The Influence of Virtual Reality on Purchase Intention: A Study of the Fashion Industry

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Abstract This study examines how virtual reality (VR) technology affects consumers' intentions to buy in the fashion sector. Data was gathered from a simple random sample of the Palestinian customers (324 respondents) who used VR technology in the context of online fashion purchasing using a survey-based technique. The findings of this paper indicated that the three major characteristics of VR technology (perceptual presence, behavioral interactivity, and technological embodiment) have positive effects on consumers' purchase intentions. In the very competitive fashion business, these results provide marketers and retailers useful information they can use to improve customer shopping experiences and boost sales. This study's practical implications for fashion industry marketers and retailers make it significant. According to the results, integrating VR technology into the online buying process may encourage customers to make a purchase by raising their estimation of its value and fun.

Keywords Virtual reality · Perceptual presence · Behavioral interactivity · Technological embodiment · Purchase intention · Palestine

1 Introduction

The rapid growth of technology has completely changed the way we work, live, and interact with the world [1]. Virtual reality (VR) is one such innovation that has attracted the interest of academics, business leaders, and consumers alike. VR has become a potent tool for submerging people in computer-generated settings and simulating the real world with genuine sensory sensations. VR has significantly impacted the fashion business in addition to having the potential to transform a number of other industries, such as entertainment, education, and healthcare [2, 3].

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Due to the use of VR technology, the fashion industry has seen a tremendous transition in recent years. VR and fashion's fusion has created a world of opportunities for customers to interact with fashion in fresh and engaging ways [4]. Fashion manufacturers have a unique opportunity to demonstrate their products via VR, which also improves the browsing experience and ultimately affects customer buy intentions. There is, however, a lack of empirical studies [5, 6] examining the effect of VR on purchase intention within the fashion sector, despite the increased interest in this burgeoning subject.

This study seeks to close this gap by investigating the impact of VR on consumers' intentions to make purchases in the fashion business. This study will offer insightful information for fashion brands, marketers, and researchers on how to take advantage of VR's potential as a tactical tool for enhancing consumer engagement and influencing purchase decisions. It does this by examining the various dimensions and mechanisms through which VR can affect consumer intention.

The main objective of this paper is to examine how VR affects customer purchase intentions in the context of fashion. Purchase intention is an important indicator of customers' willingness and propensity to buy a good or service [7, 8]. This study will offer insight on the degree to which VR experiences impact consumers' perceptions, attitudes, and behaviors connected to fashion consumption by exploring the link between VR and buy intention.

The outcomes of this study might support theoretical and practical elements of VR adoption in the fashion industry. Theoretically, this study will contribute to the body of knowledge by examining the psychological mechanisms and cognitive processes that underlie the impact of VR on customer intention in the fashion industry. From a practical standpoint, the knowledge gleaned from this research will provide fashion brands and marketers with evidence-based approaches to successfully integrate VR into their marketing and retail strategies, ultimately enhancing the overall shopping experience and influencing consumer purchase intention.

2 Theoretical Background

2.1 Purchase Intention

The term "purchase intention" describes a consumer's propensity or inclination to make a quick purchase of a good or service. It plays a significant role in customers' decision-making and is impacted by a variety of variables, including product quality, price, brand reputation, and marketing initiatives. Style, fit, and comfort are additional elements that affect purchase intention in the context of the fashion business. Fashion firms may create successful marketing plans to boost their sales and profits by being aware of the elements that affect consumers' intention to buy in the sector of fashion [3, 7].

By improving the shopping experience, the use of VR technology in the fashion business has the potential to boost customer buy intention. VR technology may improve customers' perceptions of the items and promote brand engagement by giving them a more immersive and engaging shopping experience. VR technology, for instance, enables customers to virtually try on clothing and see how a garment would appear on them, lowering the uncertainty and risk involved with online buying and boosting customers' confidence in their purchase choices. Therefore, for fashion firms to create successful VR-based marketing strategies and increase their competitiveness in the market, it is imperative that they understand the impact of VR technology on consumers' buy intentions in the fashion sector [4, 6].

2.2 Virtual Reality

A computer-generated environment simulation that may be experienced using a head-mounted display or other immersive technology is called VR. In a variety of industries, including the fashion industry, VR technology has gained appeal in recent years as a tool for improving consumers' purchasing experiences. Through the use of VR technology, consumers can shop for clothing online while virtually trying it on, visualizing how it will look on them and exploring various styles and colors. VR technology has the ability to boost consumers' engagement and buy intention in the fashion sector by giving them a more immersive and interactive shopping experience [1, 2].

The application of VR technology in the fashion business goes beyond increasing the online buying experience and includes visual merchandising, virtual fashion shows, and product design. VR technology can provide fashion firms the ability to hold virtual fashion shows that can reach a bigger audience as well as give designers a more effective and affordable approach to create and envision new designs. Furthermore, by enabling merchants to design immersive and interactive displays that may grab customers' attention and promote their connection with the brand, VR technology can improve the visual merchandising of fashion stores. In conclusion, VR technology has the ability to completely transform the fashion business by giving customers a more engaging and individualized purchasing experience and allowing fashion firms to innovate and stand out in a competitive market [5, 6].

