Avatar Taxonomy: A New Technological Tool to Enhance the Consumer-Brand Relationships

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Abstract

Purpose - Avatars, which are used as a technology and marketing tactic- can embody consumer-facing employees and mimic their real-life roles on companies' websites, thereby playing a key role in enhancing the relationships between consumers and brands in the online environment. Academics and practitioners have increasingly acknowledged the significance of the consumer-brand relationship in both traditional and online contexts. However, the impersonal nature of the online environment is considered to be a hindrance to the development of these relationships. Despite the importance of this technology, little attention has been paid to the investigation of the avatar concept from a marketing perspective. This paper explores the nature of the avatar concept, including its main characteristics, dimensions, and conditions as well as the attitudinal and behavioural consequences of avatar users.

Design/methodology/approach - Adopting the qualitative design, a taxonomy was developed from interviews. In total, 42 interviews were conducted with current university students. 30 participants participated in the exploratory interviews. A total of 12 interviews were conducted during the in-depth stage based on findings in the preceding research.

Findings - Based on the qualitative data analysis, a taxonomy was developed. The idea of the taxonomy is summarised in that different dimensions of the avatar are considered the main base (first phase) of the taxonomy. There are consequential three parts: the attitudinal consequences related to the website; the attitudinal consequences related to the brand; the behaviours towards the brand. These behaviours represent the final phase of the taxonomy.

Originality: By developing a taxonomy of using avatars on brands' websites, we advance the understanding consumer-brands relationships. Using avatars' verbal interactions helps in shaping consumers' cognitive, affective, attitudinal and behavioral responses and add vital

empirical evidence to the increasing body of research and practices involving avatar usage in

the interactive marketing area.

Keywords: *Avatar; taxonomy; avatar dimensions; avatar conditions; attitudinal consequences; behavioural consequences*

Introduction

One of most executives' aspirations is to build strong brands that endeavor to have these kinds

of brands in their brand portfolio (Veloutsou et al., 2020). Consumer–brand relationships have

been extensively examined in the literature (e.g., Blackston and Lebar, 2015). The

significance of consumer-brand relationships has also been acknowledged by practitioners

(Sreejesh and Mohapatra, 2013). The deep-rooted relationships between consumers and

brands can contribute to achieving strong market shares and profits and facilitating better

marketing decisions concerning underpinning the attitudes and behaviours related to

purchases and repeated purchases of the product (Sreejesh and Mohapatra, 2013). In addition,

investment in innovative technologies is an important aspect of sustainability (e.g. El-

Bassiouny, et al., 2022). As a result of technological advancements, some interactions

between consumers and brands have migrated to online or web-based environments.

However, the impersonal nature of the online context is considered one of the main barriers to

completing transactions or delivering the product information to consumers, especially where

the product in question is complex. Consumers believe that online corporations are

impersonal because they feel helpless when engaging in online shopping in unfamiliar or

multifaceted product categories. They often want the same consumer assistance found in a

traditional shopping environment (Holzwarth et al., 2006). An investigation into overcoming

barriers to creating strong relationships between consumers and their favorite brands is timely.

Recently, scholars and practitioners have investigated how to overcome barriers to online

relationships by developing applications, programs, and/or software such as social media and

mobile applications for creating connections between brands and consumers (e.g. Scholz and

Duffy, 2018; Veloutsou and Mafe, 2020). Computer interfaces can either be *disembodied* – an individual interacts with others through speech or text entered via the keyboard (e.g. Chabot) or *embodied* - an individual interacts with an animated avatar, sending para-linguistic cues such as gestures and facial expressions to complement or enhance the interface's message (Breazeal, 2003). Avatars can be a solution to strengthen online relationships.

Avatars are becoming progressively common in modern marketing strategies, however their effectiveness for accomplishing performance outcomes (e.g., purchase likelihood) differs widely in practice (Miao, et al., 2022). Avatars mimic physical human characteristics and actions (Elsharnouby et al., 2023; Montoya et al., 2011). Avatars are vital means via which visual information can be added to online communication and can help anthropomorphize the interaction and make the human-technology interface both human and interpersonal (Holzwarth et al., 2006). Brands are extensively investing in avatars to involve and serve their consumers better (Miao, et al., 2022). Using avatars is expected to rise by 241% in the travel and hospitality industry and by 187% for customer goods. In the banking sector, 87% of brands already use some form of an avatar or plan to implement one within two years (Miao, et al., 2022; Sweezey 2019; Torresin 2019). In other words, the global digital human avatar market size was USD 29.51 Billion in 2022 and is expected to be USD 561.16 Billion in 2032 (Emergen research, 2023). However, following a literature review, there is a lack of research on avatars in general. Despite its significance, the examination of avatars (whether representing consumers or companies) in consumer behavior and marketing is still in its infancy (Garnier and Poncin, 2013; Poncin and Garnier, 2012; Wu et al., 2018). Specifically, the features of virtual avatars are still relatively unexplored (Korkeila and Hamari, 2020). Besides, consumers' increasing demand to create avatars underscores the need for a better understanding of the owners or those who are developing the avatars (Bélisle and Bodur,

2010). Although largely yet unexplored, the use of avatars may prove to be the most far-reaching and significantly impacted academic modality (Lax, 2019).

The administrative persons, in any brand, play a crucial role in ensuring a smooth workflow. They usually deal with different groups of brand stakeholders such as consumers, shareholders, and managers. Avatars, as a new technology, can embody consumer-facing employees and fulfill their real-life roles on companies' websites. Despite the importance of this technology, limited studies have examined the avatar concept in business. Specifically, the lack of a clear definition and conceptualization of the avatar concept has been recognized in the literature.

Addressing these gaps led to the current research. We explore and investigate a clear definition of the avatar and its consequences within the consumer research to provide insights and open new avenues for understanding the consequences of avatar addition to the brand website. Specifically, this research examines the nature of the avatar concept, its main characteristics and dimensions, and the attitudinal and behavioral consequences of avatar users. Thus, the research questions investigated here are: What does Avatar refer to and its main characteristics? What are the avatar's dimensions and conditions? And, what are the main consequences of using the avatar? In what follows, we outline the theoretical foundations of an avatar concept. Thereafter, the research design is discussed. This is followed by findings and discussion. Finally, the research limitations and future research are addressed.

Theoretical foundations of an avatar concept

This section includes two sub-sections; 1) the nature and definition of the avatar concept, 2) major differences between avatars and related technologies, and 3) the need for the theoretical framework of the avatar.

The nature and definition of the avatar concept

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The use of avatars in the online context is accelerating greatly or dominant in the market (e.g. Agopyan et al., 2019; Hershfield et al., 2011). In other words, the evidence suggests that the use of avatars has been increasing in many contexts, such as commercial websites, virtual communities, online communities (e.g. Bélisle and Bodur, 2010; Hossain and Gedeon, 2017; Wood and Solomon, 2008), and virtual worlds, particularly in e-learning contexts (Morrison et al., 2012). This growth is due in part to providing users with stunning visuals, animations and social communities (Mennecke et al., 2008). Avatars mimic physical human characteristics and actions; for example, the avatar's gaze indicates the direction of looking (Montoya et al., 2011). Avatars are one way that visual information can be added to online communication. Several companies, such as British Telecom, Coca-Cola, have already started introducing avatars on their commercial websites or virtual world (e.g., Second Life) to improve consumers' experiences and respond to consumers' questions through an interactive touch screen, where anthropomorphized avatars can represent consumers and salespersons (e.g. Harwood and Ward, 2013; Wood and Solomon, 2008). Brands might use avatars to demonstrate their products (Messinger et al., 2019). Based on the literature reviewed, no consensus exists on the definition of the avatar concept. Avatars are generally defined as having an online self-identity based on an alter ego (Hemp, 2006; Kang, 2006; Rhee et al., 2010) to enable better identification of the speaker via the integration of gestures and auditory evidence (Brown et al., 2011).

