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Strengthening consumer-brand relationships through avatars

Abstract

Purpose: Avatars have become increasingly prevalent on brand websites, yet their impact on consumers' use of these sites remains underexplored. The current study focuses on avatars, which are three-dimensional animated graphical web interfaces that verbally aid the brand stakeholders (e.g., customers, employees, and suppliers). Avatars provide administrative and technical information through the brand website. Drawing upon the stimuli-organism-response (S-O-R) paradigm, this research examines the impact of avatars as an information provision and interacting tool (vs. a traditional format) on consumers' perceptions, attitudes, and behaviors toward a brand. It also investigates the roles of familiarity with avatar use and the language used by an avatar in shaping consumers' responses.

Design/methodology/approach: Across two laboratory experiments, the authors examined and confirmed causal relationships between the use of avatars (vs. a traditional format) on a website and attitudinal and behavioral constructs.

Findings: We show that avatars (vs. written information) had a significant effect on controlling information. The users in our experiments had greater control over the information provided when it was presented as text on a website compared to the case of avatars "telling" the information. Different languages and familiarity with avatar use also affected the consumers' hedonism in terms of website use.

Originality: We advance understanding of avatar use in website design, particularly avatars' verbal interaction, in shaping consumers' cognitive, affective, attitudinal, and behavioral responses

and add important empirical evidence to the growing body of research and practices involving using avatars in interactive marketing.

Keywords: Avatar elements, Apply intention, WOM, Information recall, Hedonic, Usefulness, Attitude toward a brand, Familiarity.

Article classification: Research paper

Introduction

Avatars are digital entities with anthropomorphic appearance that are controlled by a human or by software (Miao et al., 2022). In practice, avatars offer interactive touchpoints that may be verbal (voice) or nonverbal (text, animation) (Liew, et al., 2017). Since their introduction as interactive features, avatars have become increasingly prevalent in the design of websites. Brands have incorporated avatars into their websites for a variety of reasons, including customer relationship management and facilitating purchases increasing the probability to purchase from the brand (e.g., Choi et al., 2020; Foster et al., 2022). For example, HSBC has two well-known virtual assistants, called “XiaoLingTong” and “Olivia”. Interactive marketing emphasizes the significance of bi-directional communication in which avatars play irreplaceable roles in enriching the customer experience (Foster et al., 2022; Wang, 2021).

Previous research mainly focused on understanding consumers’ general perceptions of avatars (e.g. Liew, et al., 2017). However, as many brands are now using avatars on their websites, the implications of consumer-avatar interaction remain underexplored. Pioneering researchers and practitioners highlighted the importance of understanding customers’ responses elicited by interaction with avatars, thereby improving the effectiveness of website designs that incorporate

these tools. The outcomes of customer-avatar interactions are important to understand. Unlike static website features, an avatar can communicate in real-time, offering real–in that participants' attitudes toward the brand in both the avatar and avatar based-on-text designs are higher than for the written style design. -time information and interacting like a human. Such interaction is distinct from navigating traditional websites, and the underlying process of how consumers respond to avatars needs to be examined specifically.

Given the importance of avatars in interactive marketing research and practice, our research aims to understand how avatars help brands strengthen consumer-brand relationships. Drawing from the existing research, we identified several important research gaps that informed and shaped our research objectives. Our research objective is three-fold. First, despite the growth in the use of avatars, relatively little academic inquiry to date has explored the brand avatar factors that influence consumers' perceptions and behaviors (Crolic et al., 2022). More specifically, as avatars can be incorporated in different ways into website designs (e.g., with text and with verbal communication), which elements of an avatar, from a user perspective, are more effective remains an important and unexplored line of inquiry (e.g. Miao et al., 2022). Therefore, our first research objective was to examine the effectiveness of avatar use by comparing consumers' responses when having information provided as written text on a website, verbally through an avatar, and through an avatar based-on-text.

Second, avatars are responsible for providing information and assisting brand-consumer communication, but how avatars contribute to the effectiveness of this interaction poses a need for urgent inquiry (Hoyet et al., 2019; Lee and Lee, 2006). Therefore, our second research objective focuses on examining the impact of the use of avatars on consumers' perceptions of website design.

Here, we specify three dimensions of website design (i.e., clarity, control, and convenience) in order to examine the influence of avatars.

Third, previous research highlighted that there is a need to examine human-avatar interactions because avatars might be perceived as more competent in the utilitarian realm than in the hedonic (Borau et al., 2021). Previous research also called for an examination of possible mitigators that may assist consumers' willingness to follow avatar advice (Lin et al., 2021) and expand the interaction. Based on this call, our third objective is to understand whether consumers' familiarity with using avatars and the language an avatar uses might mitigate the impact of avatars on those consumers' responses. In relation to consumers' responses to marketing stimuli, in addition to purchase intention, word of mouth (WOM) is one of the most powerful information sources and exerts a strong influence on consumers' product evaluation (e.g., Sheth, 2021). However, a positive and rewarding consumption experience is an important requirement (Kohler et al., 2011). Therefore, our inquiry contributes to understanding the role of avatars in shaping consumer experiences and responses (Farizin and Fattahi, 2018; Park et al., 2021).

Against this background, the aim of this study is to examine the causal relationships of interacting and providing information tools (avatars, avatars based-on-text, and a traditional format [no avatar/information as text]) on 1) the consumer/user perception including the tool's elements (clarity, control, and convenience) that reflect the perceived ease of use (e.g., Chen, 2019), 2) affective (hedonism), 3) cognitive (information provision, usefulness), 4) attitudinal (attitudes toward brands), 5) purchase-related, and voluntary behaviors (e.g., WOM) outcomes. This research also examines the roles of consumers' familiarity with using avatars and the language avatars use in strengthening the relationships between avatars and consumers' responses.

Understanding this influence is valuable as consumers become more likely to anticipate having avatars provide information (e.g., Keeling et al., 2010) and interact with them (Foster et al., 2022). Our research contributes to the interactive marketing literature. For example, our work makes contributions to the increasing body of literature that examines how consumers interact with brands through new media and tools on websites (e.g., Lim and Childs, 2020; Wang, 2021), showing the significant outcomes of adding an avatar as a new communication tool. Our study also extends previous research that focused on examining chat avatars (e.g., Lin et al., 2021). We instead used avatars that are highly anthropomorphized (using real human images and voices) and interacted with users verbally.

Theoretical Background and Hypotheses Development

The S-O-R paradigm (Mehrabian and Russell, 1974) provides an orientation for understanding users' cognitive, emotional, and behavioral responses in the online environment (e.g., Rodríguez-Torrico, 2021; Sohn et al., 2020). We considered the S-O-R paradigm to be a suitable theoretical underpinning for the current study. By following this paradigm, this study frames stimuli as the conditions for providing information (avatars, avatars based-on-text, and a traditional format of no avatar/information as text). These stimuli determine a user's (organism) cognitive and affective reaction processes (the user's perceptions, including the elements of the tool, in terms of clarity, control, and convenience, hedonism, usefulness, information recall, and attitude toward the brand), which leads to responses that are desirable as behavioral outcomes (intention to apply and WOM). The current research study extends the applicability of the S-O-R paradigm into relationship marketing by investigating the role of using avatars to explain customers' emotional, cognitive, and conative responses in consumer-brand interaction. We discuss stimulus, organism and response in relation to this study below.

