To Be Or Not to Be? Virtual Experience and Immersion on a 3D Commercial Web Site

Marion Garnier, Université Lille Nord de France, France
Ingrid Poncin, Université Lille Nord de France, France

Based on the growth of Internet technologies and the development of 3D shopping environments, the presented research deals with the issue of virtual experience on such realistic virtual universes. An exploratory study was conducted (8 focus groups, 35 individual interviews) and qualitative data were analyzed through an interpretative process by being constantly confronted to theory. Main findings highlight the central influence of the consumer-avatar, embodiment and sensory realism. The concept of presence is discussed as a relevant proxy to study immersion and virtual experience in such an environment. Academic and managerial contributions and research perspectives on virtual experience are highlighted.

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INTRODUCTION

The rapid growth of multimedia technologies and the Internet in its various forms is changing the way of doing e-commerce. The success of virtual universes such as Second Life (SL), or games such as World of Warcraft (WOW) has now opened new opportunities for the development of online shopping experience. Major technological developments in advanced interactive techniques drawn from MMORPG\(^1\) and virtual universes now sustain and allow fully 3D shopping malls, showrooms or shopping websites. In the realm of current technological development, the practice is ahead of theory in some instances, mainly due to the rapid pace of emerging new technologies, thus leaving academic researchers a little behind in their efforts to make sense of their impact. At the same time, as underlined by Venkatesh (1998), the pioneers in the world of practice need guidance from academic researchers to provide conceptual schemes that can sharpen their practices in hypercompetitive environments.

Despite the huge potential, we know little about the way to use adequately these new technologies to improve consumers experience on a commercial website. There is a big gap in management’s understanding of what constitutes a shopping experience on 3D commercial website for a consumer. This issue, until recently, was a black box to academic scholars as well. The situation is now changing, since the seminal work of Hoffman and Novak (1996), literature has highlighted flow, immersion and social and spatial presences as important antecedents of Internet behaviour. If some researchers have studied these concepts in virtual reality (Tomaseti, Ruiz and Reynolds, 2009), only few have focused on the context of a 3D commercial website, if we except precursory and visionary reflexion of Burke (1996) on virtual shopping. Hence, most of the academic literature has been devoted to demonstrate that using an interactive animated ‘avatar’ on computer screens could provide a source of social presence and trust building capabilities (Wood, Solomon and Englis, 2005; Holzwarth, Janiszewski and Neumann, 2006; Keeling and McGoldrick, 2008). But, to our knowledge, if many researchers were interested in avatars in universes such as SL, only one published research has dealt with the representation of the consumer by an avatar on a commercial website (Crete, Saint-Onge, Merle, Arsenault and Nantel, 2008).

Therefore, our research aims at understanding what could be the influence of the 3D technology on the shopping experience on a 3D commercial website. More especially, this research contributes to explain how the consumer-avatar is a key issue in the virtual experience on a 3D merchant website, through its links with embodiment, realism and presence. To begin with, the concept of virtual experience will be briefly introduced. The second part of the paper will present our research methodology and analyses: an interpretative and understanding qualitative research process was adopted, that leads the researcher to a theoretical elaboration building on the collected verbatim. The third part will then deal with results of the research, on the basis of constant comparison with theory. Conclusion will highlight main contributions, limits and research perspectives.