Avatars vs. Embodied agents and chatbots

Embodied agents can be physical robots or virtual characters/ agents that have a visually-identifiable body and human cues such as voice, gesture, or facial expression for instructional purposes (Li et al., 2018). However, they are distinguished from software systems (e.g. chatbots) that can interact/chat with a website user in natural language (Dahiya, 2017; Shawar, and Atwell, 2007). Li et al. (2018) defined the two types of embodied agents as follows;

virtual agents are animated characters that are created based on computer graphics software and have been used to deliver information/content as part of a vision that a virtual agent can favorably enhance the service encounter. While, social robots are devices with mechanical moving parts that interact in socially appropriate ways, particularly to provide the service (e.g. teaching). The avatar is a type of the embodied agents, particularly virtual agents. Figure 1 shows the differences between human, animated human (avatar), robot, and animated robot conditions based on Li et al. (2018) study. Figure 2 shows an avatar used in the current study. It is an animated human condition rented from (https://www.sitepal.com). Audio from the human admin's voice was used in this condition and imported into the software that automatically produced gestures and head movements. A background image was selected that looks like the background used in the admin office.

Figure 1 {about here}
Figure 2 {about here}

The need for a theoretical framework of avatar

The importance of the avatar concept in several respects is highlighted (e.g. Elsharnouby et al., 2023; Emergen research, 2023; Miao, et al., 2022; Renault, 2023). For example, the avatar is one of the most important basic elements in the virtual world. The avatars are strongly related and important to the virtual worlds (Bullingham and Vasconcelos 2013; Gerhard et al. 2004; MacKenzie et al. 2013) where the most distinctive feature in virtual worlds is the people present in the form of avatars who communicate with each other (Animesh et al. 2011; MacKenzie et al. 2013; Suh et al. 2011). Besides, avatars paly as a tool on websites. Using anthropomorphic avatars offers new ways for users to interact (Galanxhi and Nah 2007) as they convey a sense of presence (Larach and Cabra 2010). It can be argued that this occurs due to the advantage of visual speech when an avatar is a human (Stevens et al. 2013). Avatars improve social interactivity (Neviarouskaya et al. 2010; Saunders et al. 2011) or socialization with others (Halvorson et al., 2012; Poncin and Garnier 2012; Sutcliffen and Alrayes 2012). Brands spend millions of dollars to choose and validate avatars for advertising

campaigns in online formats; creating an avatar helps develop a better understanding of avatar-based marketing (Emergen research, 2023; Miao, et al., 2022; Ward, 2010; Wood and Solomon, 2008). The design of the avatar affects the individuals' (e.g. consumers) behaviours in the online environments (Renault, 2023). Using avatars during chat-based service recoveries helps brands to increase engagement, satisfaction, and loyalty (Jones, et al., 2022), and enhances the attitudes toward the website (de Diesbach et al., 2019).

As it is noted, the above avatars are often used in virtual reality (virtual world), while they can be used on the website. Besides, although the significant increase in conducting businesses using avatars on websites, their implications are still unexplored (MacKenzie et al., 2013; Renault, 2023). There is limited empirical research on the effectiveness of avatars on brands' websites. The existing research appears to provision the use of avatars with consumers in the business world, but it remains unclear which important features the avatars have and if these avatars can be used to effectively improve the consumers' attitudes and behaviors toward the brand.

The purpose of the existing study is to extend the existing literature on the use of avatars by providing a comprehensive theoretical framework theorizing the dimensions of the avatar, consumers' attitudes, and behaviors toward avatars using rigorous research design. Therefore, we emphasize the following questions: 1) What does Avatar refer to and its main characteristics? 2) What are the avatar's dimensions and conditions? 3) And, what are the main consequences of using the avatar?

Research design

As we were interested in exploring the avatar concept, we adopted an interpretive perspective and selected to conduct interviews as it yields a large amount of data to explore the concept (i.e., the avatar) and generate its taxonomy (Hesse-Biber and Leavy, 2006). In the semi-structured interviews used, the questions were designed to elicit the descriptions of the avatar

to develop an appropriate definition of this concept. Questions were also designed to elicit the main dimensions of the avatar, which might influence the feelings and attitudes of the participants towards the avatar, website, and brand. Besides, other questions sought to identify the participants' behaviors towards the brand. Specifically, two types of interviews were conducted: exploratory interviews and in-depth interviews. Questions in the exploratory interview were broader to elicit an outline of the avatar dimensions and its consequences. The in-depth questions were narrow to focus on and get deep insights about each avatar dimension, condition, and consequence. In line with Kvale and Brinkmann's (2009) guidelines, the interview protocols were developed.

According to Ritchie (2003), qualitative research utilizes non-probability samples; the units are deliberately selected to reflect particular features within the sampled population. These features allow for a detailed exploration and understanding of the central themes the researcher wishes to study. To achieve the study's aims and coverage was heterogeneous samples, where a deliberate strategy was used to include the key themes of the avatar concept, as these might vary widely from one participant to another (Patton, 2002; Ritchie, 2003), the sample was chosen purposively as the participants came from different faculties, departments, and countries. In total, 42 interviews (30 participants participated in the exploratory interviews and 12 participants participated in the in-depth interviews) were conducted with current university students. A total of 12 interviews were conducted during the in-depth stage based on findings in the preceding research. Sample characteristics are shown in appendix 1.

The qualitative data were collected using open-ended interviews to glean deep insights into the avatar concept. The researchers utilized an audio recorder to record the full interviews. All interviews were one-on-one and face-to-face interviews were conducted. As the avatar concept is new, a hypothetical scenario was developed in which the participants saw a current website with an avatar. The scenario showed how the avatar works. The participants answered

interview questions while imagining that the avatar was being used on the university website as a brand website. The interviews were conducted in line with the interview protocols.

According to Spiggle's (1994) framework, the qualitative data analysis is comprised of seven analytical operations, resulting in 5 themes as will see in the findings and discussion section. These operations are categorization (classifying or labeling units of data such as Code1: difficult to control listening pace, Code2: difficult to listen and listen again, Code3: cannot go back at the point----- etc.), abstraction (developing higher-order conceptual constructs such as developing the ease of use construct as a higher construct of control, clarity, convenience, and accessibility constructs), comparison (identifying the differences and similarities across incidents), dimensionalization (e.g. Ease of use as an avatar dimension, and a higher-order construct, has different aspect related to avatar), integration (the avatar taxonomy is developed), iteration and refutation. At the end of these operations, the meaning of the data is extracted, arriving at conclusions and generating or confirming conceptual schemes and theories that describe the data. The next section shows the key findings that emerged from the qualitative data analysis.

Findings and discussion

The findings of this paper are divided into six main themes; (1) avatar definition and characteristics, (2) key dimensions related to the avatar, (3) conditions of using the avatar, (4) attitudinal consequences related to the website, (5) attitudinal consequences related to the brand, and (6) behavioral consequences of using an avatar. Based on these themes, the avatar taxonomy is developed.

Theme one: avatar definition and characteristics

As indicated in the review of the literature, there is a lack of understanding of the avatar concept. This theme fills this gap in the extant literature by developing a new definition of the avatar concept. In a hypothetical scenario, the participants viewed a website of an existing

brand which has an avatar on its website and saw how its avatar worked. Each of them was

asked to imagine this avatar on his/her brand's website. They were also asked to describe it.