Avatars

There are multiple terminologies associated with avatars, such as chatbot, virtual assistant, virtual agent, and conversational agent embodiment (e.g., Aljukhadar and Senecal, 2011; Han, 2021). Many brands choose to humanize their consumer service chatbots by giving them names and avatars (Crolic et al., 2022). Avatars are virtual characters that present human-like features, such as a face and body parts (Han, 2019). In this research, we focus on avatars as "digital entities with anthropomorphic appearance, controlled by a human or software that are able to interact" (Miao et al., 2022, p.5). In other words, avatars are 3D animated graphical web interfaces that imitate the brand's representatives by providing information and responding to users'/visitors' queries orally and visually (Elsharnouby, 2015).

Avatar elements

Clarity: Clarity is one of the key ease-of-use elements of an avatar. The clarity of an avatar refers to the extent to which the avatar's voice, facial cues, and the information provided are clear (Elsharnouby, 2015). An avatar provides information on users' websites in an oral way. The logical order of the information provided should also be taken into consideration. Previous research showed the importance of clarity in similar settings. For example, the role of clarity in the virtual environment is affected by the avatar-consumer interaction in terms of content, such as functional and social content (Kohler et al., 2011). In addition, the type of virtual agent (2D embodied agents vs. 3D embodied agents) – a similar concept to an avatar– has highly significant effects on the clarity of the agent's voice (McBreen and Jack, 2001). Voices using only an audio format were also found to be significantly clearer than images with facial expressions (McBreen and Jack, 2001). Based on previous research and Stæhr's (2008) study, which found learners' receptive

vocabulary size to be strongly associated with their reading ability and moderately associated with their listening ability, we postulate the following:

H1a: The degree of clarity is affected more by an avatar based-on-text than having only an avatar or a written information design.

Control: In organizations, resources and employees are typically controlled by managers. Likewise, in classrooms, teachers have control over students in the form of grades and possess greater resources in the form of knowledge (Rucker et al., 2011). In a VR context, users can control both the speed and direction of avatars' motions, very easily and intuitively (Oshita, 2006). Creating controllable, responsive avatars is a significant problem and is challenging in virtual settings (Lee and Lee, 2006). This requirement for control means using a motion capture system to offer an easy solution to interactions simply by transferring the movements of a performer to an animated avatar in real time (Butt et al., 2021; Hoyet et al., 2019). However, the current research examines avatars as part of a brand's website. Thus, the control issue is related to the degree of difficulty users face in accomplishing their tasks or receiving complete information from an avatar when having control problems. Offering more choices in terms of interaction modes (e.g., dealing with front-desk human staff) may increase brand consumers' sense of control (Choi et al., 2020). Previous research that compared reading and listening to information found that listeners did not seem to be able to take as much advantage of repetition, showing the less controllable aspects of a sound system (Vidal, 2011). Thus, we postulate:

H1b: The degree of control is affected more by an avatar based-on-text than having only an avatar or a written information design.

Convenience: There is evidence increasing that convenience is a central element for customers when encountering service. Previous studies related to convenience have long been concerned with consumer expenditure of time and effort (e.g., Gottschalk, 2020). Providing smart technologies conveys convenient and instant digitalized services to meet brand consumers' expectations of high technology (Choi et al., 2020). Convenience refers to the level of effort and time required by the user to use an avatar to obtain the information needed from a website (Elsharnouby, 2015). The less effort and time required, the more convenient the avatar. Convenience is related to the appropriateness of avatars as a tool for providing information. Providing more choices in terms of interaction modes (e.g., dealing with front-desk human staff) may provide greater convenience for a brand's consumers (Choi et al., 2020). Thus,

H1c: The degree of convenience is affected more by an avatar based-on-text than having only an avatar or a written information design.

Outcomes of avatar use

Outcomes related to avatars and websites

Information recall: One of the main outcomes of using an avatar is information recall, which refers to the degree to which a user remembers the information provided by the avatar (Elsharnouby, 2015). Previous research investigated how technology helps users to recall information from the desired webpage (Kiesel et al., 2018). Recall also varied in relation to the information recall resulting from reading or listening to the information provided. For example, people receiving written information usually recall significantly more than people receiving verbal information. In a language learning setting, their study also the very poor performance of the boys who took part relative to the girls in terms of recall (Langdon et al., 2002). However, the girls were equally proficient at the recall task for all three language modes (listening, oral reading, and silent

reading), with the boys being equally good at the task after listening and after oral reading but markedly poorer after silent reading (Johnson, 1982). In addition, a memory of the user recalls the information after viewing the visualization (Kotlarek et al., 2020). Based on the above discussion, we postulate that:

H2a: The consumer's perception of information recall is affected more by an avatar based-on-text than having only an avatar or a written information design.

Hedonism: An avatar can be perceived as a hedonic tool. Hedonism includes the joy and excitement of shopping/visiting (e.g., Wakefield and Baker, 1998). In the current research, hedonism indicates users' feelings of enjoyment or fun derived from using an avatar. When the users' thinking style is primarily experiential (including hedonic activities) rather than rational (including utilitarian activities), they perceive an avatar as a hedonic tool (e.g. Han, 2021). The excitement might come from the newness and animation of having a speaking 3D avatar (advanced technology) rather than a simple image. Using realistic avatars might have a positive effect on customers' affective responses, such as enjoyment and entertainment (Butt et al., 2021; Han, 2021; Miao et al., 2022).

H2b: The consumer's perception of hedonism is affected more by an avatar based-on-text than having only an avatar or a written information design.

Usefulness: A website's users might frame an avatar as a utilitarian tool (Etemad-Sajadi and Ghachem, 2015). In this case, the perceived usefulness is more likely to be high. Perceived usefulness refers to the degree to which a website's user describes an avatar as being useful in the sense of performing its tasks (Elsharnouby, 2015). Kohler et al. (2009), for example, showed the usefulness of avatars in different product types (e.g., banking and entertainment) through playing

various roles such as giving instructions on ATM screens. AI-powered avatars are considered useful, as highlighted by positive results regarding gamers' attitudes (Butt et al., 2021). The avatars might be perceived as more competent in the utilitarian (usefulness) realm (Borau et al., 2021; Miao et al., 2022). Thus,

H2c: The consumer's perception of usefulness is affected more by an avatar based-on-text than having only an avatar or a written information design.

Outcomes Related to Brand

Attitude Toward a Brand: A conversational human voice appeared to be a key factor in enhancing positive attitudes toward brands that used social media platforms to communicate with their audience (e.g. Van Noort and Willemsen, 2012). It is expected that an avatar enhances attitudes toward a brand since it speaks in a real-life voice. Previous research showed that face-to-face communication produces a greater positive attitude change toward a brand than does audio or video (Williams, 1977). The presence of an avatar has positive impacts, including on attitude toward a product (e.g. Jin and Bolebruch, 2009; Keeling et al., 2010). Thus,

H3a: The consumer's attitude toward a brand is affected more by an avatar based-on-text than having only an avatar or a written information design.

