

## RESEARCH ARTICLE

## THE DEVELOPMENT PROSPECT OF RETAIL VIRTUAL STORE

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## ABSTRACT

In recent years, the retail virtual store has become the main trend in social services. More and more people tend to shop in retail virtual stores. With the development of 3D virtual reality, this trend is getting stronger and stronger. Therefore, the development prospect of virtual retail stores has attracted much attention. This paper examines the impact of companies' and users' popularization of helmet gadgets on in-store traffic and analyzes how virtual reality (VR) could enhance the customer experience throughout the shopping trip. A qualitative research design has been used, which also included conversations with both professionals and consumers. Moreover, this paper seeks to break new ground by attempting to use the current literature to help predict future directions and trends for online shopping.

## KEYWORDS

Retail, Virtual reality, Virtual store

## 1. INTRODUCTION

Retail Virtual store, also known as online store, online shopping mall, is a typical organizational form of electronic retail business, and it is a shopping mall established on the Internet. It is now widely acknowledged that the internet's power, scope, and interaction allow businesses to change their consumers' buying experiences while also improving their own competitive positions (Doherty and Ellis-Chadwick, 2009). The internet's ability to supply information, permit two-way relationship with customers, collect market research data, promote goods and services, and, ultimately, support buying online of merchandise, offers retailers a new channel that is incredibly wealthy and customizable. The introduction of these virtual worlds has allowed retailers to engage consumers by delivering both the social experience of a physical store and the means for product recommendation between a sales representative avatar and a customer avatar, going far beyond the product information generally handled by a company's website (Domina et al., 2012).

Consumer demand for different and interesting shopping experiences has increased in concert with the advent of virtual worlds. As a reason, businesses who already have built a presence in the virtual world in 3D may encourage consumers in a new buying experience that is actually more complex than traditional online shopping (Speicher, 2018). Virtual reality has the potential to just provide newer service experience that mix interactive success of e sites with the accessibility of classic brick-and-mortar businesses (Pantano and Naccarato, 2010). According to recent research, a groundbreaking, instructive, and engaging shopping experience can have a beneficial effect on customer purchase decisions (Pantano and Naccarato, 2010). Moreover, because these virtual shopping experiences take place in an immersive environment, users are more willing to devote more time and attention to the event while interested in it, providing significant branding opportunities for retailers (Bulearca and Bulearca, 2012).

Therefore, the retail virtual store has huge development potential in the future and analyzing the future development direction will greatly help us

seize the opportunity. We want to learn more about how consumers perceive and behave in alternative retail settings so that we may develop more useful virtual touch apps for retail (i.e., VR Store). We believe that our findings contribute directly to understanding the impact of virtual touch on shopping experiences, both theoretically and practically. The paper assesses the potential future directions of online retailing, as well as the moral implications of a livelier and more sophisticated internet marketplace from the perspectives of the retailer, the customer, and the academic (Doherty and Ellis Chadwick, 2010).

## 2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The term "virtual reality" has been broadly used to elements like the internet as a whole, the virtual world, 3D graphics, and 360-degree stereoscopic media in recent decades (Xi, 2021). As a consequence of the usage of large screens and helmet displays, VR might be described to as absorption and often appearance creating technology, which may deliver an immersive sensory experience in real-time (Flavián et al., 2019). The VR headgear and Cave Automated Virtual Environments are two well-known applications of Interactive multimedia (CAVE). Users enter this Enclosure system to find themselves in a room-sized cube featuring monitors directed from 3 to 6 surfaces (Zanaty et al., 2008). There in CAVE, 3D spectacles are occasionally utilized to improve the impression of space. As a result, the potential reasonable and unsuitable expectations attached with VR are particularly connected to this "entire" human-computer interaction paradigm that allows users to have an impactful "being in there" encounter from everywhere in the globe.

Users may control and guide their movements in a purely three-dimensional artificial world, as if they were truly in this imaginary environment, utilizing VR interactive tools instead of simply seeing a screen (De Regt and Barnes, 2019). Users can interact with both virtual and real objects in real-time and, simultaneously, these objects can interact with each other. This "environment awareness" implies that not only virtual objects can act in the real environment, but real objects can also modify the virtual elements, regardless of where the experience is

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taking place (Schnack et al., 2019). These gains are now being linked to the buzz about increasing VR-based buying, which is changing what consumer perceives and evaluate items and services (Papagiannidis et al., 2017).