For example, in his description, a participant (STU5) focused on the nature and function of

the avatar. He considered it, even the used advanced technology, like a voice of nonhuman

being on the website using animation (nature) to offer the relevant information to the

website's users. This depiction is echoed by Kang 2006 and Morrison et al. (2012), who

describe the avatar as "graphic images or symbols".

　　Can you describe the avatar in as much detail?

> *The avatar is a graphical interface; it is not a human being, but some animated*
> *graphical interface that gives you the relevant information in audio as well as*
> *the visual format (STU5).*

Similarly, in another participant's (STU32) description but details, he also focused on the two

main characteristics (nature and functionality). He considered it as a voice over the website

(nature), which offers a source of information giving the users all the needed information

about the brand and its services. Here, the feature (voice) replaced the text by providing

information in an oral format. He also believed that the avatar could organise the provided

information in a way to help users receive it effortlessly. Besides, the avatar can act as a brand

representative on the website.

> *The avatar is one of the features that can give me full information about a*
> *particular website such as the university or particular services on the website.*
> *Thus, instead of reading and trying to find my information, the avatar can*
> *classify their information based on what they provide. Thus, I think I can easily*
> *go to what I want through the website and listen to the presenter of the*
> *institution (STU32).*

Presenting the main purpose, a participant (STU39) explained the reason for being the avatar is

on the brand's website as it professionally represents the brand. In contrast to the participant

(STU5), she feels the avatar as a real girl who waits for any queries to respond.

> *She looks very professional. She is talking naturally. Therefore, she is like*
> *waiting to listen to my questions; it is really like a real girl (STU39).*

Based on the interviewees' descriptions of avatars, it is defined *as an animated graphical web interface that imitates the brand's administrators by providing information and responding to users'/visitors' queries orally and visually*. This definition differs from the extant definitions in the literature in some facets. First, it was observed that the majority of definitions address the avatar concept in general, where the avatar can represent the users (e.g., consumers, agents, salespersons, gamers). However, this definition addresses the avatar as a specific concept (the avatar representing the administrator of a brand) because administrative work is considered the backbone for most sectors (e.g., universities, hospitals, banks, and the public sector). Second, the current definitions focus on the representation as a main aim of the avatar without delineating other functions. Conversely, this definition elucidates the main functions of the avatar. Third, the proposed definition asserts that the avatar is closely similar to the real person demonstrator of the brand by imitating his/her cues and behaviour. Finally, the proposed definition includes two main characteristics: the oral and visual format; these are lacking in most definitions reviewed. Although the qualitative data analysis helped in developing a distinct definition of the avatar, two key aspects noted in the literature have not been recognised in participants' narratives: representation and dimensionality (e.g. Brown et al., 2011; Halvorson et al., 2012). Therefore, considering these aspects, the avatar could be defined as a three-dimensional animated graphical web interface that represents and imitates the brand's administrators by providing information and responding to users'/visitors' queries orally and visually.

Theme two: Key dimensions of the avatar

Four main avatar dimensions emerged from participants' narratives; anthropomorphism, ease of use, self-efficacy and communication that make it a successful tool when performing its tasks are discussed. Appx. 2 shows an example for the categorization, specifically summarizes the key dimensions of the avatar. It shows the meaning of each dimension, examples of quotes elicited from participants' transcripts, and links these results with the previous studies.

Anthropomorphism Supporting some of the previous studies, which examined the degree of avatar anthropomorphism (e.g., Lisetti et al., 2013; Moussawi, et al., 2020), the qualitative results show the link between the avatar and human characteristics or behaviour appears obvious in participants' descriptions. This link reflects the anthropomorphism dimension. Participants described different facets of this dimension. The avatar emulates the real administrator through his/her face and voice and the notion that it can respond to the user's queries. This imitation makes the avatar close to a real one because still there is a degree of it being like a robot. Existing studies declared that the degree of anthropomorphism could reduce the limitations of the system or interface (Luo et al., 2006; Moussawi et al., 2020; Yuan and Dennis 2019). Anthropomorphising avatars require adding human-like features, such as facial cues, speech output, and body gestures (Qiu and Benbasat, 2009).

Ease of use Many participants cited the ease of use and its aspects as key dimensions for using the avatar as a tool on the brand website, as shown in appx. 2. This is in line with Liao et al. (2019) study that it is notable in the IS literature has indicated ease of use as a well-known antecedent to user acceptance. In general, consumers believed that receiving information from the avatar was easy for them. The ease of using the avatar came from picking the needed information up faster than in the text condition. However, in some cases, reading the information is better than listening to it. There was slight concern about the ability to design an avatar to provide specific information rather than listening to the entire message the avatar shared to pick up the needed information. Four main issues were raised, as shown in appx. 2, in the interview data, and relate to the ease of use dimension; control, clarity, convenience and accessibility. The control issue in the avatar condition was critical for many participants, who argued that it is difficult to accomplish their tasks or receive complete information when having control problems, as shown in appx. 2. Being forced to listen to the whole message delivered by the avatar and listening to it again to understand the unclear part

made it difficult. In contrast to reading a text or watching a video, there is no chance to pause and resume the avatar in the case of any destruction. Some participants referred to some suggestions, such as adding some buttons; play, pause, and scroll buttons, to control the content of the avatar's message to solve the problem of the audience's inability to control some of the difficult words to know the exact meaning. Recently, some studies investigated the issue of avatar control (e.g. Galiautdinov and Mkrttchian, 2020; Hoyet et al., 2019). A great number of participants also indicated clarity as one of the key issues determining the ease of use of the avatar, examples are shown in appx. 2. For example, a participant (STU42) commented as "*the avatar has a clear voice…I think it is really clear to understand, it is a nice voice.*" Besides, another participant (STU12) focused on the avatar's pronunciation as "*Pronunciation sometimes is not so clear for international students, like me, and if I read a word, it is easier for me to have a clear concept of the information.*" Convenience indicates the level of effort and time required for the user to use the avatar to get the needed information from the website. Generally, participants highlighted the convenience of the avatar compared to other modalities or styles, such as text, audios and videos, see appx. 2. The exerted effort in getting the needed information could indicate the avatar's ease of use. In contrast, other interviewees believed that using an avatar involves substantive effort, as they sometimes needed to listen more than once and write the difficult words, then search to get the meaning of these words. It was recognised that there was a lack of inquiries on the clarity and convenience of the avatar in the literature. The avatar medium could deliver information in an accessible way, thus providing accessibility, as similar to Sorce et al. (2018) study. Examples with details about the accessibility are shown in appx. 2.

Avatar efficacy This construct exemplifies the avatar's ability to accomplish its tasks. It consists of two main categories: competence and assistance.

The avatar's competence reflects the level of its avatar proficiency when presenting its tasks — in other words, the extent of providing information to users effectively and efficiently. The participants' views on this point varied, as shown in appx. 2. Besides, the participants' opinions vary regarding the understanding issue, such as the extent to which the avatar is considered an appropriate tool for enabling visitors to understand the provided information. For example, avatar is a creative way to understand the provided information. Its voice helped them understand the important parts of the information. The assistance dimension indicates the roles that the avatar can play in helping the users. The data show some roles that the avatar can play, as some examples shown in appx. 2. Previous results mentioned some roles-included the helper roles- as important roles of the avatar concept (e.g. Etemad-Sajadi, 2016; Holzwarth et al., 2006; McGoldrick et al., 2008). Although previous research on avatar mentioned its roles, there were few studies recognised, which empirically examined the assistant roles of the avatar. Besides, previous research has examined avatars' self-efficacy (Lee et al., 2005) and embodied agent affordances (e.g., van Vugt et al., 2006 and 2010). It is recognised that the avatar efficacy dimension is more inclusive than the affordances dimension because the former measures the sufficiency and efficiency of the avatar in addition to the role it fills. Previous studies also examined users' self-efficacy in using the avatars (Chen, 2020; Lee et al., 2005). However, the current research showed avatar's self-efficacy. A significant difference exists between these dimensions. The former measures the user's ability to use the avatar, whether to represent him-/herself or brands; the latter refers to the avatar's ability to do the tasks it should for the users.