Intention to apply: Attitudes play a vital role in determining consumers' behaviors (Kroesen et al., 2017). Attitude is considered a type of behavioral intention, since it refers to the degree to which an avatar's presence can encourage potential consumers to apply for and join a brand's services. A number of previous studies showed that an avatar-enabled user interface had an impact on purchase intention in online shopping (e.g., Holzwarth et al., 2006). In addition, the results of a spokesperson cartoon advertisement presence can increase purchase intention for a brand (Heiser

et al., 2008). Other results also confirmed a positive indirect effect of a chatbot on consumers' purchase intentions through perceived enjoyment of chatbot commerce (Han, 2021). Thus, we hypothesize:

H3b: The consumer's intention to apply is affected more by an avatar based-on-text than having only an avatar or a written information design.

Word of Mouth: WoM is becoming increasingly predominant (e.g., Sheth, 2021). Consumers engage in communicating their experiences with a brand with other consumers in terms of their desire for social interaction and enhancing their self-worth, which leads to electronic WOM (eWOM) behavior (e.g. Kohler et al., 2011). WoM can be positive or negative, although NWoM has stronger effects than PWoM in terms of reach and impact (e.g. Roy et al., 2021). Hence, brands call for appropriate strategies to control NWoM and its potential damage (VanNoort and Willemsen, 2012). In the current research, WOM refers to the degree to which adding an avatar motivates the users of a website to talk positively or negatively about the brand. After an avatar is added as a new feature on a brand website, users potentially spread positive word about this feature. Previous studies showed that information influence had a positive and significant effect on eWOM (e.g., Farzin and Fattahi, 2018). Thus,

H3c: WOM is affected more by an avatar based-on-text than having only an avatar or a written information design.

Own Language and Familiarity

From a linguistic perspective, listening to a second language, in comparison to reading it, poses a significant problem, in that some listeners are more likely to grasp only words, and others might try to construct a sensible context to organize what little they are able to perceive and decode

(Lund, 1991). In addition, a reader, compared to a listener, can pause over new words and look around in the text for contextual cues that a listener might well miss. The listener of a second language who attends to a single word will miss the following parts of the message (Lund, 1991). Language barriers can prevent effective communication clarity between a brand and its consumers (Reeves et al., 2005). Previous studies have shown that language can influence consumers' perceptions and attitudes (e.g., Kronrod et al., 2012; Luna et al., 2003).

A user's familiarity with an avatar is a key issue and can play an important role in improving its use as a tool on a website. It is expected that people who are unfamiliar with avatar technology are more likely to use the traditional format of a website, whether texts, images, and/or videos. Thus, familiarity with an avatar helps the website audience use it more easily, thereby improving information recall (e.g., Hauge et al., 2013). Consumers' familiarity with a product/tool was found to be positively correlated with preferences for and choice of a product/tool with greater functionality (Thompson et al., 2009). This means that familiarity with an avatar can increase the perceived usefulness that consumers have of it. In addition, familiarity as a result of frequent encounters with talking avatars may potentially moderate the effects of avatars on online shopping perceptions and behaviors (Liew et al., 2017). Based on the above discussion related to language and familiarity, it is predicted that:

H4: When the user is familiar with avatar technology using their own language, an avatar based-on-text will have a greater effect on the study constructs (clarity, control, convenience, information recall, hedonism, usefulness, attitude toward brand, and WoM), as observed in similar previous research.

Study One

Design and Participants

This study aimed to compare the impact of three designs for providing information (i.e., a written information style as the control condition and, as the two experimental conditions, an avatar and an avatar based-on-text) on visitors to a website (i.e., students) in relation to the design elements (i.e., clarity, control, and convenience), information recall, hedonism, usefulness, attitude toward the brand, and apply intention. A within-subject experimental design (repeated measures) was selected to conduct this study. Each participant was exposed to the three designs (i.e., written information, an avatar, and an avatar based-on-text). A fictitious brand was used to exclude other effects that might appear, such as brand loyalty, thereby leading to more valid results (Jin and Bolebruch, 2009). Based on Cohen's (1992) and Dattalo's (2008) studies of power and effect size, considering the required sample sizes for power level 0.8 (recommended) and the effect size taken in this research is 0.5. This effect size suggested an ideal sample size of 28 participants. Thirty-nine university students participated in this within-group experimental study. Responses from two participants were omitted as their questionnaires were not valid.

Materials and Procedures

A website for a fictitious university brand was developed. Each webpage included some information about the brand – in particular, study topics (programs) and FAQs. Each webpage was designed with one specific condition for providing information (an avatar, an avatar based-on-text, or written information) as the stimulus. The information was uploaded to the avatar on the developed website. Instruction files were prepared and printed to give to participants during the experiment sessions. In addition, two specific computer labs were booked in which to conduct all the experiment sessions. The online questionnaire was transformed and used in this study. When a participant attended the lab, s/he received a general instruction sheet and a specific file that

included the main instructions for the experiments. Figure 1a shows a webpage of the avatar condition, Figure 1b shows a webpage of the avatar based-on-text condition, and Figure 1c shows a webpage of the written information condition.

Randomization was used to prevent the order effect (Field and Hole, 2010). On average, every six participants were allocated to each condition. After receiving, reading and following the instructions, the participant used a link to a questionnaire and answered questions based on the design to which s/he was exposed. After that, participants took two minutes to rest before going to the next condition. Each participant completed the three conditions. Since the influence of an avatar increases in cases of difficult purchase processes, complicated products, and limited buyer's knowledge of the product (e.g., Holzwarth et al., 2006), applying this research to university brands was valuable because the process of comparing universities to choose the most appropriate institution is not easy. Therefore, an avatar would be likely to play an important role in students' decision-making process.

(Figure1a,b,c)

Measures, and Pre-test

The survey contained eight items relating to clarity (adapted from Freling et al., 2011), five items to convenience (adapted from Keh and Pang, 2010, and Seiders et al., 2005), three items to usefulness (adapted from Sheinin et al., 2011), five items to hedonism (adapted from Voss et al., 2003), four items to information recall, six items to attitude toward the brand, six items to control, and four items to apply intention were developed from the qualitative results (Elsharnouby, 2015). The questionnaire was tested on a small sample of 10 students.

Data Analysis and Results

Instrument Validation

Table 1 shows means, and Cronbach's alphas for all the constructs. The Cronbach's alphas were above 0.7 for all constructs. The constructs were also assessed for convergent and discriminant validity through CFA using AMOS. We checked the unidimensionality of each construct and the measurement model (see Table 1 for the remaining items), in accordance with Janssens, et al. (2008), for goodness of fit ($\chi^2(271) = 326.441$, p= .012; GFI= .83; CFI= .977; TLI= 973; RMSEA= .043; SRMR= .0629). Table 1 shows that the estimates of all the factor loadings are greater than 0.5, all the t-values are greater than 1.96 (loadings ranged from 6.453 to 14.687), all composite reliability values are above 0.7, and all AVE estimates are above 0.5. Thus, all four criteria provided support the convergent validity of the constructs (Fornell and Larcker, 1981; Janssens et al., 2008). Table 2 shows that all the square roots of AVE estimates on the diagonal are greater than the construct correlations with another factor, providing evidence of the discriminant validity of all the constructs.