Virtual reality enhances the consumer experience by bridging the gap between the actual and virtual worlds of retail. Norman introduces the notion of affordances and how it influences how customers see a product. A chair, for example, can be seated in, just as a coffee mug may be handled. These affordances with items can be recreated in virtual reality as they occur in one's actual world (Alzayat and Lee, 2021). Virtual reality also allows customers to engage with products through virtual touch. Virtual affordances, like physical affordances, may be used to imitate virtual touch contact in a variety of ways. As a result, a customer may easily engage with a virtual retail store utilizing the same or very comparable actions and perceptual experiences as they would in a physical store.

The studies reveal that the usage of virtual reality (VR) overcomes environmental boundaries, where customer satisfaction is significantly affected by enjoyment and involvement when purchasing apparel products inside a virtual store, therefore encouraging purchase intention (Papagiannidis et al., 2013). Tommy Hilfiger, for illustration, offers customers at their key flagship stores a 3-D virtual tour with a front-row perspective of the brand's fashion show to delight and inspire them, highlighting pieces from the collection that they would see in the runway show's film (Tabuchi, 2015).

Users sit virtually close to models, and also the headgear responds to their movement patterns: they can stare throughout all areas, spin around to witness columns of visitors who are practically touchable, and even walk to the show's backstage area (Howland, 2016). Sephora has built a virtual try-on feature app that can replicate cosmetics on a person's face in true and 3D in only certain stores. Consumers respond favorably to the usage of virtual reality technology in physical stores, with virtual reality offering more attractive shopping experiences than traditional retail environments, according to the findings (Mann et al., 2015).

### 3. RESEARCH METHODOLOGY

The availability of low-cost HMDs has encouraged marketers to utilize VR as a consumer interaction tool (Srivastava et al., 2014). Indeed, HMDs allow customers to immerse themselves in virtual settings, giving them enhanced experiences that can imitate not just the purchase but also the consuming of products and services (Olszewski et al., 2016). As a result, the emphasis of our research was on the expanding use of such HMD devices by both marketers and consumers. In response, a ground-breaking exploratory research technique that included both elite and consumer participants were used. Given the field's complexity and the study's goal of identifying new patterns and mapping out the effects of VR on the customer experience, purchasing trip, and physically retailing, a descriptive design was required (Farah et al., 2019). The aim of the study was to better understand the effects of such VR devices on the overall consumer journey and physical stores in-store traffic.

Open-ended semi-structured Skype conversations also with invited experts were performed. The sample includes 15 people (6 women and 9 men) with 4 to 17 years of expertise in digital marketing, media planning, software and program development, virtual reality headset development, gaming, and retailing. A preference snowball process had been used to choose the sample. Using semi-structured facial expression surveys, the consumers groups was interviewed beside a sample of total respondent (13 male and 11 female). The respondents were divided into four age groups: 37.5 percent were 18–24 years old, 29 percent were 25–31 years old, 21 percent were 32–38 years old, and 12.5 percent were above 39 years old. Despite the fact that saturation point was achieved either by twentieth interview, four more participants were approached to guarantee that all potential customer input was captured. All of the interviews have been conducted in English and took 45 minutes on average. At the outset of each interview, a brief summary of the study goals was provided to clarify the research's aim and ensure that participants agreed to participate. All of the participants were promised of their privacy and confidentiality. With the respondents' permission, the interviews were audiotaped for eventual verbatim transcription, coding, and analysis.

During data collection and after the third interview for every group, an improved version of the semi-structured questions was improved. Depending on the groups interviewed, the final questionnaire items were devised to address a variety of topics. Depending on the groups contacted, the ultimate interview guide were devised to address a variety of topics. The questions again for professional scientists' functional correctness on (a) the individuals' educational and professional backgrounds; (b) the

respondents' knowledge of virtual reality in general and how it tends to affect both retailers and the consumer journey; (c) the risks and opportunities that this technology presents; and, last but not least, (d) virtual reality and its future application in the marketing field. The consumer group's interview questions, on the other hand, looked into (a) the interviewees' general background; (b) the respondents' knowledge and usage of virtual reality with brands and at specific retailers; (c) how virtual reality is affecting their decision-making process along the consumer journey; and (d) their experience with that specific gamification of the decision-making process. NVIVO was used to analyze the data. The transcribed interviews were examined and cross-checked by two researchers who coded the data separately to guarantee validity. The code and selected themes was also double by the researchers.