Communication It refers to the avatar's ability to communicate effectively with users during the search process. Adding the avatar to a website made the communication process between the user and the brand easier and faster than the current website, as shown in appx. 2. This in line with the extensive work but in the virtual environment (e.g. Roth et al., 2017) and online

games (Banks et al., 2019). In contrast, the avatar might be a barrier, especially for international consumers; thus, it should include the text. The results, whether indicate the enhancement or reducing the communication, are in line with previous studies, shown in appx. 2. Thus, the qualitative results of the avatar showed both sides (positive and negative) concerning the communication dimension. The message of avatar is one of the most important subjects related to communication. A great number of participants acknowledged how the messages delivered through the avatar played a significant role. The data related to the message were divided into two main categories: message content and length. The content of avatar messages is considerably important and determines whether the visitor uses the avatar or not. The content of the delivered message was more important than the medium conveying the message. The messages also should be straightforward and discuss specific points or issues. If the avatar delivers detailed information, it would be more like the text condition, and there would be no benefit from adding this option or tool. These results are in line with previous studies, see appx. 2. The interviewees also referred to the length of the provided messages or information as an important aspect. Evidence from the qualitative data is shown in appx. 2. Finally, some participants in the current study cited that the avatar being programmed was a major barrier for communication with the brand. They suggested using a live avatar which would respond immediately to users. This result supports previous findings revealing that users tended to prefer receiving messages from avatars in a conversational way rather than a monologue (Nishida, 2002).

Theme three: Conditions of using the avatar

Two categories of conditions were emerged and discussed from the qualitative data analysis; Conditions related to the avatar itself (Such as the availability of language options, a live avatar option, and the avatar with an attachment) and conditions related to avatar's users (such as the user's familiarity, culture, gender and age). These specific situational factors influence the use of avatar.

Theme three (a): Conditions related to the avatar itself

These conditions include the availability of language options, a live avatar option, and the avatar with an attachment.

Availability of language options: It shows the languages (English versus the participant's first language) which the avatar can use to provide information. Most preceding studies, which examined avatar language were conducted in the virtual reality context (Heyselaar et al., 2017). Based on the qualitative analysis, the participants are grouped into three main categories; English preference, first language preference, and neutral preference groups. The first group includes all participants who preferred to listen to the avatar speaking English language. Their preferences are based upon different arguments because, for example, English language might be a mother tongue, most brand visitors benefit from it, unlike any other language that few visitors benefit from them and it is the most accessible language for communication. The second group of participants preferred the avatar to talk in their languages for different reasons such as enhancing the understanding of information especially if textual information is not present, making the avatar more attractive, positively enhancing the brand's reputation and consumers happier, thus, motivating them to recommend the website to others. The final group includes those participants who do not mind which language is used for different reasons. For example, using a specific language depends on the situation or the type of needed information. Different languages would increase the user's trust and commitment toward the brand…. etc. Adding users' languages produces some positive attitudes towards the brand and its website. Although this research illustrated the importance of providing languages with the avatar, there were no previous studies, which examined avatar or the other similar terminologies. This may be because most of the previous studies examined the chat avatar, and only a few studies examined the spoken avatar.

Live avatar: It emerged as a considerable factor that increased the chance of using the avatar as a tool on the websites. Adding the live avatar helps receive the needed information quickly,

give accurate answers than the programmed format, and save time because it reduced the time required for a search. Adding a live avatar would need a great effort and experience to do so appropriately. Adding a live avatar would make it a convenient tool and improve the perception of the avatar, particularly concerning helpfulness and successfulness. A live avatar is an important tool to be made available on the brand website. However, it is a considerable challenge for the brands to provide it on their website as it needs investment. Few preceding studies examined the impact of an avatar in the virtual world on the live user's performance (e.g. Gochfeld et al., 2019).

Attachment: Attaching written information/text to the avatar, as previously discussed, was considered one of the main conditions/factors which might increase the perceived benefits of using the avatar. Some participants emphasised the importance of the presence of written information with the avatar, offering different reasons.

Theme three (b): Conditions related to users category

This sub-theme includes the user's knowledge, culture, gender and age.

User's knowledge: The user's familiarity with the avatar can play a significant role in enhancing its use as a tool on the website. The majority of the participants in this research were not familiar with the avatar as a tool for providing information. From an interviewee's point of view, familiarity with this tool helps website visitors use the avatar more easily, thereby enhancing information recall. Little attention in the literature was recognized to investigate the importance of user's knowledge in dealing with avatars/ virtual reality (Piumsomboon et al., 2018), but these results fill the gap previously referred that researchers should examine other moderators, such as familiarity with avatars (e.g. Garnier and Poncin, 2013).

Cultural factor: Some cultural factors emerged in some participants' narratives, which might play a critical role in accepting or using the avatar. For instance, Arun emphasised that using an avatar might be bound to one's culture (e.g., the appearance of the avatar should be

appropriate to the user's culture concerning the appearance). Previous research emphasized that users' culture was one of the key factors in the interaction with the avatars and their behaviours (e.g. gaze patterns) (Koda et al., 2017)

Gender and age: The gender of the avatar also plays a critical role for some participants. For instance, an interviewee tends to deal with a good-looking female avatars more than male avatars. These results confirmed the previous research (Chattaraman et al., 2011; Galanxhi and Nah, 2007). In the commercial context, the consumer may choose a masculine or feminine avatar irrespective of his or her real gender (El Kamel and Rigaux-Bricmont, 2011). However, other results revealed that users follow stereotypical gender patterns when communicating with avatars that present as either masculine or feminine (Brahnam and De Angeli, 2012; Zhang et al., 2019). Concerning the users' age, an interviewee expected the avatar not to be a suitable tool for older users compared with younger users. These results are consistent with the previous research (McGoldrick et al., 2008; Zhang et al., 2019). Furthermore, the results revealed that age partially moderated the effect on the differences of avatar types (Kang, 2006).

Theme four: Attitudinal consequences related to the website

This theme addresses the consequences related to the avatar as part of the website as well as consequences related to the website itself. It includes hedonic characteristics, helpfulness, gentleness, informativeness, information recall, usefulness, ease of using the website, social presence, and attitudes towards the website.

Hedonism Hedonic characteristics indicate the consumers' feelings of enjoyment or fun derived from using the avatar. The qualitative analysis appears this type of feelings. 4. These results are consistent with previous studies such as Neviarouskay et al. (2010), Jin and Bolebruch (2010) and Li and Mao (2015).

Informativeness It refers to the degree to which the avatar is described as being informative. The qualitative data analysis found that the interviewees varied in their perceptions about

whether the avatar was informative or not. For some interviewees, although the avatar was informative, they thought that adding pictures, maps or videos would make the topic much clearer, more understandable, and illustrative. However, some topics, such as identifying locations, need additional aid tools (e.g., maps). Previous studies confirmed this impact (e.g. Holzwarth et al., 2006; Li and Mao, 2015). In contrast, an interviewee did not believe that the avatar would be informative if it was only put on the website to provide information. Other tools could give more complete information about the topic he searched for and should support it.