\(^1\)Massively Multiplayer Online Role Playing Games

VIRTUAL EXPERIENCE AT THE AGE OF 3D

Improving the virtual experience has become a major issue for e-marketers. As stated by Childers, Carr and Peck (2001) or Mathwick, Malhotra and Rigdon (2001), developing the hedonic value of websites and improving the virtual shopping experience on Internet should lead to a better conversion rate, more satisfaction, stickiness and loyalty. Visiting a website can be considered as a consumption activity through the interaction with the consumption object (Holt, 1995). This activity can also be considered as an experience beyond a potential utilitarian value (acquisition of information or material goods..., and covers symbolic and hedonic dimensions (spending an enjoyable time shopping on an online shop for example). Since Hirschman and Holbrook (1982)’s seminal work on consumption experience, high attention has been paid to the way consumption can lead individuals to satisfy hedonic and experiential needs beyond functional needs (Csikszentmihalyi, 2000). And even if the Internet offers wide utilitarian opportunities, some authors stated that the more immersive, hedonic aspects of Internet could play at least an equal role in predicting online attitudes and behaviours (Childers et al., 2001; Mathwick et al., 2001). In this perspective, 3D websites seem particularly adapted to generate diversified sensorial stimulations, immersion and experience in consequence.

Immersion in computer-mediated environment is defined as “the extent to which the computer displays are capable of delivering an illusion of reality to the senses of the human participant” (Slater and Wilbur, 1997). On a broader scope, immersion appears in any case in which an individual is plunged, involved or absorbed in a totally different world (Fornerino, Helme-Guizon and Gotteland, 2006). This immersion-that can be partial or total, durable or temporary, wanted or undergone—or “feeling of” immersion of an individual in a physical or virtual universe consists in entering the universe and absorb/be absorbed by its atmosphere. In computer-mediated environments, immersion is often considered through the concept of flow (Hoffman and Novak, 1996; Csikszentmihalyi, 1990; Novak, Hoffman and Yung, 2000). Flow is defined as “the state occurring during network navigation which is characterized by a seamless sequence of responses facilitated by machine interactivity, intrinsically enjoyable, accompanied by a loss of self-consciousness and self-reinforcing” (Novak et al. 2000). If immersion and flow share concentration and focus on the consumption object, flow also implies a high control of actions, due to a confrontation between high stakes and high skills (Fornerino et al., 2006) while this is not a basic condition for immersion to develop.

Rich media technologies and web 2.0 concepts have considerably broadened the extent to which websites can be used in an experiential and entertaining way (Helme-Guizon, 2001; Jeandrain and Limbourg, 2002) and possibly generate immersion by going beyond the flat “inhuman” screen and display of traditional websites. Those techniques, such as high quality sound, video/audio streaming or 3D object manipulation can lead to a decrease in the perception of the computer mediation. Jeandrain and Diesbach (2008) noticed that those technologies all follow the same pattern: reach media transparency and generate immersion, or so called feeling of “presence”, the perceptual illusion of non-mediatisation (Lombard and Ditton, 1997). In consequence, our research aims at understanding to what extent and how a commercial 3D website can generate experiential value to its users and contributions will
demonstrate how and why the representation of the consumer as an avatar is a key issue.

**METHODOLOGY**

**3D Website Application Case: Victoria Couture**

Access to Victoria Couture 3D website can be found on the brand 2D website. Direct access to the 3D shop is available on http://www.victoriacouture.com/boutique3d-e-6-q-3d.html. This is the first integrally 3D e-shop on which it is possible to buy products: if other 3D commercial malls or e-shops exist, they do not allow online purchase-for which consumers are then connected to traditional 2D websites. In Victoria Couture 3D Shop, The user enters a fully 3D shop (environment, structures and shelves, product display) and is represented by an avatar he can personalize and uses it to navigate. He can also visualize (picture or 3D display) products and try them on, chat online with avatars of other consumers, and possibly ends his visit by purchasing.

**Sample And Data Collection**

Two qualitative data collections were conducted: semi-directive individual interviews and focus groups. Both are relevant qualitative methods for an exploratory study aiming at a deep understanding of consumption situations and new or unknown phenomena (Morgan, 1998; Malhotra, 1999; Evrard et al., 2003). A description of samples is provided in Table 1.