(Table1)

(Table2)

Repeated Measures ANOVA

Clarity, Control, and Convenience: As shown in Table 3, there are no significant differences between the three designs in respect of clarity, the convenience of the information provided, or usefulness. These results suggest that although the information was provided using three different designs, clarity and convenience did not differ as the participants understood most of this information; thus, H1a and H1c are not supported. Repeated measures ANOVA revealed significant differences between an avatar design ($M = 4.523$, $F(2,72)= 3.862$, $p< .05$) and a written style design ($M= 5.261$, $F(2,72)= 3.862$, $p< .05$), in that participants had greater control over the information provided in the latter type of design compared to the former. In the control condition

(written style), the participants obtained all the information they needed compared to the experimental condition (only listening to the information via an avatar). However, the two experimental conditions (avatar and avatar based-on-text) did not differ significantly ($p > .05$), as shown in Table 3 and Figure 2. Thus, H1b is partially supported.

Information Recall, Hedonism, and Usefulness: For the information recall construct, although the avatar condition did not differ from the avatar based-on-text and the control condition (written style), there was a significant difference between the avatar based-on-text and the written style, in that participants recalled the information provided by an avatar based-on-text; thus, H2a is partially supported. Concerning the hedonism construct, the results show significant differences between the two experimental conditions – avatar design ($M = 4.662$; $F(2,72) = 13.492$, $p < .01$) and avatar based-on-text design ($M = 4.710$; $F(2,72) = 13.492$, $p < .01$) – and the control condition – written style design ($M = 3.297$; $F(2,72) = 13.492$, $p < .01$) – in that participants perceived both an avatar and an avatar based-on-text design as more hedonic than the written style design. Thus, H2b is supported. For the usefulness construct, the three designs were not significantly different and thus H2c is not supported.

Attitude toward Brand and Intention to Apply: The results shown in Figure 2 and Table 3 show significant differences between the two experimental conditions– avatar design ($M = 5.595$, $F(2,72) = 21.788$, $p < .01$) and avatar based-on-text design ($M = 5.750$, $F(2,72) = 21.788$, $p < .01$) – and the control condition – written style design ($M = 4.007$, $F(2,72) = 21.788$, $p < .01$) – in that participants' attitudes toward the brand in both the avatar and avatar based-on-text designs are higher than for the written style design. Thus, H3a is supported. Finally, a significant difference was only found between an avatar based-on-text and the control condition (written style), in that

the intention to deal with a brand was higher in the former (avatar based-on-text). Thus, H3b is partially supported.

(Table 3)

(Figure 2)

Discussion

Study one demonstrates partial support of H1. The users of the website did not find any significant differences between the three conditions concerning clarity (H1a) and convenience (H1c). However, they were more likely to find significant differences concerning their control over information (H1b) between interacting with an avatar and using a written style. In the case of the presence of an avatar, the user does not control the information provided, which is consistent with previous linguistic studies (e.g., Vidal, 2011) that found that listeners did not seem able to take as much advantage of repetition, showing the less controllable aspects of a sound system. Concerning information recall (H2a), the results of study one also demonstrate that the users found significant differences between an avatar based-on-text and having written information. The results also demonstrate that the users did not find any significant differences between the three conditions concerning usefulness (H2c). These results are contrary to those in Borau et al. (2021), which anticipated that avatars might be perceived as more competent in the utilitarian realm than in the hedonic. Our results are also not in line with those of Butt et al. (2021), who showed the usefulness of AI-powered avatars. However, users are more likely to find significant differences concerning the degree of hedonism (H2b) between the two conditions (avatar and avatar based-on-text) and a written style design. In cases in which an avatar is present, users perceived the website as more hedonic, which increased their perceived enjoyment, which is consistent with previous research (e.g., Han, 2021) that found that users usually perceive an avatar as a hedonic tool. The results of

study one also demonstrate that adding an avatar significantly increases join/apply likelihood (H3a). However, the current study shows the presence of avatars significantly enhanced attitude toward the brand. These results are in line with Borau et al. (2021) and Han (2021).

Study Two

Design and Participants

Study two aimed to compare the impacts of two conditions for providing information (avatar and avatar based-on-text), user's familiarity with an avatar (familiar vs. unfamiliar), and the language used (English vs. user's native language) on design elements (clarity, control, and convenience), information recall, hedonism, usefulness, attitude toward the brand, and WOM. A 2×2×2 factorial design was used to pursue this objective. This study manipulated two main factors (two independent variables: avatar design and avatar language), but familiarity with avatar technology was not manipulated. Therefore, the strategy used in study two was one of quasi-experimental research, since we employed some of the rigor and control that exist in experiments, but it contains a flaw that prevents the research from obtaining an absolute cause-and-effect answer, such as familiarity (Gravetter and Forzano, 2018). Four student groups participated in this study and each participant was exposed to only one condition. As we did in study one, we carried out power analysis to determine the sample size. One hundred thirty-five university students participated in the experiment (between groups) in study two. The four groups contained the following numbers of participants: 33 (avatar in English design); 35 (avatar based-on-text in English design); 34 (avatar in own language design); and 33 (avatar based-on-text in own language design).

Materials, Procedures, and Measures

Similar to study one, a website was developed with specific information provided by different types of avatar (only avatar or avatar based-on-text) as stimuli in a lab experiment. In addition, the information on the webpage was provided in English as the default language, with an option to change the language to Arabic or Chinese for Arabic and Chinese students (see Figure 3 for sample stimuli). The experimental procedure was the same as study one. We adopted the same measurements in study one and also captured familiarity with avatar technology (Steenkamp et al., 2003) and WOM (Brüggen et al., 2011).

(Figure3)

Data Analysis and Results

Instrument Validation

Table 4 shows the means, and Cronbach's alphas for all the constructs in study two. The Cronbach's alphas were above 0.7 for all the constructs. We checked the unidimensionality of each construct and the measurement model (see Table 4), as per study one, for goodness of fit (χ^2 (288)= 382.055; GFI= 0.834; CFI= 0.955; TLI= 0.945; RMSEA= 0.049; SRMR= 0.0552). As shown in Table 4, all the estimates of the factor loadings are above 0.5, all the t-values are greater than 1.96 (loadings ranged from 3.065 to 17.069), all composite reliability values are above the recommended level of 0.7, and AVE estimates are above the recommended threshold of 0.5. Therefore, all four criteria provided support for the convergent validity of the constructs. Same as study one, the discriminant validity of all the constructs were conducted.

(Table4)

Factorial Design ANOVA

Three-way independent ANOVA was conducted as the study included 2 avatar levels (Avatar vs. Avatar based-on-text)x 2 language levels (English vs. Own language)x 2 familiarity levels (Low vs. High). The results revealed the significant main effect of language and familiarity only on the hedonism construct. In other words, the analysis did not reveal any significant differences between the three factors (the avatar, language, and familiarity conditions) related to outcome constructs other than hedonism. The main effect of language indicated that participants perceived an avatar as more hedonic when it was talking in their language (M = 5.819) than when it was doing so in English (M= 4.212; F(1,127)= 5.449, p= .021), as would be expected. Similarly, a main effect of familiarity indicates that participants perceived the avatar as more hedonic (enjoyable) when they were highly familiar with avatar technology (M= 4.902) compared to if they were unfamiliar with the technology (M= 4.128; F(1,127)= 8.868, p= .003). Finally, there was no interaction between any two of the three factors (avatar, language, and familiarity) or three-way interaction among these factors, as p> .05. Thus, H4 is partially supported.

