and Peter, J.P. (2013) Marketing: Criando valor para os clientes [Marketing: Creating Value for Customers]. 3th Edition, Saraiva, São Paulo.
- [13] Carmigniani, J., Furht, B., Anisetti, M., Ceravolo, P., Damiani, E. and Ivkovic, M. (2011) Augmented Reality Technologies, Systems and Applications. *Multimedia Tools and Applications*, **51**, 341-377. <https://doi.org/10.1007/s11042-010-0660-6>
- [14] Google (2014) Google Glass. <https://www.google.com/glass/start/>
- [15] Castro, E.M.A. (2012) Personal tailor: Aplicação mobile orientada ao mercado da moda [Personal Tailor: Mobile Application Oriented to Fashion Market]. MSc Thesis, College of Engineering of Porto University, Porto.
- [16] Marriott, L. (2012) QR Code Trends and Early Adopters. <http://www.retailtouchpoints.com/mobile/1382-qr-code-trends-and-early-adopters>
- [17] Vancini, V. (2012) Vitrines Interativas [Interactive Showcases]. <http://www.grupocinex.com.br/blog/vitrines-interativas/>
- [18] Sandes, F. (2013) Burberry lança loja interativa e conecta mundo online e offline de forma inédita [Burberry Launches Interactive Store and Connects Online and Offline the World in an Unprecedented Way].

- <http://moda2ponto0.blogspot.com.br/2013/03/burberry-lanca-loja-interativa-e.html>
- [19] Littmann, F. (2011) A era do varejo tecnológico para atrair consumidores: Toshiba, Top Shop e Farm [The Era of Technological Retail to Attract Consumers: Toshiba, Top Shop and Farm].
<https://pensomodafannylittmann.wordpress.com/2011/09/08/revolucao-do-varejo-com-tecnologia-para-atrair-consumidores/>
- [20] Folinas, D. and Patrikios, N. (2008) RFID Implementation Framework in Supply Chain. In: Blecker, T., Ed., *RFID in Operations and Supply Chain Management Research and Applications*, Vol. 6, Erich Schmidt Verlag, Berlin, 3-12.
- [21] Berson, A. and Stephen, J.S. (2002) Building Data Mining Applications for CRM. McGraw-Hill Inc., New York.
- [22] Corrêa, H. and Corrêa, C. (2005) Administração de produção e operações: manufatura e serviços: Uma abordagem estratégica [Production and Operations Management: Manufacturing and Services: A Strategic Approach]. Atlas, São Paulo.
- [23] Parasuraman, A., Grewal, D. and Krishnan, R. (2006) Marketing Research. 2nd Edition, Houghton Mifflin Company, Boston.
- [24] Foroni, A. (2010) Vitrine 3D com lançamentos inéditos na loja H. Stern do shopping Iguatemi [Showcase 3D with Novel Releases in H. Stern Store of Iguatemi Mall]. <http://www.modadigital.net/modadigital/?p=606>
- [25] Beans, C. (2012) Inauguração Flagship Store [Flagship Store Opening]. http://site.chillibeans.com.br/flagship/eventos_anteriores/36
- [26] Sacco, M., Mottura, S., Greci, L. and Vigann, G. (2011) Institute of Industrial Technologies and Automation. National Research Council, Italy.
- [27] Freitas, C., Flores, L. and Carvalho, M.S. (2014) Provador Virtual vai permitir experimentar roupa sem a vestir [Virtual Fitting Room will Allow Clothing Experience without Wearing Them]. Television Report Broadcast by Rádio e Televisão de Portugal (RTP) at 25 Dez.
<http://www.rtp.pt/noticias/index.php?article=792413&tm=8&layout=122&visual=61>
- [28] Telemoveis.Com (2010) Moda já usa códigos mobile [Fashion Already Employs Mobile Codes].
<http://www.telemoveis.com/analises/moda-j%C3%A1-usa-c%C3%B3digos-mobile-48.html>
- [29] Supercollider (2010) Digital Retail Experiences: Opportunities and Trends.
<http://geoffnorthcott.com/blog/2010/06/digital-retail-experiences-opportunities-and-trends/>
- [30] The Mobile Shopper (2011) Mango. Surprisingly fruitful.
<http://www.themobileshopper.co.uk/2011/07/mango-surprisingly-fruitful.html>
- [31] Guerra, G. (2013) Music branding: Qual o som da sua marca? [Music Branding: What Is the Sound of Your Brand?] Elsevier Brasil, Rio de Janeiro.
- [32] Frambach, R.T., Sorescu, A., Singh, J., Rangaswamy, A. and Bridges, C.H. (2011) Innovations in Retail Business Models. *Journal of Retailing*, **87**, S3-S16.
<https://doi.org/10.1016/j.jretai.2011.04.005>
- [33] Kotler, P., Kartajaya, H. and Setiawan, I. (2010) Marketing 3.0: As forças que estão definindo o novo marketing centrado no ser humano [Marketing 3.0: The Forces That Are Defining the New Human-Centered Marketing]. Elsevier, Rio de Janeiro.
<https://doi.org/10.1002/9781118257883>
- [34] Promoview (2012) C&A materializa likes de sua página no Facebook [C&A Materializes Likes of Its Page in Facebook].