Gentleness It indicates the degree to which the avatar is described as being safe for the user's health. Some interviewees stressed the gentleness perceived from using avatar. No previous study has linked gentleness construct to avatars concepts.

Usefulness It indicates the degree to which a user describes the avatar as being useful in the sense of doing its tasks. The interviewees' point of views related to the usefulness perceived from using avatar is varied. Supporting the qualitative results, previous studies confirmed the influence of avatars on perceived usefulness (e.g. Fuchs et al., 2019; Qiu and Benbasat, 2010; Suh et al., 2011). Besides, regarding the point of views against the avatar usefulness, because other tools (e.g. text) should be included in the website, the previous studies also revealed that videos were rated as being far more useful than avatars (Clayes and Anderson, 2007).

Information recall It indicates the degree to which a user remembers the information provided by the avatar. The qualitative data analysis identified a division between interviewees concerning information recall. Some interviewees liked the avatar because they believed that receiving the spoken information helped them remember it. Previous studies have examined the information recall as an outcome of avatar presence (e.g. Chowdhury et al., 2017). Yet other interviewees voiced concern about recalling the information provided by

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the avatar. Consequently, keeping the written information with the avatar is crucial for making a copy of it as a document.

Social presence Interviewees considered the social presence construct to be one of the highly discussed constructs. Social presence has received a lot of attention in the literature, particularly in examining the avatar (e.g. Liew et al., 2017; Tan and Liew, 2020). Adding the avatar to the website affected participants' sense of social presence. In contrast, some participants perceived the avatar to be more like a robot than a human. Another one (STU33) did not expect any more information or response from the avatar as it was programmed and not real, even suggesting using the phone as a communication tool to contact the real administrator in case of further inquiries. The interaction, in this case, was still limited because he could not control the interaction by moving to another point or stopping the current one. To increase the perceived social presence, an interviewee highlighted two main features—namely, using real images in the avatar and providing immediate responses (a live avatar option) to any questions or queries. Supporting the previous points of views, some previous studies confirmed the positive relationships between avatars use and the social presence, as adding facial movements to avatars strengthens the sense of presence (e.g. Franceschi et al., 2009). In contrast, an interviewee (STU21) expected negative impressions towards the brand because the avatar decreases direct contact between consumers and the real administrator.

Attitude towards the website It refers to the degree to which a consumer believes that the website with an avatar is attractive, novel, and likeable. The qualitative data analysis emerged three aspects related to the attitude towards the website after adding the avatar: attractiveness, novelty and likeability. The preceding research showed that the presence of a virtual agent on the website enhances the attitudes toward the website (de Diesbach et al., 2019). The attractiveness of the avatar and website itself was identified by a great number of

interviewees. For example, an interviewee believed that adding an avatar to the website makes it more attractive than a traditional or current website because the avatar offers some unique characteristics, such as moving, visualising and talking. Unlike the current avatars on some websites, the avatar can move its head, do nonverbal expressions, and speak to users. Besides, another interviewee concluded that the website was more attractive after the addition of the avatar as it increased her attention and would lead to her staying on the webpage longer. Adding an avatar would attract users, particularly international users, because it would improve the website and make it attractive. Novelty refers to the degree to which the website including an avatar is perceived to be distinct and notable. Some interviewees emphasized the novelty of avatar. The literature review found a lack of studies examining the avatar's influence on users' perception related to the novelty, particularly website novelty. Likeability indicates the degree to which the consumer likes the avatar as part of the website as well as the website itself. The interviewees' perceptions of likeability were affected by several factors such as hearing the information, simulating real-life interaction, and enhancing the personalization. In contrast, an interviewee does not prefer the website after adding the avatar because keeping the text or the written information on the webpage is considered as an essential aspect. Previous results support the qualitative results of the current research which linked between likeability and other emerged constructs, such as anthropomorphism, satisfaction, trust and attitude towards the retailer or brand. For example, avatar likeability mediated the influence of the avatar's attractiveness on the satisfaction with the retailer, attitude towards the product, and purchase intention (Holzwarth et al., 2006). The majority of consumers prefer to shop on the Internet for products using an avatar-shopping assistant (Keeling et al., 2010). Users perceived the social/human-like characters as more likeable (Luo et al., 2006; Wang et al., 2007) than the cartoon-like characters, in turn leading to stronger

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trust (Luo et al., 2006). Adding an empathic (well-animated) avatar affected the likability of the system (Lisetti et al., 2013).

Theme five: Attitudinal consequence related to the brand.

This theme addresses the attitudinal consequences related to the brand. It includes attitudes towards the brand, and relationship quality.

Attitude toward brand It indicates the degree to which a consumer believes that the brand, after adding the avatar, has a good image, is modern and is easy to recall. In general, adding the avatar gave a good attitude towards the brand, but most consumers focus on the brand's rank as an important element of developing attitude. Some previous studies confirmed the influence of the avatar on the attitude towards the brand (e.g. Holzwarth et al., 2006; Jin and Bolebruch, 2009; Lee et al., 2013). For example, Ahn and Bailenson (2011), showed that participants who exposed to avatars reported higher brand attitudes. Brand image refers to the degree to which the consumer views the brand. In other words, it is the perceived image of the brand in the consumer's head. The qualitative analysis emerged, the brand image as a consequence of using avatar. Brand modernity indicates the consumer's perceptions that the brand follows new approaches or strategies, making it a modern brand. Finally, brand recall indicates the extent of users remembering the brand name when they find an avatar on other brands' or brands' websites. Adding the avatar would help some participants recall the brand and its website. The literature did not include any results with relation to the impact of avatars on brand image, modernity or recall.

Relationship quality The qualitative data analysis also identified three constructs related to relationship quality — namely, satisfaction, trust and commitment. These constructs reflect, in line with the literature review, the relationship's goodness between the consumers or users and the brand. Therefore, the three constructs are incorporated into one broader construct reflecting relationship quality. Each construct is discussed separately here. Satisfaction

indicates the extent of a person's satisfaction with the brand after adding the avatar. In general, some interviewees expressed their happiness because of the addition of the avatar. Other interviewees have declared that several factors affect satisfaction with the brand such as a short message or answer provided by the avatar. The consumers' satisfaction is built based on many factors, and avatar is only one of them. Other factors include the educational services provided by the brand and the number or type of these services (scholarships, courses, etc.). These results support the previous research (e.g. Holzwarth et al., 2006; Neviarouskay et al., 2010; Teng, 2010). From a different point of view, and interviewee (STU36) believed that satisfaction stems from the avatar being a new not used on any other brand website. Therefore, he can consider it as a source of happiness while talking with his friends. Trust refers to the consumer's belief that the brand is reliable and trustworthy. Concerning trust, the interviewees' points of view varied. Trust has been extensively examined in the avatar literature. Several research streams have been developing, particularly in terms of trust in avatars (Riedl et al. 2010). The previous research showed that avatars' social interaction cues increase trust in online shopping sites (Liew et al., 2017; Keeling et al., 2010). Previous studies supported the view that interactions with avatars could enhance users' trust of the technology used by the brand (e.g. Cassell, 2000; Li and Mao, 2015). The presence of avatars and/or virtual salespersons facilitates the development of trust (e.g. Morrison et al., 2012) as they provide a reliable visual representation (e.g. Bogdanov et al., 2013). In contrast, other interviewees did not believe that the addition of the avatar would affect trust in the brand. Commitment indicates the degree to which the consumer has the desire to continue and maintain it in the future. Participants expected this kind of recent technology to motivate potential consumers to continue dealing with the brand because it gives them positive indications about the brand. For example, an interviewee (STU23) asserted that she would be committed to continuing with the brand because it reflects the quality of services provided

there. Besides, it gives the impression that the university offers a greater experience than other universities. Therefore, it would most likely be on the shortlist of initial choices. The literature review did not include any empirical examination of the avatar's influence on users' commitment towards the brand.