Discussion

Study two demonstrates partial support for H4. The results do not confirm an interaction between avatar levels (Avatar vs. Avatar based-on-text), language levels (English vs. Own language), and familiarity levels (Low vs. High). The results reveal the significant main effect of language and familiarity only on the hedonism construct. A main effect of language indicates that participants perceived the avatar as more hedonic when the avatar was talking in their own language than when it was talking in English. These results confirm the argument of the possibility of language being a cue for the hedonic character of a promoted product (Kronrod et al., 2012). Similarly, a main effect of familiarity indicates that participants perceived an avatar as more hedonic (enjoyable) when they were highly familiar with avatar technology compared to if they were unfamiliar with

this technology. These results are in line with previous research showing that higher familiarity levels with technology (e.g., robots) increases the influence of these technologies on consumers' perceptions (e.g., Belanche et al., 2019).

Conclusions

General Discussion

Avatars are used by a growing number of brands that have become an accepted tool to many consumers. Avatars as a marketing communications tool represent the "brand voice" on the website and offer a crucial way to influence consumers' buying perceptions and behaviors. In this research, we examined one specific type of avatar (avatars that can provide information verbally) and the outcomes of using this. Table 5 summarizes the results of the two studies we conducted for our research.

(Table6)

Theoretical Contributions

Our research contributes to the literature on interactive marketing. First, our work contributes to the increasing body of literature that examines how consumers interact with brands through new media and tools on websites (e.g., Lim and Childs, 2020; Wang, 2021), showing the significant outcomes of adding an avatar as a communication tool. To date, much of the work on avatars has focused on the virtual environment (e.g., Kohler et al., 2009), and few studies have examined avatars as consumer assistants on a brand website (e.g., Choi et al., 2020; Holzwarth et al., 2006). Specifically, our research confirms the relationships proposed in the emerging theory of avatar marketing (Miao et al., 2022). Our study also extends previous research that focused on examining chat avatars (e.g., Lin et al., 2021). We instead used avatars that were highly anthropomorphized

(using real human images and voices) and interacted with users verbally. Second, highlighting the important roles of avatars on brands' websites, this study advances previous research by adding to the knowledge of the quality of consumer-brand relationships in online service contexts (Foster et al., 2022; Lin et al., 2021) since the brand avatar serves as an interactive relationship partner for consumers (Foster et al., 2022). We thus extend the literature on consumer-avatar interactions and the part they play in enhancing information recall, enjoyment, attitude toward a brand, and intention to deal with the brand. Our results support the presence of causal relationships between an avatar and perceived control, hedonism, and attitude toward a brand after conducting two experimental studies, showing the high internal validity of the results. Another important contribution of our work is the findings on the impacts of familiarity with using avatars and the availability of language options in the model.

Practical Implications

Practitioners need to consider placing more emphasis on the social interaction of a brand avatar as a key factor contributing to positive attitudes toward the brand, as this could eventually be used as a substitute for traditional interactions between consumers and employees (Foster et al., 2022). Our findings provide key insights for practitioners into the benefits of adding avatars as a marketing communication tool. The results identify the main dimensions of avatars that can be compared to other tools, such as text and videos. For instance, the main aspects of an avatar should be highlighted in relation to its ease of use, such as clarity of voice, use of easy language when delivering information, and the addition of some features (e.g., play, pause, rewind, and forward buttons) to control the information flow. Such aspects could also guide managers in identifying the main deficiencies of avatars and finding solutions. For example, one of the main problems with avatars is that some users cannot extract the required information quickly. In this case, practitioners

should work on determining the operations that help in obtaining the required information more rapidly. Furthermore, the results offer practitioners more insights into the roles that avatars can play on a website, such as guidance, instruction, and responding to inquiries. Creating an avatar on a brand website can lead to valuable outcomes that practitioners and employees should consider when developing their marketing plans. The outcomes identified in this research show that the addition of an avatar creates value for the brand website and consumers in terms of hedonism. In other words, avatars enhance the customer experience on the brand website (Rogers et al., 2022).

Limitations and Future Research

Our research has limitations that could be regarded as future research opportunities. Avatars are gradually being used in more varied industries, such as hotels, banking, smartphones, and restaurants (e.g., Choi et al., 2020) and future research might also examine the impact of product or service type on consumers' responses to avatars as a communication tool. Although adopting experimental research in the current study increases the internal validity of the results, using a relatively small sample size harms the generalizability. Thus, future research might also replicate examining these relationships with a larger sample. We assumed that users usually prefer receiving information in their mother tongue as their first language would be easier to understand. However, forcing users to receive information in a specific language might have limited the generalizability of the results because of the language backfire effect (Holmqvist et al., 2019). Further research could be conducted by making a comparison between forcing participants to use a specific language and providing more than one language from which the participants can choose.

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Figure 1a: One webpage from each scenario (avatar presence– study one)