<table>
<thead>
<tr>
<th>Number</th>
<th>Focus Groups</th>
<th>Individual interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total nb of respondents</td>
<td>58</td>
<td>35</td>
</tr>
<tr>
<td>Age of respondents</td>
<td>From 20 to 22 years old</td>
<td>From 22 to 59 years olds:</td>
</tr>
<tr>
<td>Men/women repartition</td>
<td>Men: 33% Women: 66%</td>
<td>Men: 45% Women: 55%</td>
</tr>
<tr>
<td>Sample characteristics</td>
<td>Exclusively students. Variety in Internet expertise and Internet usage habits.</td>
<td>Variety in professional categories, education levels, Internet expertise and Internet usage habits</td>
</tr>
<tr>
<td>Time length</td>
<td>1h per focus group</td>
<td>40 to 90 mins per interview</td>
</tr>
</tbody>
</table>

Each data collection followed the same process: (1) display and effective visit of the website (manipulation of the website, navigation and test of the functionalities and effective visit of the website (manipulation of the website, A description of samples is provided in Table 1).

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Each data collection followed the same process: (1) display and effective visit of the website (manipulation of the website, navigation and test of the functionalities—avatar personalization, online chat, 3D product display, trial of the clothes, etc.); and (2) semi-directive discussion during and after the visit. They were conducted on the basis of a guide, as recommended in qualitative research (for a summary: see Jolibert and Jourdan, 2006). The interview guide was only composed of a restricted number of themes: interviewer’s function was to deepen each important element in the respondents’ speeches and to remain flexible on the progress of the discussion, while encouraging respondent’s freedom of expression. As each focus group was supposed to last only one hour, one theme was assigned to and deepened in each session (avatar, virtual experience, shopping in 2D vs 3D, shopping online vs shopping in real shops—2 focus groups per theme were realized), so to complete and saturate data from individual interviews dealing with all issues. Each interview and focus group was fully retranscribed in order to preserve the accurateness of recorded speeches. The data corpus is finally composed of 510 pages and around 265 000 words (interventions of interviewers included).

**Data Analysis**

Data analysis was conducted according to an interpretative process and double coding, using the content analysis software Weft QDA: textual data were analyzed by two independent coders, on the basis of the interview guide and same coding units (groups of words). Flexibility was preserved through an open coding process, to identify and integrate new themes that could emerge from data. Codings were then compared and discussed so to reach consensus. Semantical saturation was reached with the 25th individual interview. Focus groups and additional interviews conforted categories stability and reinforced semantical saturation. In the second step of the analysis, theory emerged on the principle of constant comparison that is to say by systematically confronting open coding results to literature.

**RESULTS AND DISCUSSION**

Corpus analysis highlights various aspects of the experience related to immersion and experience in the 3D environment that justify the identified categories (Figure 1). As a matter of fact, the consumer-avatar (an avatar representing the consumer in the virtual shop) emerges as a central issue in the understanding of the virtual experience on the website.

In a computer-mediated environment, an avatar is defined as “a pictorial representation of a human in a chat environment” (Bahorsky, Jeffrey and Mason, 1998), “a representation of the user as an animated character in virtual worlds” (Loos, 2003), or “graphic personifications of computers or processes that run on computers” (Halfhill, 1996). Many researches have dealt with Embodied Virtual Agents (EVA) and their impact on consumer behaviour and consumption experience (Cassell et al. 2000; Holzwarth et al. 2006; Wang et al., 2007; Jeandrain and Diesbach 2Beyond themes and categories that are dealt with in this paper, more larger and/or peripheric themes were evoked and discussed by respondents (perspectives and attitudes towards utilitarian vs hedonic features and use of the website, comparison of 3D shopping with real-life and 2D shopping, virtual experience on a whole, brand-related features, etc.). All those themes help reaching saturation but couldn’t be explored in this paper, focused on the key issue of the avatar.
2008) or with avatars in other settings (for example Wood, Solomon and Allan, 2008 in Second Life; Yong, Baker and Song, 2007 in virtual communities). But, to our knowledge, only one research (Crete et al., 2008) deals with the influence of consumer-avatar, that is to say an avatar representing the consumer on a shopping website.