Theme six: Behavioural consequences of using avatar

This theme addresses the behaviours which can be formed or result from using an avatar. The participants' reactions varied about the extent to which the avatar influenced their behaviours. For example, an interviewee (STU19) emphasised that the changes in his behaviours stemmed from dealing with the avatar as a real human. However, he believed that these changes could be either positive or negative. This means that the presence of the avatar often negatively or positively changed users' behaviours based on other factors such as the information provided. In contrast, another participant (STU24) said during the interview that using the avatar did not affect his behaviours at least during interviewing with him. His belief can be interpreted from different aspects. First, the avatar was a new tool for him, so he might not have expected changes in his behaviours. Second, the short presentation of the avatar during the interview might not have helped him predict the influence of or changes in his behaviours. For an interviewee, the avatar did not influence his behaviours, particularly in terms of the brand, as it was not an important or key factor in choosing the brand. Other factors affected his decision, such as the available research interests in the brand and the information provided. These opinions and beliefs suggest that there is no agreement concerning the impact of the avatar on the visitors' or users' behaviours. Little attention was gained to examine the avatars' impact on human behaviour (e.g. Guegan et al., 2016; Li et al., 2018). From the qualitative data, three main constructs emerged — namely, the potential for the consumer to join, the consumer's voluntary behaviours and the propensity to leave.

Potential to join The presence of the avatar can encourage the users to apply and join the brand. Several previous studies have shown that an avatar-enabled user interface leads to high

purchase intention in online shopping. The qualitative data analysis shows a varied point of views, which supported the previous studies. Holzwarth et al. (2006) confirmed the influence of avatars on the perceived informativeness variables and, in turn, on consumers' satisfaction with the retailers, attitude towards the product, and purchase intention. These results are critical for the current research for several reasons. First, the applied contexts are very similar. Holzwarth et al. studied online purchases on a retailer's website while the current research examined the avatar on a brand website. Second, the roles of the agent avatar in Holzwarth et al.'s study were similar to those of the avatar in the current research. Finally, in Holzwarth et al.'s study, informativeness played a mediating role between the avatar and the three construct outcomes (i.e., consumer satisfaction with the retailers, attitude towards the product and purchase intention). These three outcomes also emerged in the qualitative phase of the current research. All three constructs were included as consequences of informativeness in the taxonomy of the current research. Therefore, it can be argued that Holzwarth et al.'s (2006) study supported the assumptions of the qualitative phase of the current research concerning the directions of the relationships of these constructs. Besides, the preceding research showed that participants who exposed to avatars reported higher purchase intention (Ahn and Bailenson 2011) and patronage intention (e.g. Etemad-Sajadi, 2016; Liew et al., 2017)

Consumer voluntary behaviours The consumer's voluntary behaviours construct indicates the behaviours of the consumer when favouring the brand without any kind of obligation. These behaviours are divided into three types: word of mouth, giving feedback and recommendation. Word of mouth (WOM): The analysis of the qualitative data found that adding the avatar motivated users to talk positively or negatively about the brand. Few studies in the literature have examined avatars' influence on word of mouth (e.g. de Diesbach, et al., 2019), although the need for further examination to empirically investigate the impact of avatars on marketing consequences (e.g., passive WOM intention) has been identified

(Garnier and Poncin, 2013). Giving feedback is another type of behaviour that can help the brand enhance its services. The qualitative data analysis demonstrated consumers' thoughts about giving feedback. For example, participants linked feedback to the ability to share such feedback from the website. No previous studies in the literature review examined the avatar's influence on users' giving feedback behaviour. Recommendation indicates the person's advice to others, such as friends, colleagues, family members and/or relatives, to join the brand after adding the avatar. Evidence from the qualitative data analysis that shows recommendation as an outcome of adding avatar was emerged. However, a great number of participants believed that the avatar was not a factor that would make them recommend the brand to their friends. No previous studies in the literature review examined the avatar's influence on users' recommendation behaviour.

A propensity to leave It refers to the user's tendency not to use or deal with the avatar, website and/or brand itself. Participants' responses reflect the different views of the avatar being a factor for leaving the website or brand itself. Interviewees' comments demonstrate that the user's personality plays a key role in determining the extent of accepting and adopting the avatar as well as the degree of leaving the website or the brand.

Avatar taxonomy

The taxonomy emerged from a comprehensive discussion of qualitative data analysis. Figure 3 shows the taxonomy. The idea of the avatar taxonomy is summarised in several points. The different dimensions of the avatar are considered the main base/phase of the avatar to build and maintain strong relationships with consumers. The conditions whether related to the avatar or users/ consumers play vital roles in strengthening the base of the taxonomy. If the base is strong, the probability of building strong relations with consumers is high. The second phase of the taxonomy includes the attitudinal consequences related to the website. The strong presence of this part presumably helps build the third phase of the taxonomy, which includes the attitudinal consequences related to the brand. The presence of these consequences helps

build the behaviours towards the brand. These behaviours represent the top/final phase of the avatar taxonomy. Notably, all these assumptions are based on qualitative data analysis. Arranging constructs in this taxonomy is also supported by the reasoned action theory (Fishbein and Ajzen, 1975) which provides theoretical guidance for interpreting the relationships among cognition (represented by the avatar aspects in the current research), affection (represented by the attitudinal consequences towards the website and brand) and behavioural intention constructs.

Figure 3 {about here}

Conclusions

The avatar becomes either a tool for relationships or a means of coping with a lack of social contacts, which may in turn lead to the development or maintenance of relationships with others (Szolin, et al., 2022). The current study offers original revelatory insights into brand literature by providing a new comprehensive definition of an avatar that shows its meaning, characteristics, and roles played on a website. The avatar taxonomy was developed, showing how to build strong consumer-brand relationships by adopting new advanced technology such as the avatar. The taxonomy shows the different stages, beginning with how to create a successful avatar to increase the chance of consumers joining the brand and ending with demonstrating voluntary behaviours in favour of the brand. These stages are linked in the taxonomy idea to give the message that, to reach the final phase of the avatar taxonomy safely, which are far from the foundation, the brand should build a strong base (successful avatar) to develop the second phase (attitudinal consequences towards the brand website) and third phase (attitudinal consequences towards the brand).

This taxonomy can be considered the first step for avatar theory which further studies can empirically examine. We encourage further research to apply, enhance and develop the existing taxonomy. Future research could qualitatively and quantitatively investigate the avatar concept in other contexts to reach the final boundaries or the frame of the theory.

Experimental research is recommended because it is the best way to infer causality, gives the eligibility to manipulate the independent variables (such as avatar elements), and allows the interaction testing between them (Bazaraa, et al., 2022; Field and Hole, 2010). This research contributes to the literature conceptually by showing how to conduct business work using avatars and linking this back to websites and real-world brand workplaces. Instead, in the current study, which represents a single perspective (consumers), it is valuable to gather a complete picture of such an addition. Gathering additional perspectives (e.g. the brand management/practitioners, administrators themselves, and academic staff.) would enrich the understanding of the avatar concept and its dimensions and consequences. Future research could present multiple perspectives using data from more than one stakeholder. As the research was conducted in one brand in the UK, which could raise concerns about the generalisability of the results, further investigations could also be valuable if the taxonomy is assessed in different age markets (developed versus developing countries), different cultures as mentioned in the qualitative results. Some previous studies have suggested examining the avatar in multicultural contexts (e.g., Ben Mimounn et al., 2012). Further empirical investigations of the avatar taxonomy are still warranted, whether with other industries such as banks, schools, and hospitals, to increase the external validity and generalisability of the findings.