Avatar

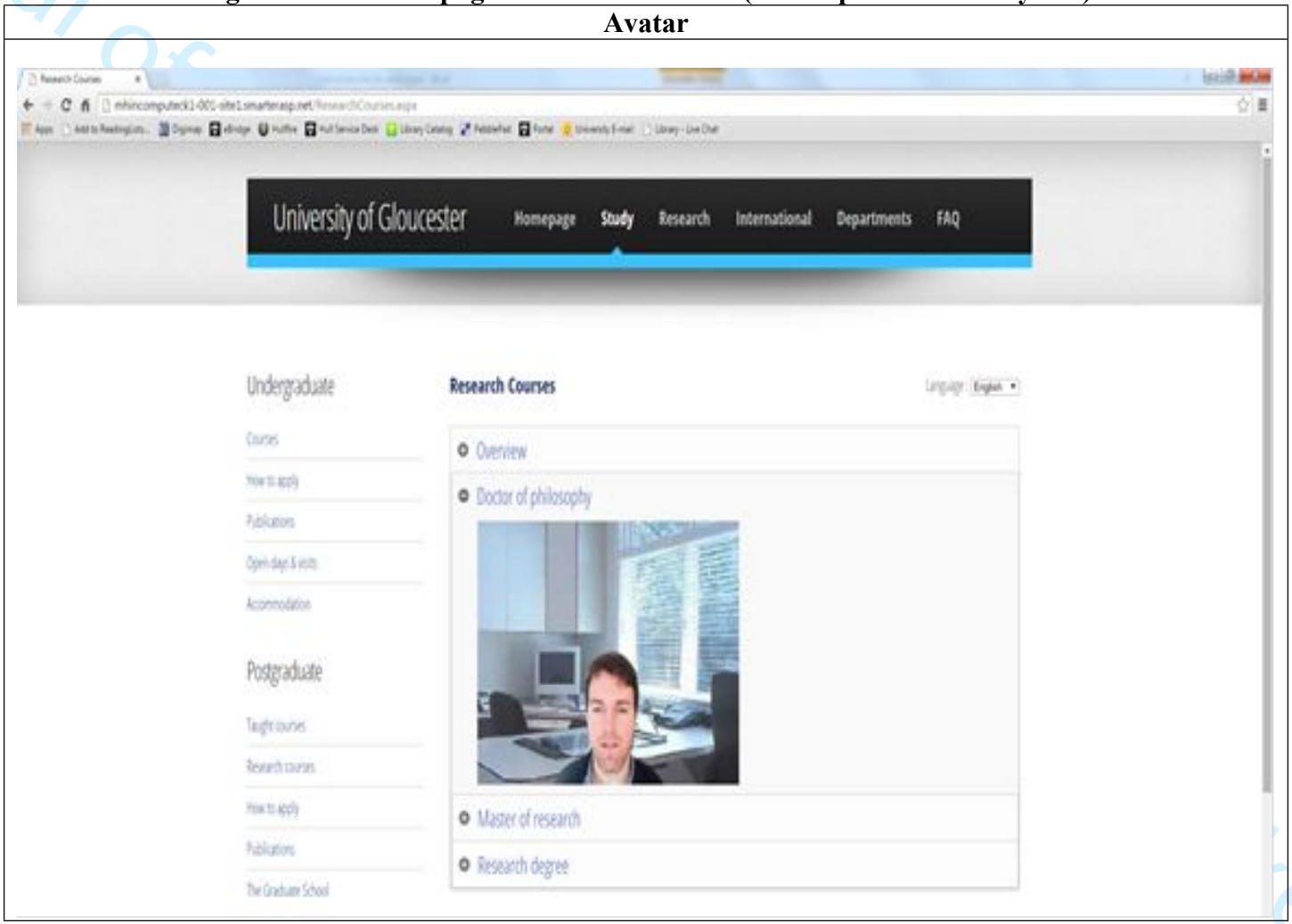


Figure 1b: One webpage from each scenario (avatar based-on-text study one)

Avatar based-on-text

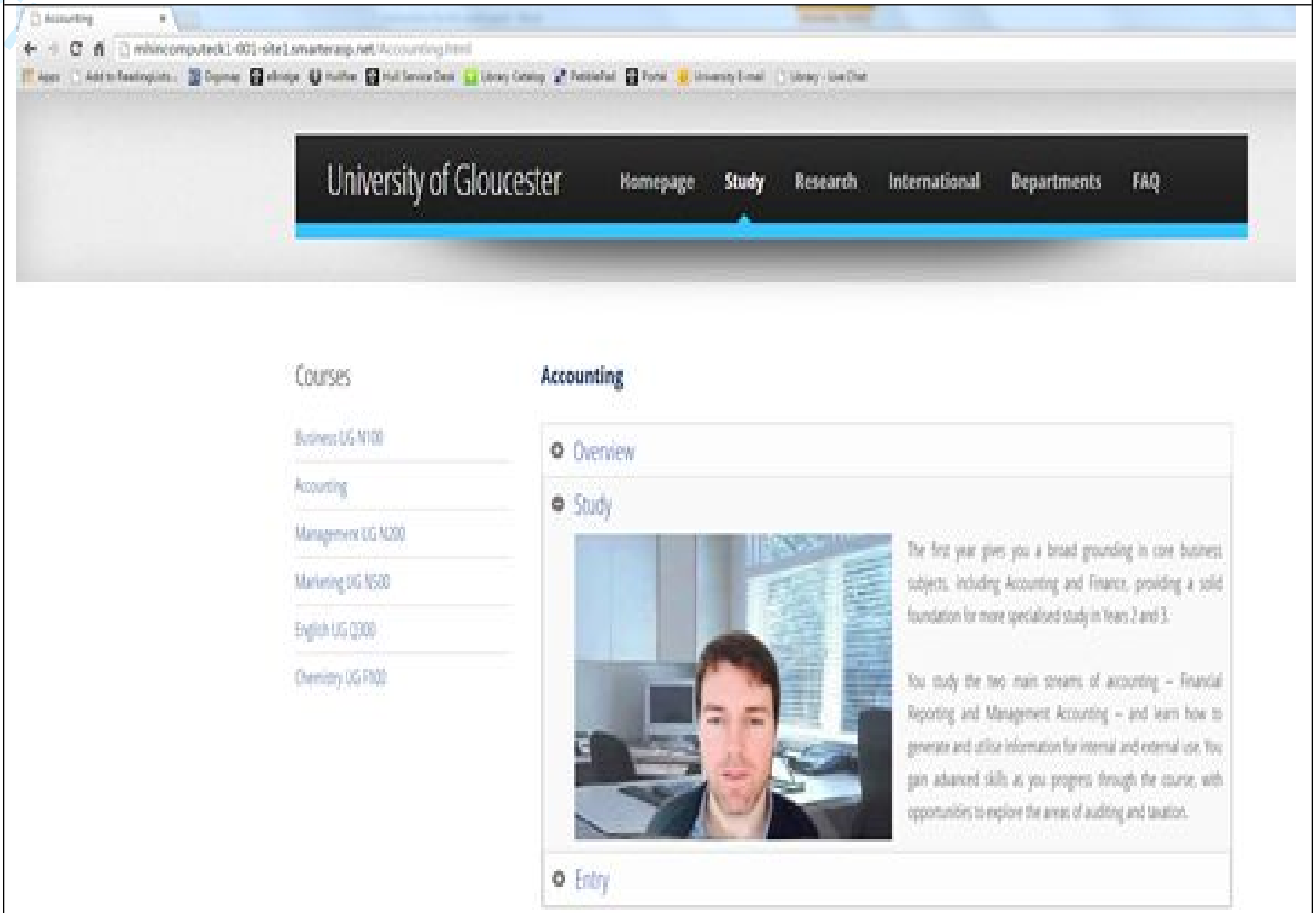


Figure 1c: One webpage from each scenario (no avatar– study one)

No avatar (written style)