According to EPI model [3], there are three major characteristics of VR technology as follow:

A. Perceptual Presence

A variety of experiences that range from feeling as though you are present where you are to feeling as though you are somewhere else [9]. The simple definition of VR as "a computer-generated world" may be both too simplistic and too absolute. Any VR system that is significant must, of course, have a cybernetic environment that surrounds the user perceptually and in which perception is at the very least a function of head tracking. However, claimed desktop VR may still be considered to be VR

[10]. But perceptual presence is not a matter of faith. No one ever believes what they are sensing to be genuine, not even when they are hanging precariously close to a virtual cliff, having a rapid heartbeat, and feeling intense worry [11]. The illusion of being present somewhere even while the individual is certain they are not is called perceptual presence. Despite not being a cognitive illusion, it is unquestionably a perceptual one [12]. The physical system, for example, reacts intuitively and quickly when intimidation is detected by the perceptual system, but the cognitive system often catches up later and concludes that the intimidation is not genuine. By that point, though, it's too late because the reactions are already too late [10]. Therefore, we set the following:

H1: Perceptual presence has a positive influence on purchase intention.

B. Behavioral Interactivity

Controlling means having the ability to change the orientation, location, or other characteristics of previously chosen items that are being observed digitally [9]. The physical engagement of customers with products is the major focus of behavioral interaction researchers and business people, and they have looked at the efficacy of verbal assignments and tasks that do not involve physical contact [13]. According to studies, apparent online engagement demonstrates favorable behavioral interactions and plays a critical influence in the customer's decision-making process when they purchase online [14]. Due to the emotionally charged nature of the experience, VR has a substantial influence on heart rate as well [12]. Based on the above, we set the following hypothesis:

H2: Behavioral interactivity has a positive influence on purchase intention.

C. Technological Embodiment

Technology appears to be an adjunct to the human body and a mediator of human experiences as a result, assisting in perception, interception, and interaction with one's immediate surroundings [9]. Lack of technical embodiment makes it possible to overlook the sensory assessment, which increases the risk of failure in the development of new products based on client preferences [15]. Exploring and explaining the function of embodiment, particularly embodied cognition and embodied interaction, has received more attention recently. A growth in research that bases pervasive technology for learning in concepts of embodiment has coincided with this interest [15]. According to Flavián et al. [9], new technologies offer the chance for interaction and learning to be more active, hands-on, and directly related to physical contexts. They also offer new opportunities for communication and collaboration that promote socially mediated learning. Finally, ready for widespread adoption, VR is being referred to as nothing less than "another mechanism of human experience" by some [3]. Thus, we hypothesize:

H3: Technological embodiment has a positive influence on purchase intention.

3 Methodology

3.1 Participants

The survey was completed and returned by 324 respondents, as shown in Fig. 1. The findings for the demographic factors were presented in the figure.

3.2 Procedures

A face-to-face questionnaire was the main tool used to collect data for this work. Because English is not a widely spoken language in the nation, the original questionnaire was accurately translated into Arabic. After that, two native Arabic speakers did a pilot test and accuracy testing. The statistical information was examined using IBM SPSS version 23.

3.3 Measures

The 5-point Likert scale for the survey was employed. The survey was divided into five parts. Three items that are based on Flavián et al. [9], Slater [10], and Pan and Hamilton [11] are used to evaluate the perceptual presence in the first part. In the second part, four items based on Chessa et al. [12], Roth et al. [13], and Jeon

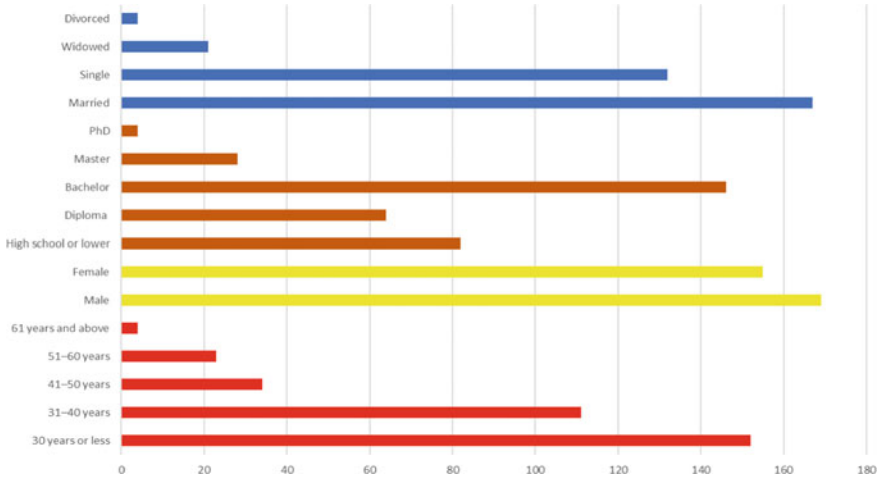

Fig. 1 Respondents' personal information ($n = 324$)

et al. [14] are used to examine the behavioral interactivity. The third part addresses technological embodiment using four items based on Fazal [3], and Torrico et al. [15]. Four questions are used in the fourth part to evaluate purchase intention based on Fazal [3], and Park and Kim [7]. The factors related to demography are discussed in the last section.