The current study also offers original incremental insights since the issues associated with the avatar's look are little explored in the marketing literature (Renault, 2023). Unlike other constructs which emerged from the qualitative phase, this research conceptually contributes by identifying relatively new constructs — namely, control, accessibility, and avatar efficacy — as dimensions of the avatar. These constructs pave the way for a better understanding of how to create a successful avatar on the brand website. However, they still need more comprehensive investigations to develop and validate scales for them. Similarly, some

relatively new constructs have been identified as consequences of using the avatar — namely, information, brand recall, and giving feedback; further investigations should develop and validate scales for these appropriate to the avatar context. Building a strong theoretical background for avatar use may solve the problems of relationship weaknesses between brands and consumers in the online context. This research also advances existing research on the avatar concept in the literature by providing a clearer picture of the avatar construct, providing its dimensions and theoretical foundations of the concept. Therefore, this research provides original incremental insights into existing research on the brand avatar, particularly the brand avatar. This research identified two higher-order constructs: attitudes toward the website and attitudes toward the brand. This gives a clear picture of the multidimensional nature of the attitude towards the website construct compared to the unidimensional measure used in the majority of previous studies.

This research addressed the calls from researchers to examine the avatar–consumer interaction influence and the need for a new theoretical approach to theorising how users' attitudes and intentions concerning avatars are influenced (Keeling et al., 2010; Renault, 2023; Suh et al., 2011). It presents its scientific usefulness by developing a comprehensive taxonomy of the avatar guided by theories (e.g., reasoned action theory) and suitable for the brand context which will motivate scholars' future theory testing. The scholars can examine the constructs which emerged in the taxonomy and adapted scales to gain a better understanding of the influence of avatar dimensions and conditions on the attitudinal and behavioural consequences in the brand context.

Marketing practitioners can benefit from more efficient communication by using online chat (using avatars) for customer service (Jones, et al., 2022). The current research enables practitioners to identify unique characteristics, such as including the main human characteristics. For example, they should focus on accurately designing features related to

speaking, human face and body, expressions and gender, among others, to persuade users to contact the avatar as a real-life administrator. The avatar voice should be clear and use normal intonation, without breaking during the speech. The shape of the avatar's face and body should be normal. Designing these aspects properly gives users positive impressions and motivates them to contact the avatar to get the required information or make inquiries. In developing the designs, practitioners should also be careful about the visual characteristics, such as nonverbal cues, animations, and moving interface (not a static avatar). The movement of the mouth should match the speech. If there are differences between the mouth movements and the words spoken, users might believe that it is cartoonish and they might lose focus. Besides, the movement of the avatar's face and body should be appropriate without any exaggeration to avoid distracting the users during the speech. Taking such these characteristics into consideration will help practitioners understand the philosophy behind creating the avatar as a 'real-life imitation'.

Based on the qualitative results, the avatar's dimensions guide the practitioners and give them deeper insights into the main advantages of the avatar that they should focus on and highlight for their users. For instance, the convenience of the avatar (less effort) stems from getting the required information just by listening to it. The main aspects of the avatar should be highlighted about its ease of use, such as clarity of voice, use of easy language to deliver the information, the addition of some features (e.g., play, pause, and rewind buttons) to control the information flow. Such aspects also guide the managers in identifying the main defects of the avatar and finding solutions for them. For example, one of the main problems of the avatar, for some users, is that they cannot pick up the required information quickly. In this case, the practitioners should work on determining the means which help in getting the required information quickly. Furthermore, the results give the practitioners more insights into the roles that the avatar can play on the website, such as guidance, instructor and respondent

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to any inquiries. Practitioners should also be aware of the elements which make the avatar more convenient than other tools based on these research results. Finally, the results of the avatar research can help practitioners adopt strategies for effective communication, particularly concerning the type of information and length of the messages. For example, the communication strategy should focus on ensuring that the messages the avatar delivers are characterised as short and focused and include the most important information about topics to motivate the users to use the avatar rather than read the information.

With live streaming rising in popularity, many people stream the creation of 3D avatars, particularly in E-commerce (Brett, 20229; Li et al., 2021). Thus, a live avatar is an extremely useful tool that practitioners could incorporate into their websites. This is because developing such a tool will increase the probability of consumers using the avatar as a tool on the websites compared to a programmed avatar. Adding the live avatar will help practitioners in meeting the specific users' needs quickly and more accurately. Proving immediate answers to any inquiries is a crucial advantage. The flexibility and accuracy of a live avatar will encourage consumers to interact with brands. The interactions with a live avatar are very similar to the face to face communications as it is conversational and synchronous. The addition of live avatar will facilitate the administrative functions between consumers and brands is quicker and much more efficient. It will help to foster positive perceptions, thus enhancing their attitudes towards the brands' websites and the brand itself. This, in turn, will increase the probability of attracting new consumers to deal with or buy the brands' products and/or motivate the current consumers to carry out voluntary behaviours. While creating an advanced live avatar is challenging task and demands the investment of a considerable amount of resources, the rewards will accrue in terms of enhanced brand equity, more loyal consumer which may ultimately result in higher revenue streams for brands. It could be more challenging for future studies to create a live avatar to give the responses immediately because

it will be more advanced than the ones used in the current research. However, such an

approach would give more insights into the avatar and its consequences.

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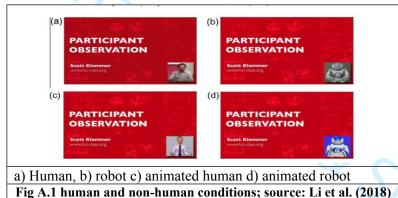
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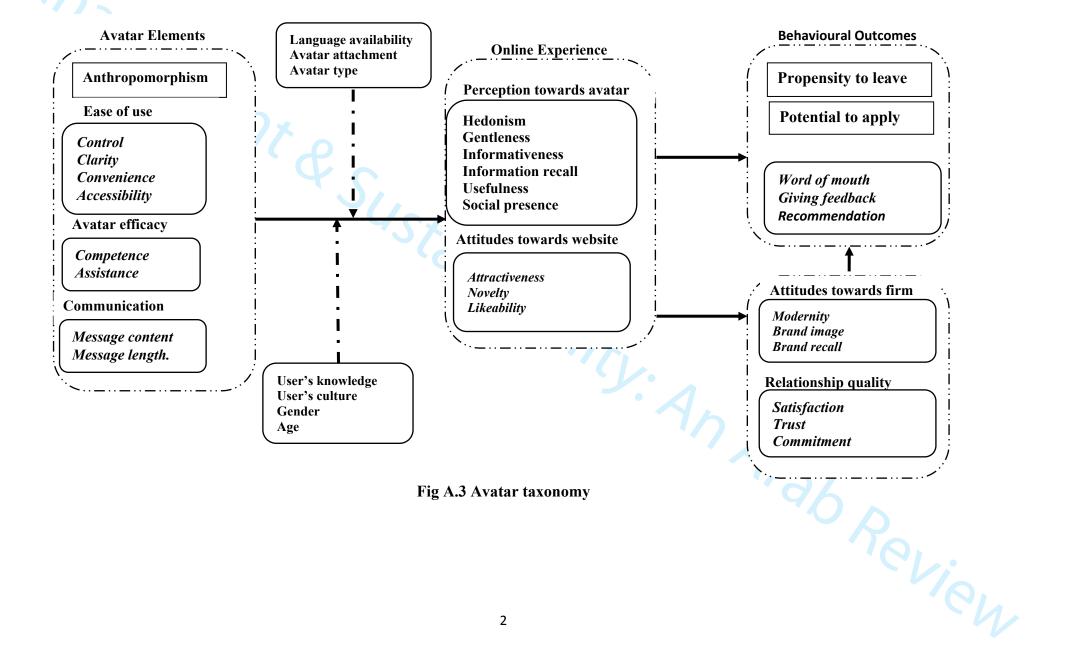
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a) Human, b) robot c) animated human d) animated robot

Fig A.1 human and non-human conditions; source: Li et al. (2018)

Fig A.2 Avatar

Avatar Elements

Anthropomorphism

Ease of use

Control
Clarity
Convenience
Accessibility

Avatar efficacy

Competence
Assistance

Communication

Message content
Message length.