Identification to The Avatar and Embodiment. As a majority, respondents spontaneously attempted to create an avatar that looked like them, so to be represented and embodied on the website: “What I am interested in is to create a character like me. To know how I will be” (Monique, female, 58). Nevertheless, respondents then express a general lack of identification to and embodiment the avatar. A great majority of respondents refer to the avatar using words such as “person”, “model”, “fellow”, “character” controlled through technology. “That sort of statue with that kind of bunches, it is far from being sufficiently human... It is difficult to identify with. (...) Yes, it is a model but also someone in reality. It is not sufficiently human.” (Barbara, female, 33). Such metaphors serve as “moving less-than-conscious thought into the realm of consciousness” (Joy and Sherry, 2003): through the language participants used, embodiment, or here lack of embodiment and identification, is expressed.

Indeed, identification to an avatar refers to the imaginary process invoked in response to a character represented in the mediated environment (Peng, 2008): narration is absorbed and the virtual identity can take place of the real-life identity. Thanks to embodiment in the avatar, users can play an active role, providing him a nearly direct experience (enactive experience), more powerful than mere observation. Though, in our case, the weak identification seems highly related to a strong detachment from the avatar that is no more referred to as an embodied representation of the user, but as an other artificial being. Indeed, the pronoun “I” is not used to refer to avatar’s actions-referred as “he” or “she”-but to individual actions in the real world. The avatar is perceived as a puppet controlled through the computer (arrows, mouse): respondents clearly mention they are on a computer, manipulating the avatar and not “shopping for real”: “You go for a walk like you could go for a walk on Saturday in the malls... You go for a walk but “it is not for real” like we said when we were younger” (Franck, male, 40) “Unfortunately, there is always this space between me and the computer” (Emilie, female, 23). Acting on the 3D shopping website appears as a metaphor of the real, with distinct spaces and bodies (the real-life environment and body vs the online world and character controlled via the real world).

So, while theories on immersion in computer-mediated environments suggest an illusion of non-mediation by the human-machine interface (Lombard and Ditton, 1997), with embodiment in the avatar facilitating this illusion, the perception of this mediation is particularly prominent in speeches, especially through references made by participants to their own avatar. The perceived outstanding mediation implies respondents don’t seem to feel immerged in the virtual environment thanks to the avatar, and despite resemblance between them and their avatar, they don’t feel embodied on the virtual universe: “Honestly, for me, it is a character, it is not me” (Dominique, female, 48). Though, the perception of one’s own physical body related to self-construction and projection in a virtual body has been showed to be an important issue in virtual environments (Ulusoy and Vicdan, 2009) as embodiment plays an essential role in human experience (Joy and Sherry, 2003), even in virtual universes experiences. Three main related explanations can be suggested to understand why participants expressed such as frontier and detachment between them and the avatar.

First, the 3rd-person view seems to decrease the possible embodiment by creating strong detachment and weak appropriation of the space (Caru and Cova, 2003). In online gaming, 3rd-person view is giving the gamer a direct observation angle on his character, usually from behind. This view is usually opposed to the 1st-person or subjective view, in which the gamer is taking the character’s place, seeing the word through its eyes, as he sees the real world through his own eyes (Computer Gaming Lexicon, available at http://www.jeuxvideopc.com/lexique/). One specificity of 3D universes is to allow a subjective vision through the eyes of
the avatar, with regard to an external vision of the scene. Tisseron (2008, p.178) presents the specificities and consequences of those different points of view: “In each of his moves, my avatar allows me to see the world with ‘his eyes’—through subjective view—or to see it detached from myself, as in a dream. Either I live inside of him or outside of him. In the first case, I only see of him what I can see of my own body: my arms, my legs, ... In the second case, I’m free to observe all parts of my anatomy that are usually invisible to me, such as my back or the top of my head. I can even stare at a point where I’m not and see myself in middle of the environment.”