- <http://promoview.com.br/rede-social/188586-ca-materializa-seus-likes-do-facebook/>
- [35] Euroshop (2013) Cyberquins.
http://www.euroshop-tradefair.com/cipp/md_euroshop/custom/pub/show,lang,2/oid,8036/local_lang_id,2/xa_nr,2351759/~Web-ProdDatashet/prod_datashet#2045
- [36] Âme Consultoria (2011) Novidades da Euroshop [Euroshop News].
<http://ameconsultoria.wordpress.com/2011/03/24/novidades-da-euroshop/>
- [37] Roberts, A. (2012) In Some Stores, the Mannequins Are Watching You.
<http://www.businessweek.com/articles/2012-12-06/in-some-stores-the-mannequins-are-watching-you>
- [38] Sherman, E., Mathur, A. and Smith, R.B. (1997) Store Environment and Consumer Purchase Behavior: Mediating Role of Consumer Emotions. *Psychology & Marketing*, **14**, 361-378.
[https://doi.org/10.1002/\(SICI\)1520-6793\(199707\)14:4<361::AID-MAR4>3.0.CO;2-7](https://doi.org/10.1002/(SICI)1520-6793(199707)14:4<361::AID-MAR4>3.0.CO;2-7)
- [39] Carpenter, J.M., Moore, M. and Fairhurst, A.E. (2005) Consumer Shopping Value for Retail Brands. *Journal of Fashion Marketing and Management*, **9**, 43-53.
<https://doi.org/10.1108/13612020510586398>
- [40] Sullivan, P. and Heitmeyer, J. (2008) Looking at Gen Y Shopping Preferences and Intentions: Exploring the Role of Experience and Apparel Involvement. *International Journal of Consumer Studies*, **32**, 285-295.
<https://doi.org/10.1111/j.1470-6431.2008.00680.x>
- [41] Scarpi, D. (2006) Fashion Stores between Fun and Usefulness. *Journal of Fashion Marketing and Management*, **10**, 7-24. <https://doi.org/10.1108/13612020610651097>
- [42] Kim, Y.Y., Sullivan, P. and Forney, J.C. (2007) *Experiential Retailing*. Fairchild Publications Inc., New York.
- [43] Josiam, B.M., Kinley, T.R. and Kim, Y.K. (2005) Involvement and the Tourist Shopper: Using the Involvement Construct to Segment the American Tourist Shopper at the Mall. *Journal of Vacation Marketing*, **11**, 135-154.
<https://doi.org/10.1177/1356766705052571>
- [44] Coelho, D.A. and Las Casas, A. (2013) A percepção dos consumidores da Geração Y na aquisição de produtos tecnológicos no ponto de venda [The Perception of Consumers of Generation Y in the Acquisition of Technology Products at Point of Sale]. *Revista Estratégica*, **12**, 33-48.
<http://estrategica.faap.br/ojs/index.php/estrategica/article/viewFile/49/46>
- [45] Morgan, M. (2006) Making Space for Experiences. *Journal of Retail and Leisure Property*, **5**, 305-313. <https://doi.org/10.1057/palgrave.rlp.5100034>
- [46] Kinley, T.R., Josiam, B.M. and Lockett, F. (2010) Shopping Behavior and the Involvement Construct. *Journal of Fashion Marketing and Management*, **14**, 562-575.
<https://doi.org/10.1108/13612021011081742>
- [47] Michaelidou, N. and Dibb, S. (2006) Product Involvement: An Application in Clothing. *Journal of Consumer Behaviour*, **5**, 442-453.
<https://doi.org/10.1002/cb.192>
- [48] Riezu, M.D. (2011) Coolhunters: Caçadores de tendências na moda [Coolhunters: Hunters of Fashion Trends]. Senac, São Paulo.
- [49] Rogers, M.E. (2003) *Diffusion of Innovations*. 5th Edition, Free Press, New York.
- [50] Peppers, D. and Rogers, M. (2000) *Enterprise One-to-One*. Crown Publishing Group, New York.

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