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**Research Paper**

# Influence of Avatar Features and Its Presence on Customer's Behaviour: Literature Review

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***ABSTRACT:*** *Avatars or virtual agents are becoming increasingly popular in websites. These are implemented on e-commerce websites to provide a natural and appealing experience for online shoppers. Based on the theory of the media equation, people's behavioural and emotional responses to avatars follow the social norms of human-human interaction. The purpose of this article is to review how avatar features and its presence influence the customer during online encounters. The document goes over the advantages of using avatar as company representatives on commercial websites. At the outset, the origin of the word 'avatar' and its use in computer science and related disciplines are examined. Second, the different implications for various avatar features are discussed. Third, in the course of online interaction, the manner in which the presence of avatar influences consumer behaviour. The study attempts to review avatar's effects on perceptions of social presence, immersion, patronage intentions, trust, perceived interactivity and perceived risk on the website during online interaction. Furthermore, the theoretical and managerial implications of human interaction - avatar are discussed in the article.*

***KEYWORDS****: Avatar, Social presence, Immersion, Patronage intentions, Perceived risk, Friendliness,Anthropomorphism, Trust*

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## I. INTRODUCTION

Human beings are social animals. They constantly interact with other human beings and it is the necessity of social interaction that should have been the force behind the expansion of the skull about 3.5 million years ago [1]. Social interaction today has not only been limited to the people around us but also to the depictions of others who are made accessible to our senses through various media technologies. Mediation interaction is an interaction with people who are not immediately present in the physical environment. These interactions are not only with physical bodies with the real face and voice, but also depictions of others that are made up of ink, pixels, stone, paper etc. The other may be either a human or an artificial intelligence. These others can be mediated representations of distant human beings through text, images, video, 3D avatar, or artificial representations of humanoid or human intelligence, including virtual human agents, computers, and robots. People who interact with these mediated representations experience it as if they were physically co-present and socially engaged [2].

The infusion of technology in the service sector has consistently and effectively engaged clients on a social level and has focused on fostering relationships with clients [3].The Internet has provided an online way for businesses to engage with their clients. Most e-commerce sites are often focused on competency and effectiveness [4]. But contrary to traditional service encounters, online customers may experience an absence of human warmth and sociability, as online encounters are more impersonal and highly automated [5]. The presence of these virtual agents or avatars on websites can not only give customers "a sense of being with another" [6] but also might offer to customer as absorbing, escaping and thrilling experience. Companies are able to deliver these experiences by utilizing multiple design tools such as sound, audio, video and 3D presentation [7]. Companies are able to offer these experiences by using several design tools like sound, audio, video and 3D presentation [7].

## II. AVATAR

### 2.1 Origin of word 'avatar'

In virtual world consumers may come across and interact via avatars. The term 'avatar' is derived from Sanskrit and refers to "the manifestation of a deity, notably Vishnu, in human, superhuman or animal form" (Collins English Dictionary, 1998, p. 104). The word avatar comes from the Sanskrit, where ava means 'down' and tr means 'to cross over' [8]. Avatar literally means 'coming down, lighting up, and appearing' and refers to the incarnation of a superman or deity in another form [8].

### 2.2Avatar in computer discipline

This term has become popular in the field of computer science and related disciplines in Neal Stephenson's novel Snow Crash, published in 1992. Avatar is defined as "general graphic representations that are personified by means of computer technology," [9].In accordance with the definition above, a static image or a dynamic cartoon character that is seen on a computer screen may be regarded as avatars. Avatars are also tagged as: standalone agents, animated agents, embodied agents and virtual agents. Avatars in an online communication may be a sales agent or a customer service representatives, providing general information about the product and services. These avatars during online interaction tend to increase interaction with customers, increase the value of entertainment, and provide more customized service [9, 10, 11, 12]. Avatars can be found in all categories of virtual communities such as newsletters, website bulletin boards, live chat rooms, multi-user dungeons (MUD), multi-user domains, and virtual worlds [13].

Virtual agents or avatars with humans like appearance provide information by acting as a customer service representative who helps provide information about products to facilitate online transactions [14]. Alternatively, they can act as a referral agent to make a practical choice. The virtual agent can even gather pertinent information from a variety of web sources and restructure and present the same information as required by the user [15]. The agent may also serve as a teaching aid and provide guidance to students on various programs [16].