Moreover, Tisseron (2008) suggested that manipulating an avatar necessarily implies detachment: the individual need to think about moves to make, and how to make them. Behavior of any organism (human or else) is not a series of discrete actions but a continuous flow of activity: the flow of unconscious low-level or automatic moves (for example, folding knees and pelvis) turns into high-level behaviours (sitting down on a chair) (Whalen, Petriu, Petriu and Cordea, 2003). Technology for controlling the avatar allows executing a restricted set of automatic moves through keyboards and mousing in order to accomplish high-level behaviours. On a shopping website, it more specifically implies to be aware of automatic everyday high-level behavior such walking, turning left or right, taking a cloth on a shelf, so to execute appropriate atomic moves with the help of technology (click in the appropriate way so that the avatar moves his arm and hand toward the shelf). This is at the opposite of fantasy and unusual acting in MMORPG—where high immersion can be found—, in which high-level behaviours, as they are unusual (for example throwing a fireball), have to be consciously learned: in turn, atomic moves more rapidly become automatisms, thus reducing detachment with the avatar. So, in some cases, the ability to act does not necessarily require detachment: a case can be taken in the process of flow and simply perform what has to be done (Joy and Sherry, 2003): when the body performs an activity unconsciously, individuals tend to experience flow (Csikszentmihalyi and Robinson 1990), the body simply takes over because of competence and experience (Joy and Sherry, 2003). So self-projection and embodiment in the avatar, as in virtual universes (Tisseron, 2008) and its impact on immersion could be questioned and deepened on merchant 3D websites as a key issue of the virtual experience.

Finally, lack of self-projection and embodiment in the virtual universe can be related, as expressed by respondents, to poor realism of the experience.

Realism on 3D The Commercial Website. As stated by Rosenblom (2003), some virtual universes can be very affective at creating the illusion of reality: the more they immerse users in stimuli corresponding to their expectations of the virtual world, the more compelling is their experience. This is especially relevant for a realistic virtual universe such as a 3D merchant website.

Three kinds of realism have been identified in participants’ speeches: graphic (or pictural) realism, sensory realism and social realism. Analysis clearly points out the lack of realism of the avatar and the 3D environment on those three facets.

Graphic Realism And Sight Sense Mobilization. Participants explicitly verbalize their difficulties with the visual characteristics and atmosphere of the website: “That is to say that the shop looks like a fake. It really looks like cubes and rods; while clothes should have looked as real as possible. (...) One doesn’t know if it’s real or not real” (Emilie H., female, 23) “Whatever improvements that could be done, it’s not the same sight as with our eyes. (...) It’s flat. (...) There is no relief” (Marc, male, 59). This feeling is enhanced by the low perceived realism of the avatar, considered as “cartoon-like” and too much virtual and imprecise to convey visual aspects of a real human body. “It is like Albator. It is like cartoons. What a pity!” (Barbara, female, 33) “I have the feeling to be in a game, to be a Sims... in the Sims game” (Damien A., male, 29).

As stated by Tisseron (2008, p.170), “In virtual worlds, there is no way to touch. Everything is deliciously or desperately visual, according to your ability to be satisfied with it.”

Sight sense, although it is supposed to be highly stimulated by 3D display, is not enough to mobilize senses in a sufficiently comprehensive and satisfying way to favour experience. As stated by Joy and Sherry (2003), the experience is tightly linked to the ability to sense accurately: “If you use only one of the senses, you acquire only one-fifth of the aesthetic experience. In synesthesia, however, several of the senses are included, and, hence, a more holistic appreciation is possible.” This issue is particularly prevalent and relevant in a computer-mediated environment.

Sensory realism. In the unavoidable absence of touch sense on the Internet, a great majority of respondents highlight a further sensory isolation due to the absence of noise or music. “I don’t like that too virtual aspect. There is even no music. (She looks for something to turn sound on the computer). (...) I find it so weird there is no music. When you go in a shop, there is music!” (Marion, female, 26). « Well... everything happens with our eyes, you can’t touch, you can’t... well... You can’t hear noise coming from other persons... We are completely cut off the world... This is slightly limiting the shopping feeling we can have, compared to classical shopping” (Emilie H. female, 23).