Language availability
Avatar attachment
Avatar type

User's knowledge
User's culture
Gender
Age

Online Experience

Perception towards avatar

Hedonism
Gentleness
Informativeness
Information recall
Usefulness
Social presence

Attitudes towards website

Attractiveness
Novelty
Likeability

Behavioural Outcomes

Propensity to leave

Potential to apply

Word of mouth
Giving feedback
Recommendation

Attitudes towards firm

Modernity
Brand image
Brand recall

Relationship quality

Satisfaction
Trust
Commitment

Fig A.3 Avatar taxonomy

2

Appendix 1: Sample characteristics

Type	Code	Pseudonym	Gender	Study program	Faculty/ Department	Nationality
	STU 1	Tauseef	Male	PhD	Finance	Pakistani
	STU2	Cong	Male	PhD	Supply chain	Chinese
	STU3	Chao	Male	PhD	Engineering	Chinese
	STU 4	Samuel	Male	PhD	Media	Nigerian
	STU 5	Srin	Male	PhD	Finance	Indian
	STU 6	Ivan	Male	PhD	Finance	Bulgarian
	STU 7	Joseph	Male	PhD	Systems studies	Nigerian
	STU 8	Rahaf	Female	PhD	Systems studies	Omani
	STU 9	Naveed	Male	PhD	Supply Chain	Pakistani
	STU 10	Akmal	Male	Bachelor	Law	Malaysia
	STU 11	Olivia	Female	PhD	Systems studies	American
	STU 12	Bora	Female	Bachelor	Modern language	Albanian
	STU 13	Liang	Female	PhD	Marketing	Chinese
	STU 14	Malik	Male	Bachelor	Electronic engineering	Nigerian
	STU 15	Akeem	Male	MBA	Management	Nigerian
	STU 16	Ahmad	Male	Bachelor	English literature	Bruneian
	STU 17	Preecha	Male	PhD	Politics	Thai
	STU 18	Dara	Female	PhD	Supply chain	Thai
	STU 19	Moukhled	Male	MSc	Education	Saudi
	STU 20	Abdul-Aziz	Male	Bachelor	Engineering	Saudi
Exploratory interviews	STU 21	Mensah	Male	PhD	Economics	Ghanaian
	STU 22	Arun	Male	PhD	Systems studies	Indian
	STU 23	Delia	Female	PhD	Marketing	British
	STU 24	Carlos	Male	PhD	Management	Mexican
	STU 25	Shafiq	Male	PhD	Finance	Ghanaian
	STU 26	Alfredo	Male	PhD	Marketing	Mexican
	STU 27	Hong	Male	Bachelor	Accounting	Chinese
	STU28	Biming	Male	Bachelor	Business	Chinese
	STU29	Akwei	Male	MSc	Management	Ghanaian
	STU 30	Larkai	Male	MSc	Business	Ghanaian
	STU 31	Chris	Male	MSc	Business	English

1

	STU 32	Jamaan	Male	PhD	Accounting	Saudi
In-depth interviews	STU 33	khulood	Female	PhD	Accounting	Omani
	STU 34	Zul	Male	PhD	Marketing	Indonesian
	STU 35	Shu	Female	PhD	Finance	Chinese
	STU 36	Hamdan	Male	Bachelor	Accounting	Saudi
	STU 37	Talha	Male	MSc	Business	Omani
	STU 38	Alyan	Male	MSc	Education	Saudi
	STU 39	Élise	Female	MSc	Financial management	French
	STU 40	Qadir	Male	Bachelor	accounting	Pakistani
	STU 41	Ralf	Male	Bachelor	Management	German
	STU 42	Matthew	Male	Bachelor	Biomedical	English

Appendix 2: Example for categorization of participants' speech (Key dimensions related to the avatar)

Key dimension	Evidence from qualitative	Linking with the prior studies*
1- Anthropomor-phism	*The main characteristics like it is a sort of dummy of any living human being and it gives me information that I am looking for in an audio and visual format. So the university is trying to make it as close as possible to be living as a human being and it will make its use much more prominent and maybe people will start accepting it largely… It looks like, but is not, a human being because it is an animated character that has been programmed to deliver us a specific message* (STU 5). *It is nice to listen to an avatar, but it depends on many factors such as… the image, gender, voice accent, tone* (STU 22).	Support (e.g., Boleburch 2009; Lisetti et al. 2013),
2- Ease of use	*I can listen to it while I am doing something else and if it were my native language, it would be much easier* (STU 12). *Listening is easier to receive (get) information than reading* (STU 19). *It is not difficult. Just press on it. Speaking is not difficult; it makes it easier* (STU 42). *For international students, sometimes it will be difficult for them to understand difficult new vocabulary; there should be an introduction to how we can use this tool* (STU 38).	Support (Takahashi et al., 2005). Support the difficulty of communication through an avatar (e.g. van der Sluisa et al., 2012).
2-1 Control	*When I read the text, it showed the overall context that I can go back to review it again and again, but this method will take more time than listening to the avatar* (STU 18). *Advise them to add a function to control the speed* (STU2). *Maybe if it could have a play and pause button or something like that so if I listen to the whole sentence and maybe if I turn to understand. If it is a long sentence, I even did not understand the middle of it, if this person plays again to listen to it, like maybe scroll and go to the track section to listen to it again, it is compatible* (STU 42).	The literature did not include any results concerning the control issues of avatars or similar concepts.

2

2-2 Clarity	*The information listened through the avatar is clear for grabbing the key information I want* (STU 27). *The avatar has a clear voice…I think it is really clear to understand, it is a nice voice* (STU42). *Pronunciation sometimes is not so clear for international students, like me, and if I read a word, it is easier for me to have a clear concept of the information* (STU 12).	Support (Köhler et al., 2011; McBreen and Jack, 2001).
2-3 Convenience	*It is more convenient to listen than to read so the avatar is much better than reading texts* (STU37). *Listening is comparatively less effort than reading* (STU 5). *It is still difficult as if I can repeat it and hear it and then type it, yes I am trying to look for the meaning of that word. There is a chance to misspell the word itself. If there is a transcript at the same time that the person is speaking I might click on the word and then tell me what that word means… It is like a replacement for a solution instead of looking for the meaning* (STU 33). *It saves time as information is being spoken* (STU 1).	Support search effort (Lee and Chung, 2005). There was a lack of inquiries on the convenience of the avatar in the literature.
2-4 Accessibility	Getting relevant information is more accessible (STU 30). *I think the internet and process and all these things are going to work together — and many things are affecting the process such as the speed of the internet, the sum of the modem, or all of these technical things* (STU 32).	Support (Hertzum et al., 2002).

* The qualitative result can be one of three cases; support previous study(ies), against the previous study(ies) or the first time emerge.

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