## 4. RESULTS AND DISCUSSIONS

VR is thought to be a promising technology that might enhance their experience by both professionals and consumers, according to both sets of respondents. Nonetheless, it has a number of flaws, according to specialists. A key stumbling block to VR adoption is how shops are now presenting the technology to their customers without having a comprehensive plan (Domina, 2012). According to experts, VR should include material that is relevant, appealing, and actionable to the target audience. Retailers who use this technology are thought to be cutting-edge and forward-thinking. This is expected to result in increased in-store traffic as a result of improved customer experience throughout the purchasing journey. Laggard retailers, on the other hand, are projected to lose market share to more inventive competitors that do not follow the trend of giving a developed retailing experience to their clients. This was also expressed by the customers who were questioned, who believed that shops' use of virtual reality technology is still infrequent.

### 4.1 The potential disruptions of VR on purchasing behavior

While virtual reality (VR) was first launched in the 1960s and is predicted to reach more than 150 million users by 2018, it is still considered a developing technology, according to the respondents. Nonetheless, for innovators and early adopters, VR appears to be providing a fairly fascinating consumer experience. Virtual reality is being used by a growing number of businesses in their activations (Xi and Hamari, 2021). Virtual reality is used for a variety of objectives, including the introduction of a new product or service, as well as the marketing of an existing brand. Consumers are progressively gaining access to this technology, which provides them with an increased sense of excitement and sensory immersion in the virtual world.

Because of its cost and lack of awareness, virtual reality remains a generally underutilized tool for both consumers and retailers. While complete integration of this technology into the retail environment is still a problem owing to cost and space constraints, experts and customers alike have voiced a desire for what we may call "virtual omni-reality." The latter may be described as the incorporation of virtual reality (VR) into all marketing touchpoints, allowing consumers to have a consistent brand experience across all communication channels. This virtual omni-channel experience would not only connect all of your marketing touchpoints, but it would also enhance the experience you want from each one.

### 4.2 Virtual reality and the shopping journey

When a buyer wants to buy something or get a service, he or she usually goes through a lengthy decision-making process. The latter begins with a consumer's desire to satisfy a developing demand. Following that, the consumer begins a search phase to compile a list of prospective options that meet his or her needs. The search might be guided by the opinions of those in one's immediate environment or by reviews posted on various social media sites (Ramadan et al., 2018). Only then can the possibilities be evaluated in order to arrive at the desired decision. To that aim, businesses are increasingly incorporating virtual reality (VR) into their activations to guarantee that sales conversions are based on a sense of presence that comes from a well-designed virtual experience.

The outcomes of the study were in line with the literature in that direction, while also contributing to our knowledge of best practices, applications, and the influence of virtual reality (VR) on the buying funnel as it duplicates customers' experiences. According to the respondents, virtual reality improves the entire shopping experience but does not result in a direct sales conversion, as stated in the literature. With the exception of Ali Baba's use of virtual reality to drive consumers into a Macy's store where they may complete a direct purchase, the finest uses of virtual reality remain in increasing the engagement stage.

In an immersive VR experience, the user is likely to be fully immersed in a computer-generated scene, which he or she may alter through interaction with different immersive output devices that enable customers extend their senses. In line with this recommendation, provide an example of how Lowe's, one of the largest retailers, is effectively using VR on its premises, where customers wearing VR glasses can virtually mix and match countertops, cabinets, and appliances by selecting from a menu of options with their fingers.

## 5. CONCLUSION

The rise of virtual reality has piqued the curiosity of academics and business leaders all around the world. Its reverberating influence on the future of retail cannot be overstated. Businesses are progressively shifting gears toward the implementation of virtual reality (VR) technology inside their business streams, influencing how they offer their goods and how they give service and a positive customer experience to end consumers. This study report examines the growing relevance of virtual reality (VR) and assesses the value that specialists in the field place on it. The article focused on the application of virtual reality in retail and its influence on the various phases of the customer experience, transforming it from linear to non-linear. It also offers a means of increasing consumers' readiness to purchase. Nonetheless, there are certain limits to the paper. It did, in fact, look into the use of virtual reality in the retail industry as a whole. As a result, future studies might involve a greater range of participants from other geographical locations, as well as different brands of products or services, in order to increase the literature in this field.