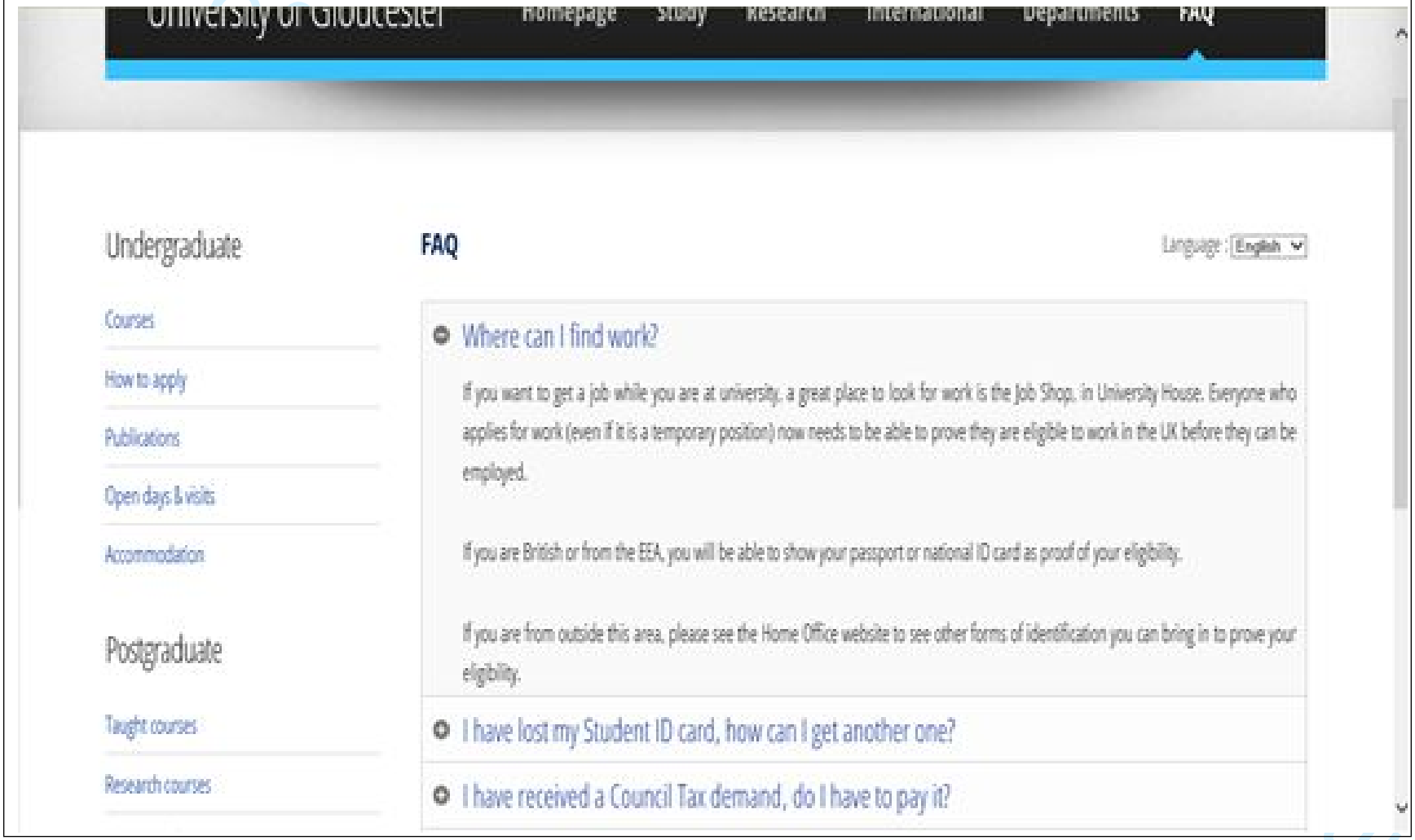


Table 1: Means, loadings, t-values, Cronbach's alphas, AVE and CR (study one)

Constructs	Mean	STD loadings	t-value	Cronbach's alpha	AVE	CR[1]
Clarity	5.49			0.864	0.634	0.870
(design) is Unclear concerning the language------Clear concerning the language.		0.821	12.024			
Unclear ------Clear		0.943				
Vague---------Well-defined		0.815	11.849			
Indistinct------Distinct		0.554	6.453			
Control	4.98			0.870	0.671	0.859
(design) allows me to control the provision of information.		0.864				
the search process.		0.793	9.689			
getting the difficult words to get their meaning, for example from a dictionary.		0.798	9.789			
Convenience	5.27			0.860	0.714	0.908
It is easy to deal with the(design).		0.871	13.668			
The time required to receive the required information is appropriate.		0.921	15.554			
I am able to get to the information from(design)quickly.		0.909				
Getting information from(design)requires little effort.		0.651	8.064			
Hedonism	4.22			0.865	0.802	0.942
I feel about(design)is Not fun--------Fun		0.880				
Dull---------- Exciting		0.924	14.687			
Not delightful------- Delightful		0.916	14.408			
Not thrilling--------- Thrilling		0.861	12.607			
Usefulness	5.47			0.861	0.700	0.823
(design)provides relevant information.		0.767				
(design)does a good job of presenting the information.		0.901	9.273			
Information recall	4.74			0.855	0.873	0.932
I can remember most information provided by(design).		0.893				
the information provided by(design)easily.		0.974	15.256			

Attitude toward brand						
After I navigate the website, I feel that the brand is technologically developed.	5.12	0.963	10.465	0.875	0.811	0.944
adapting new ways.		0.961	10.435			
having paperless work.		0.727				
modern.		0.929	10.066			
Apply intention						
I would join the brand.	4.20	0.852		0.878	0.582	0.805
I would join the brand as getting information through the(design) is easy.		0.651	6.769			
The chance of joining the brand is high.		0.772	8.014			

(1) Composite reliability

Table 2: Correlations and square roots of the AVE (study one)

	Clarity	Control	Convenience	Hedonism	Usefulness	Information recall	Attitude toward brand	Apply intention
Clarity	**0.796**							
Control	0.565	**0.819**						
Convenience	0.633	0.729	**0.845**					
Hedonism	0.443	0.434	0.519	**0.896**				
Usefulness	0.720	0.688	0.809	0.504	**0.837**			
Information recall	0.618	0.677	0.715	0.571	0.705	**0.934**		
Attitude toward brand	0.388	0.165	0.347	0.690	0.420	0.508	**0.900**	
Apply intention	0.391	0.407	0.344	0.485	0.371	0.447	0.610	**0.763**

Table 3: Results of repeated measures ANOVA (study one)

Construct	Avatar	Avatar based-on-text	Written style	Significance between conditions		
	M	M	M	Avatar & Avatar based-on-text	Avatar & Written style	Avatar based-on-text & Written style
Clarity	5.432	5.716	5.331	0.209	0.689	0.424
Control	4.523	5.144	5.261	0.074*	0.047*	1.000
Convenience	5.460	5.466	4.892	0.565	0.110	0.783
Information recall	4.757	5.135	4.324	0.196	0.128	0.016*
Hedonism	4.662	4.710	3.297	1.000	0.000*	0.000*
Usefulness	5.527	5.554	5.324	1.000	0.254	0.312
Attitude toward brand	5.595	5.750	4.007	1.000	0.000*	0.000*
Apply intention	4.225	4.441	3.928	0.380	0.268	0.030*

Figure 2: Influence of conditions(study one)