4 Results

4.1 Factor Analysis

We were able to assess whether the factor analysis was appropriate for our study by applying the KMO and Bartlett's tests. A score of at least 0.7 is required to pass the dependability test. The Bartlett's Sphericity test often yields a value of less than 0.05. The KMO result indicates that the data analysis is sufficient for the objectives of the research because it is more than the acceptable cutoff level of 0.000.

The principal component analysis factor score coefficient matrix from Table 1 has been rotated by one main factor using the varimax normalizing procedure [16–21]. There are 19 items that make up the factor. Factor loadings on a range of scales should fulfill a minimum loading criteria of 0.30, according to prior research [22–27]. The loadings in Table 1 are all more than 0.30, demonstrating that the scales' construct validity has been upheld.

Table 1 The constructions' reliability and factor loading

Construct	Item	MV	SD	FL	Cronbach's α
Perceptual presence	1	3.42	0.72	0.751	0.773
	2	3.48	0.75	0.746	
	3	3.39	0.84	0.765	
Behavioral interactivity	4	3.52	0.72	0.776	0.764
	5	3.47	0.76	0.749	
	6	3.54	0.86	0.737	
	7	3.46	0.71	0.746	
Technological embodiment	8	3.37	0.81	0.778	0.778
	9	3.41	0.75	0.748	
	10	3.53	0.77	0.762	
	11	3.54	0.79	0.763	
Purchase intention	12	3.58	0.85	0.752	0.781
	13	3.62	0.81	0.746	
	14	3.53	0.76	0.774	
	15	3.45	0.78	0.757	

Table 2 Multiple regression analysis outputs

Model	Unstandardized coefficients		Standardized coefficients	T	Sig.
	B	Std. error	Beta		
(Constant)	0.087	0.243		0.346	0.243
Perceptual presence	0.361	0.074	0.218	2.728	0.000
Behavioral interactivity	0.353	0.083	0.236	2.496	0.000
Technological embodiment	0.329	0.086	0.248	2.674	0.000

Notes: Dependent variable: Purchase intention; adjusted R2 = 0.546, F = 127.186, and sig. = 0.000

4.2 Hypotheses Testing

In order to investigate the link between the independent elements (perceptual presence, behavioral interactivity, and technological embodiment) and the dependent variable (purchase intention), multiple regression analysis was performed. With an adjusted R2 value of 0.546, Table 2 shows that independent factors are responsible for 54.6% of the variation in customer behavior. Table 2 shows a correlation between customers' purchase intention and the following variables: perceptual presence (t = 2.728, p 0.000), behavioral interactivity (t = 2.496, p 0.000), technological embodiment (t = 2.674, p 0.000) respectively. Therefore, it came to the conclusion that the evidence was strong in favor of H1, H2, and H3.

5 Discussion

According to the study's findings, the three major characteristics of VR technology (perceptual presence, behavioral interactivity, and technological embodiment) significantly influences consumers' purchase intentions in the fashion sector. VR technology enhances the brand's involvement with customers and their perception of the goods by giving them a more immersive and engaging purchasing experience. This result is in line with earlier studies that have demonstrated how immersive technologies like VR may improve customers' emotional involvement with and perception of products, which in turn increases purchase intention. Customers who believe VR technology may improve their shopping experience are more likely to have higher buy intentions than those who do not. This research emphasizes the need of comprehending customer perceptions and attitudes regarding VR technology in the fashion sector and creating marketing tactics that can persuade consumers of its advantages and use. Additionally, consumers with prior VR experience are more likely to find

the technology beneficial and be more inclined to make a purchase than consumers without prior VR experience. This research implies that by giving customers additional opportunity to check out and profit from VR technology, fashion firms may capitalize on consumers' prior familiarity with it.

Although the aim of this study on the impact of VR on purchase intent in the fashion industry is to advance knowledge in the area, it does have some restrictions. These consist of possible bias in sample selection, contextual considerations, reliance on self-reported measures, and exclusion of outside influences. Long-term impacts, comparative studies across sectors, an investigation of mediating and moderating elements, an examination of emotional and sensory components, and a focus on the use of VR in the fashion industry are all possible future directions for research. Our knowledge and practical uses of VR in influencing customer purchase intention in the fashion business will improve as we address these constraints and pursue these directions for more studies.

In conclusion, the study has shown how much VR technology has a favorable impact on customers' propensity to buy in the fashion sector. According to the research, fashion firms may use VR technology to improve their marketing plans and provide customers a more interesting and customized purchasing experience. To successfully explain the advantages and use of VR technology, fashion firms must create marketing strategies that take into account customer perceptions and attitudes. Fashion businesses may stand out from the competition in a crowded market and boost their earnings by doing this.

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