## III. FEATURES OF AVATAR

### 3.1 Corporate clothing and Gender of avatar

Virtual agents or avatars who wear company clothing are seen to be more attractive than those who do not wear company clothing. Feminine virtual agents tend to be more attractive than masculine virtual agents in B2C transactions [17]. The gender of the virtual agent providing information that matches the gender of the product has a positive influence on the customer's attitude and behaviour intentions [18]. The gender of the virtual agent is key to building relationships. The presence of male pedagogical agent led to more self-regulatory and self-efficacy than female pedagogical agent [19].Baylor and Kim [20] demonstrated that female virtual agent were perceived to be more informative on topic of love and relationships compared to male counterparts. On other hand, male agents were perceived to be more informative than female agents on computer knowledge [21].

### 3.2 Anthropomorphism

Virtual agents or avatars that have a high human image are perceived to be more customer-friendly and have a high image appeal and social presence [22]. From one country to the next, it was established that a strong human image has a great emotional appeal. In addition, Baylor and Kim [20] demonstrated that the visible and physical agent present has more motivating powers than a simple voice or text. In addition, Mull et al. [23] established that high-level anthropomorphism avatar were ranked high in terms of attraction, credibility, homophilia, and intention to interact. However, another study found that virtual agent anthropomorphism does not significantly impact personalization and social presence [24].

### 3.3 Perceived Friendliness

Friendliness is defined as the perception of being polite, responsive, giving extra attention, and creating mutual understanding [25]. It is probable that a friendly service agent creates feelings of personal, sociable and sensitive human contact in the customer, that is, social presence. The logic of this elicitation stems from the implied theory of personality [26], which implies that a person's perceptions of personality traits are reflected in our expectations of that person's other personality traits. In addition to this reasoning, the researchers determined that, in order to be considered as a human being and thus generate a social presence, it is essential to establish friendly and interpersonal relationships [27]. Baylor and Kim [28] provide evidence of the importance of friendliness as a determinant of social presence. Moreover, and again supported by implicit personality theory, agents that are responsive to customer needs and create a feeling of mutual understanding are likely to increase the feeling that the content they offer is appropriate, based on personal information and tailor-made to their

needs, i.e., personalization. Indeed, warm and friendly service providers find themselves in the process of building a closer relationship with the customer [29] and providing a more rewarding shopping experience.

## IV. IMPLICATIONS OF AVATAR PRESENCE

### 4.1 Social Presence

Social presence is described as the medium's capacity to enable users to perceive the environment as "warm," "personal," and "sociable" [30]. It describes the sense of being together and communicating with another person as if the person was physically present even though the person is represented by a virtual agent. Short et al [31] penned first definition of social presence as "existence of a personal, social or human element in a medium".Social presence has been conceptualized as another person perceived to be present or absent. However, in the case of telecommunications, this notion of presence or absence was no longer binary [31]. Social presence is "the degree to which a communication channel facilitates awareness of communications partners and interpersonal relationship during interaction" [32]. Communication channels are part of a single continuum of "social presence". In-person communication has the highest social presence, followed by audio and video (eg. Teleconference) followed by audio only, and finally the text is regarded as having the lowest social presence [33].

### 4.2 Immersion

Rich media (Internet content that interacts with the user) and the latest Web concepts have amplified the degree to which the Web site can be both interactive and immersive. Immersion in a computer mediated environment is defined as "the extent to which the computer displays are capable of delivering an illusion of reality to the senses of the human participant" [34]. Immersion in a computer -aided communication is defined as "the extent to which the computer displays are capable of delivering an illusion of reality to the senses of the human participant" [34]. In broader terms, immersion occurs when a person is immersed, involved or absorbed in an environment [35]. The feeling of immersion may be partial or complete, lasting or temporary.

### 4.3 Patronage Intentions

In an online transaction, buyers seek integrity, benevolence, and competence prior to making a purchase decision [36]. The presence of avatar on the website leads to a positive attitude and a feeling of satisfaction toward the retailer [9]. Patronage intentions typically mean the likelihood of consumers accessing the website, making repeat purchases, visiting the website again, and spreading positive word of mouth. Alves and Soares [37] demonstrated the presence of a realistic photo avatar on the site led to an increase in purchases and repeat purchases. Furthermore, Chattaraman, Know and Gilbert [38] have shown that interactive avatars have positive intentions of favouritism towards elderly consumers.