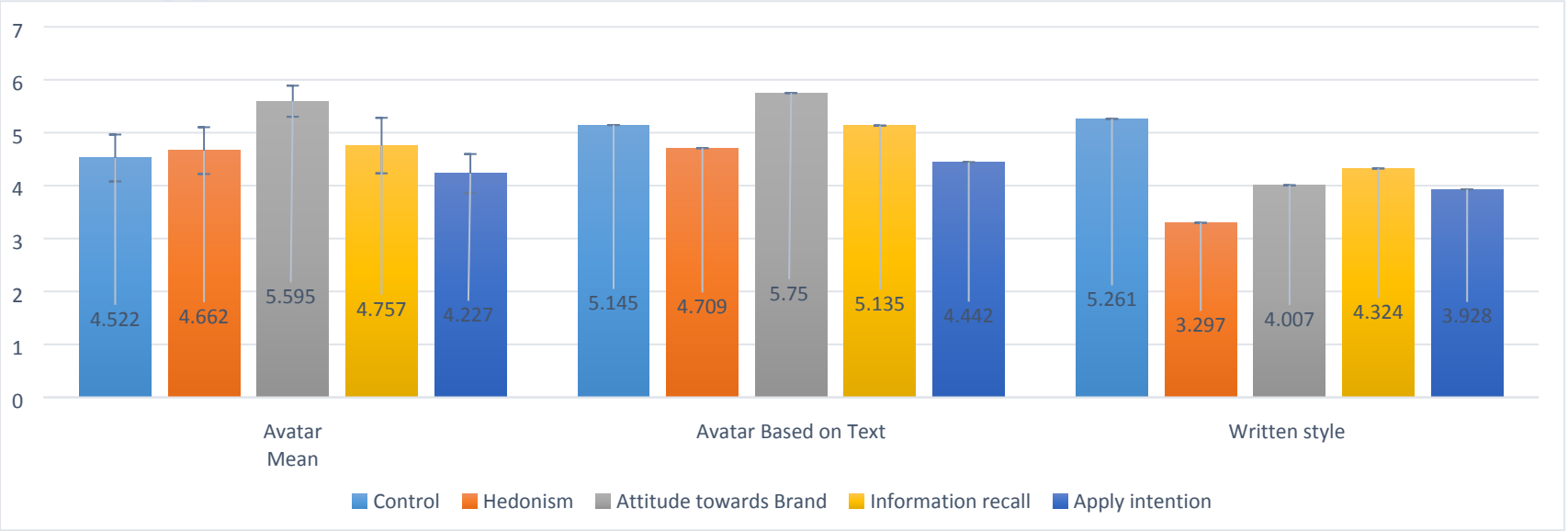
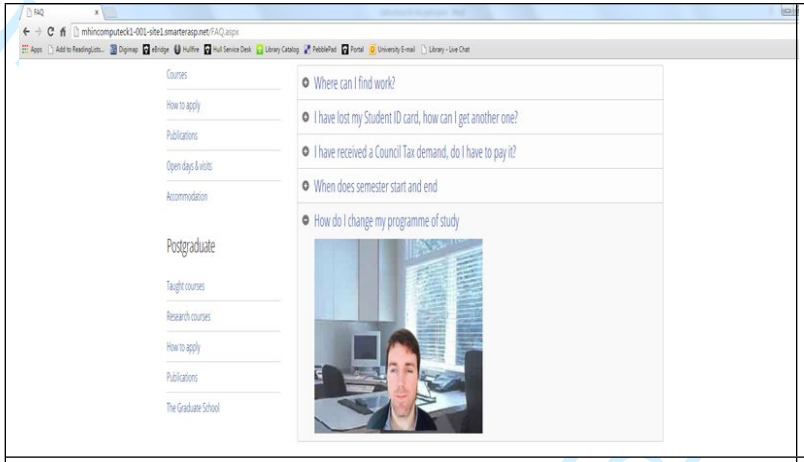
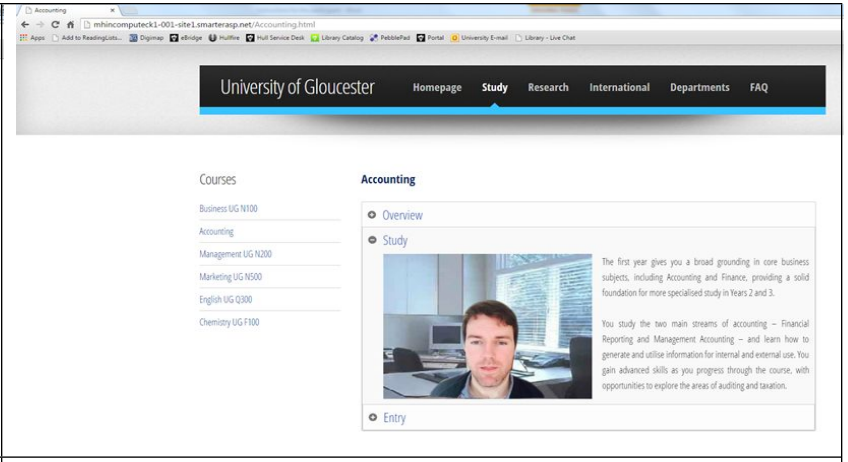


Figure 3: One webpage from each scenario (study two)

Avatar(English version)	Avatar based-on-text(English version)



Avatar(Chinese version)



Avatar based-on-text(Chinese version)

Avatar(Arabic version)

Avatar based-on-text(Arabic version)

Table 4: Means, loadings, t-values, Cronbach's alphas, AVE, and CR (study two)

Constructs	Mean	STD loading	t-value	Cronbach's alpha	AVE	CR[1]
Clarity						
The(design)is Unclear concerning the language---Clear concerning the language.		0.703				
Not obvious --------Obvious		0.674	7.125			
Not apparent--------Apparent	5.649	0.782	8.149	0.817	0.550	0.859
Unclear…..Clear		0.828	8.541			
Unclear concerning the organization of information….Clear concerning the organization of information.		0.710	7.471			
Control						
The(design)allows me to control the provision of information.		0.644				
the access to required information from the entire body of information.	4.759	0.646	6.280	0.803	0.530	0.817
the speed of getting the required information.		0.777	7.224			
the search process.		0.828	7.502			
Convenience						
It would not take much time to get the information from(design).		0.625				

The time required to receive the required information is appropriate.	5.296	0.863	7.581	0.799	0.604	0.818
I am able to get to the information from(design)quickly.		0.823	7.409			
Hedonism	4.563			0.801	0.831	0.936
I feel about(design)is Dull-------Exciting		0.925	17.069			
Not delightful-------Delightful		0.906				
Not enjoyable-------Enjoyable		0.903	16.199			
Usefulness	5.474			0.799	0.638	0.779
The(design)provides relevant information.		0.763				
The(design)does a good job of presenting the information.		0.833	8.763			
Information recall	5.109			0.803	0.548	0.781
I can remember information provided by(design)through taking notes.		0.611	6.967			
the most information provided by(design).		0.744	8.619			
the information provided by(design)easily.		0.847				
Attitude toward brand	5.590			0.801	0.745	0.898
After I navigate the website, I feel that the brand is technologically developed.		0.898				
looking forward to change.		0.837	12.795			
I feel that the brand is modern.		0.854	13.246			
Word of mouth	4.926			0.804	0.830	0.907
Say positive things about the brand to other people.		0.896				
Speak positively of the brand to people close to me.		0.926	13.311			
Familiarity	3.637			0.864	0.589	0.729
By browsing the(design), It is very unfamiliar to me------It is very familiar to me.		0.932	3.065			
I am not at all knowledgeable about it--------I'm very knowledgeable about it.		0.556				

(1) Composite reliability

Table 5: Summary of research results

Construct	Study one	Study two	
		Interaction effect(3 factors or 2 factors)	Main effect
Clarity	Not supported	Not supported	Not supported
Control	Partially supported	Not supported	Not supported

Convenience	Not supported	Not supported	Not supported
Hedonism	Supported	Not supported	Supported (Language, Familiarity)
Usefulness	Not supported	Not supported	Not supported
Information recall	Partially supported	Not supported	Not supported
Attitude toward brand	Supported	Not supported	Not supported
Apply intention	Partially supported		
Word of mouth		Not supported	Not supported