Ambient music, voice noises (discussions) or step noises play a fundamental role in sales point atmosphere. But this sense is not really mobilized on Internet in general and particularly on the website, though it has been shown for example that subjects can ‘lose’ themselves when immersed in sound, (Dyson 1996; Schafer 1977 in Joy and Sherry, 2003). Moreover, beyond creating realism compared to a traditional sales point, using music and noise on websites can contribute to improve website visit experience (Galan and Helme-Guizon, 2003). According to Volle (2000), virtual atmosphere distinguishes from real atmosphere through the weak number of stimulated senses, as well as through a supposed higher degree of interactivity, which in inherent to Internet (Ghose et Dhou, 1998). As any website can be highly interactive, virtual atmosphere has a crucial differentiating role to play, by counterbalancing the freedom of quitting and finding another interactive website. A 3D website should benefit from this advantage on more classical configurations, through its capacity to associate product and service to an universe that can be sensory immersive and generate mental imagery in a more persuasive way.

Social realism. “You are rarely alone when you go for shopping on a Saturday at 5.00pm in a supermarket. So, I expected to meet other people there. But there, there is no salesman, a person you can click (...) I expected also to be with more clients to see which articles are the most attractive for people... see what they think about these articles there. Try to make a kind of small discussion group (chat) on the site, discuss with the avatar of someone else who is in Paris or Marseille... (...) But, there is nobody in there!” as states Damien A (male, 25). Neither consumer-avatar in 3D nor the online chat tool seem to be able to compensate for the lack of humanity and the impersonality people usually blame websites for. But paradoxically, if some respondents blame the website for its social emptiness and seem to be longing for communication with others, many respondents also blame that social aspect of meeting and chatting with other people, because it could turn them away from their purchase goal, as if online shopping was considered as mainly utilitarian: “We turn away from the goal, we forget the purchase and we focus on the avatar. It becomes like a game in which we are walking... one meeting other avatars” (Nacera, female, 22).
Crete et al. (2008), in the only research dealing with consumer-avatar, studied its impact on a merchant website, through the use of a personalized avatar specific tool on a traditional 2D fictitious website, and demonstrated its positive influence on website perceived quality, attitude and stickiness. In that case, the consumer-avatar was mainly utilitarian: it was not used to wander in a fully 3D shop and, as a consequence, was not considered as a potentially immersive and experiential cue, while in our case, consumer-avatar can be considered as a socializing asset of the website, enhancing perceived humanity as the consumer is represented in the e-shop and can socialize with other clients represented by their own avatars. Indeed, the physical sense of interacting with others should contribute to the experience of embodied perception (Joy and Sherry, 2003). Though, the question can be asked to what extent this is possible in a virtual worlds of avatars, as individuals can be embodied in multiple identities (real-life individual or multiple identities and roles, virtual identity(ies)). The lack of social realism encountered could also be related to the perception of a potentially blurred “social game” due to those identities issues.

With regards to those findings on identification, embodiment, self-projection and sensory realism on one hand and social realism on the other hand related to virtual experience and immersion on the 3D website, the proxy of the concept of presence, usually considered when dealing with immersion in a computer-mediated environment, emerges as the more relevant way to characterize the virtual experience and immersion through the eyes of an avatar.

Avatar and Presence. Presence refers to “a psychological state in which even though part or all of an individual’s current experience is generated by/or filtered through human-made technology, part or all of the individual perception fails to accurately acknowledge the role of the technology in the experience” (ISPR, 2003): the individual has the perceptual illusion of non-mediation by technology (Lombard and Ditton, 1997) and feels deeply immersed in the experience. The feeling of presence (or telepresence, Steuer, 1992) is then seen as a basic condition for immersion or flow to develop. As stated by Van Schaik et al. (2004), realism associated with presence leads to immersion. Immersion can then be seen as a direct consequence of being present in the virtual world.