### 4.4 Trust

Trust in the event of electronic commerce has been conceptualised as a belief in the capacity, benevolence and integrity of the service provider [39]. Customer trust is a key factor in building successful customer relationships [40]. Customer trust in the seller helps build positive customer attitudes and behaviours. In addition, customer trust contributes to the acquisition of new customers, profitability as well as the growth of sales [41].From a theoretical perspective, trust isbuilt around familiarity [42]. Verbal and non-verbal signals from avatars give a sense of familiarity to users who are usually used to interacting with personal sales at physical stores. In addition, social signals such as facial expressions, eye contact, body gestures and voice contribute to the formation of trust [43].Social cues and familiarity help reduce ambiguity and uncertainty and build trust [42].

### 4.5 Perceived Interactivity

In traditional brick and mortar stores, consumers interact with the seller in person and can take the lead in fostering relationships with the seller if they find this person useful and trustworthy [44]. Personal interaction directly impacts the quality of service assessment (SERVQUAL) of the service provider [45, 46]. However, in the event of online interaction as a result of the lack of human interface, personal interaction with the quality of personal sales service is compromised. Several studies have shown that the presence of the avatar face on websites positively influences the client's perceived value of engagement and entertainment [47, 48, 49]. The presence of a face similar to that of a human being creates interactivity among users [50]. Nowak and Biocca [11] have shown that people have stronger interpersonal relationships when interacting with a virtual agent with a face than when interacting with a faceless agent. In addition, the presence of a visual agent positively impacts the interactivity of older users [51].

**4.6 Perceived Risk**

Perceived risk refers to the level of risk that consumers perceive when making a specific purchasing decision [52]. Consumers generally prefer to shop on-line when there is less perceived risk [53]. In case of online shopping risk exists due to technology failure, human error, product related risk and non-delivery risk. The level of uncertainty adds to the perceived risk in the online buying process [54].Smart virtual agents can help users navigate complex and unknown online and virtual environments [55] and may mitigate perceived risk of time and convenience in the context of on-line purchases for older users. Smart virtual agents act as 'butlers support users in performing tasks such as searching for products that meet specific criteria and reducing information overload by providing the necessary information based on user needs. As a result, virtual agents reduce the cognitive load on the user's working memory, thus increasing overall satisfaction with the experience [56, 57]. Virtual agents are also capable of learning according to the user's performance history and can provide suggestions for recovery of errors and successful search strategies [56, 58]. In the context of web-based consumer environments, intelligent virtual agents have been found to reduce the search effort, decrease the size of the consideration set, and improve the quality of consumer decisions [59], all of which are relevant benefits for older users with declining working memory and processing speeds. In addition, the ability to ask virtual agents questions about products and purchase procedures may reduce product and financial risks.

## V. CONCLUSION

Technology is making a dramatic change in customer service experiences with service providers. The infusion of technology in the service sector systematically and effectively engaged customers on a social level and focused on fostering relationships with them. But contrary to traditional service encounters, customers in online encounters can sense the absence of human warmth and sociability as online encounters is more impersonal and highly automated. To address these gaps, organizations include social cues (like images, videos, texts or virtual agents) on their websites. Several online retailers have introduced features to assist online shoppers in searching for specific merchandise and to answer customers' questions through real-time communications with a virtual agent. It was widely suggested that integrating avatars or virtual agents into online stores can resolve the absence of social cues on e-commerce sites.Corporate attire, femininess, humanness and friendliness of avatar have shown to have positive influence on customer behaviour.

Avatar's presence on the site can be both interactive and immersive to customers. The influence of social presence induced by avatar and immersion will have an impact on the emotions of customers and in turn the satisfaction of customers during on-line meetings. . A unique positive experience increases the likelihood of engagement that is the customer is more likely to come back and make a repurchase, and spread a positive word of mouth if the customer is satisfied with previous service encounters.The existence of avatar on Web sites can have far-reaching financial results that its presence will lead to customer satisfaction which is a key factor in determining customer purchasing decisions.As satisfied customers are most likely to visit the website again and convey a positive word of mouth. Moreover, avatars can increase perceived interactivity and trust in e-commerce sites. Avatar's presence may also reduce the perceived risk of the customers while shopping online.

The idea of using avatars as a virtual sales agent is worth exploring. The positive results of the use of avatars and the global expertise of avatars, similarity and attractiveness are already influencing the purchasing results. The use of avatars has proven to improve buyer intent, brand attitude, trust and loyalty. A well-designed and strategically integrated avatar will provide a competitive advantage to a retailer in this competitive market.

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