## REFERENCES

- Alzayat, A., Lee, S.H., 2021. Virtual products as an extension of my body: Exploring hedonic and utilitarian shopping value in a virtual reality retail environment. *Journal of Business Research*, 130, Pp. 348–363.
- Bulearca, S., Bulearca., 2012. Virtual goods: insanity or just a smart business model International. *Journal of Innovation in the Digital Economy*, 3 (3), Pp. 1-9.
- De Regt, A., Barnes, S.J., 2019. V-Commerce in Retail: Nature and Potential Impact. In: M. tom Dieck & T. Jung (Eds.), *Augmented Reality and Virtual Reality*. Progress in IS. Springer, Cham. doi: 10.1007/978-3-030-06246-0\_2
- Doherty, N.F., Ellis-Chadwick, F., 2010. Internet retailing: the past, the present and the future. *International Journal of Retail & Distribution Management*, 38 (11/12), Pp. 943–965.
- Doherty, N.F., Ellis-Chadwick, F.E., 2009. Exploring the drivers, scope and perceived success of e-commerce strategies in the UK retail sector. *European Journal of Marketing*, 43 (9/10), Pp. 1246-62.
- Domina, T., Lee, S.E., MacGillivray, M., 2012. Understanding factors affecting consumer intention to shop in a virtual world. *Journal of Retailing and Consumer Services*, 19 (6), Pp. 613–620.
- Farah, M.F., Ramadan, Z.B., Harb, D.H., 2019. The examination of virtual reality at the intersection of consumer experience, shopping journey and physical retailing. *Journal of Retailing and Consumer Services*, 48, Pp. 136–143.
- Flavián, C., Ibáñez-Sánchez, S., Orús, C., 2019. The impact of virtual, augmented, and mixed reality technologies on the customer experience. *Journal of Business Research*, 100, Pp. 547-560.
- Howland, D., 2016. The new realities of VR and retail. Retrieved May 2016, from <http://www.retaildive.com/news/the-new-realities-of-vr-and-retail/414482/>.
- Mann, M.K., Liu-Thompkins, Y., Watson, G.S., Papis, Y.E., 2015. A multidisciplinary examination of 3d virtual shopping environments: Effects on consumer perceptual and physiological responses, Ideas in marketing: Finding the new and polishing the old, Pp. 752–755.
- Olszewski, K., Lim, J.J., Saito, S., Li, H., 2016. High-fidelity facial and speech animation for VR HMDs. *ACM Trans. Graph. (TOG)*, 35 (6), Pp. 1-14.
- Pantano, E., Naccarato, G., 2010. Entertainment in retailing: the influences of advanced technologies. *Journal of Retailing and Consumer Services*, 17, Pp. 200-204.
- Papagiannidis, S., Bourlakis, M., Alamanos, E., Dennis, C., 2017. Preferences of smart shopping channels and their impact on perceived wellbeing and social inclusion. *Computers in Human Behavior*, 77, Pp. 396–405.
- Papagiannidis, S., Pantano, E., See-To, E., Bourlakis, M., 2013. Modelling the determinants of a simulated experience in a virtual retail store and users' product purchasing intentions. *Journal Of Marketing Management*, 29 (13–14), Pp. 1462–1492.
- Ramadan, Z.B., Abosag, I., Zabkar, V., 2018. All in the value: the impact of brand and social network relationships on the perceived value of customer endorsed Facebook advertising. *Eur. J. Mark.*, 52 (6/7), Pp. 1704–1726.
- Schnack, A., Wright, M.J., Holdershaw, J.L., 2019. Immersive virtual reality technology in a three-dimensional virtual simulated store: Investigating telepresence and usability. *Food Research International*, 117, Pp. 40-49.
- Speicher, 2018. Shopping in Virtual Reality. 2018 IEEE Conference on Virtual Reality and 3D User Interfaces (VR), Pp. 1-2. doi: 10.1109/VR.2018.8446187.
- Srivastava, R., Das, Chaudhury, S., 2014. Virtual reality applications in mental health: challenges and perspectives. *Ind. Psychiatry J.*, 23 (2), Pp. 83-85.
- Tabuchi, H., 2015. Tommy Hilfiger introduces virtual reality headsets for shoppers. Retrieved February, 2015, from <http://www.nytimes.com/2015/10/21/business/tommy-hilfiger-introduces-virtual-reality-headsets-for-shoppers.html>.
- Xi, N., Hamari, J., 2021. Shopping in virtual reality: A literature review and future agenda. *Journal of Business Research*, 134, Pp. 37–58.
- Zanaty, P., Brscic, D., Frei, Z., 2008. 3D visualization for Intelligent Space: Time-delay compensation in a remote-controlled environment. In *Proceedings of the 2008 Conference on Human System Interactions*, Krakow, Poland.