Lombard and Ditton (1997) distinguish two kinds of presence: (1) spatial presence, defined as “the extent to which a person feels his/her existence as rather located in the mediated space than in the real environment”: the higher spatial presence is, the more the individual feels transported in the mediated place, the more he/she is attentive to stimuli from the mediated environment and less to those from the real environment (Csikszentmihalyi 1990); and (2) social presence, that refers to the sense of “being together with another”, inducing perceptual awareness of other entities, access to their cognitive and affective states and a shared sense of intersubjective interaction (Bickmore and Picard, 2003): social presence can lead to “as if” para-social relationships (Lombard and Ditton, 1997).

On the one hand, with high spatial presence, an individual is supposed to behave as an actor and adopt behaviors as in the real world (Lombard and Ditton, 1997). In our case, as previously stated on embodiment, respondents seem to feel spectators of their avatar, experiencing a lack of coherence between their real actions (click to move) and what happens (hitting a shelf). They clearly don’t perceive their existence in the virtual world and express that their experience is an “as if” experience. “Precisely, the fact that we have an avatar, so as to take a walk in a store, make window-shopping, perhaps behave as a real client in real life” (Ouardia, female, 28). So, as in Jeandrain and Diesbach (2008), respondents reject the idea of full spatial presence.

On the other hand, as all consumers are humanly represented in the 3D shop, social presence should be enhanced. Indeed, avatars are implemented in order to humanize e-shopping and create a feeling of social interactions. But due to the lack of spatial presence, and despite the presence of a chat module, consumer-avatar doesn’t seem to be an outstanding enough social cue, as it has been demonstrated for virtual communities (Yong et al., 2007): “The avatar will never replace someone, the opinion of a person or a friend” (Agathe, female, 22).

Nevertheless, a special interest emerged for EVA: all our respondents mentioned they were expecting or looking for a salesperson as the main social cue of the website. “Can I sit down here and wait for a saleswoman?” (Damien M., male, 29) “There are no saleswomen (...) A presence is missing.” (Françoise, female, 54).

Those results are related to findings on the influence of EVA (Cassell et al., 2000; Holzwarth et al., 2006), especially on presence and immersion (Jeandrain et Diesbach, 2008). Though, results are contrasted: Jeandrain and Diesbach (2008) highlighted the negative impact of the EVA on social presence, while Wang et al. (2007) concluded on the positive impact of an EVA as a social cue on a shopping website.

CONCLUSION

Although we live in a three-dimensional world, nowadays most of the commercial websites are primarily in two dimensions. However, improving the virtual experience has become a major issue for e-marketers. As already stated, developing the hedonic value of websites and improving the virtual shopping experience on Internet should lead to a better conversion rate, more satisfaction, stickiness and loyalty (Childers et al., 2001). In this perspective, our findings are quite telling. In line with Malter, Antonio and Garbarino (2008) pointing the importance of the online avatar’s realism and authentic representation of the real world, our work highlights the key role of the avatar and the concepts of presence (Steuer, 1992; Lombard and Ditton, 1997) and realism as basic conditions for immersion in the context of a 3D commercial website. Specifically, we bring to the light the importance of the avatar embodiment for consumer in merchant 3D environments and its influence on immersion as well as the importance of social presence. The context of interviews does not favour a natural situation of immersion and might explain why most respondents seem to feel spectators of their avatar and don’t express the illusion of non-mediation that should make them actors. However, we observe interestingly that four of our respondents (Jean-Marc (male, 59), Emilie (female, 23), Medhi (male, 23) and Romain (male, 25) experienced a kind of immersion since they have interrupted the interviewer in order to further explore the website.

Perceived value is one of the essential outcomes of the marketing activity (Holbrook 1999). In this perspective, the retail experience—in this case the commercial website visit, must deliver value so to turn a one-time visitor into a repeat customer. Both practitioners and researchers believe that the best way to gain customer loyalty is to ensure that customers have an “emotional” experience with products or service or in the retailing environment (Holbrook, 1999, Filser, 2002). Building on the work of Holt (1995), the 3D commercial website visit might be considered as a consumption activity in the sense of interaction with the consumption’s object. Holt (1995, p.2) considers two dimensions of the consumption, structure and purpose: “In terms of structure, consuming consists both of actions in which consumers directly engage: consumption objects (object actions) and interactions with other people, in which consumption objects serve as focal resources (interpersonal actions). In terms of purpose, consumers’ actions can be both ends in themselves (autotelic actions) and means to some further ends (instrumental actions)”. In this two-by-two matrix, the value of the
3D commercial website might appear more as autotelic, consuming as a play (social presence, hedonic value of the experience) or as experience than instrumental. In this line, Jeandrain and Limbourg (2002) observed that experiential shoppers seem to prefer 3D online environments, whereas the instrumental shopper is less impressed by it. Therefore, the adding value seems to lay more in experiential retailing than in merchandise itself. As consumers are living more and more of their lives online, the possibility to interact with other consumers, to share experience of shopping represent an avenue of possible researches in order to understand how shared experiences on the web contribute to the perceived value of a commercial website as well as to consumer social relationships both online and offline.

Managerial consequences are multiples. The impact of the 3D commercial website has to be considered both directly in terms of direct sales but mainly indirectly in terms of consumers’ community, image of the company and potential vector of transchannel behaviour of consumers. In the perspective of virtual malls, these two points appear as particularly prevalent. From a theoretical point of view, this research contributes to a better understanding of the virtual experience in a 3D commercial website context, pointing out the key role of the avatar. While technological development are outpacing consumers’ ability to cope with developments, researchers are struggling to develop and apply appropriate models of consumer behaviour that would potentially enrich consumers participation in those new shopping environments. Research and managerial perspectives can be suggested, especially website configuration and display, above all concerning the view, and presence of an EVA and interactions with consumer-avatars.

Some limits can be highlighted. The study was realized mainly on one website, related to a specific product category. Victoria Couture is a high-range brand, with few physical shops, and this could have been a reason why few people were connected on the website, inducing a possible bias on social presence perception. The website is mainly designed for women, and though precautions have been taken with male respondents (they were asked to imagine they were buying something for a female friend/girlfriend/wife), this could have caused a bias in the perception and evaluation of the avatar. Our research qualitative method by interviews is not the most favourable for immersion, as respondents are forced to detach and “go back to reality” to express their feelings and discuss with the interviewer. Finally, this paper, as stated previously, focuses on key issues around the role of avatar in the embodied experience and immersion. Other themes such as utilitarian vs hedonic aspects of shopping in this settings, identity role-playing in a social presence context, will have to be analyzed.

Research perspectives cover a wide area of confirmatory researches, both qualitative (deeper analyses to highlight specific patterns through speeches, new interviews with actual users, expert or future users such as teenagers who are used to 3D virtual universes ans games) and quantitative, through experiments, related to the consumer-avatar and its impact on presence and immersion, the influence of sensory (sight, hearing) display of the 3D environment on virtual experience. Perspectives in line with actual Human-Computer Interfaces research issues can also be considered: aesthetics in designing those 3D shopping interfaces and the link of aesthetics with experience, anthropomorphism (or fantasy) in avatar design, emotions and affect in 3D retailing-as an embodied experience can generate highly intense feelings. In fact, the present investigation has obviously just scratched the surface of an enormous iceberg.

REFERENCES


Jolibert, Alain and Philippe Jourdan (2006), Marketing Research, Paris: Dunod


Malhotra, Naresh (1999), Marketing Research, an applied orientation, 3rd ed., NJ: Prentice Hall


