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Ioannis Krasonikolakis

Athens University of Economics and Business, krasos@aueb.gr

Vrechopoulos Vrechopoulos

Athens University of Economics and Business (AUEB), avrehop@aueb.gr

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SETTING THE RESEARCH AGENDA FOR STORE ATMOSPHERE STUDIES IN VIRTUAL REALITY RETAILING: AN INTERDISCIPLINARY APPROACH

Krasonikolakis, Ioannis, Athens University of Economics and Business, Patission Street 76, 10434 Athens, Greece, krasos@aueb.gr

Vrechopoulos, Adam, Athens University of Economics and Business, Patission Street 76, 10434 Athens, Greece, avrehop@aueb.gr

Abstract

Virtual Reality Retailing (VRR) has proved to be an emerging retailing channel with an ongoing economic activity in recent years. There are plenty of virtual worlds where businesses develop, some of which have developed a self-governing economy retaining its own currency. While there has been considerable amount of research as far as store atmosphere is concerned in brick-and-mortar and web retailing, research in the new retailing channel is generally deficient. The growing virtual retailing environment (VRE) resembles but also differs in terms of store atmosphere characteristics both with the traditional and Web environment. The present paper reviews current business practice in virtual worlds and sets the research agenda as far as virtual store atmosphere studies is concerned. To that end, it is attempted to justify the need for adopting interdisciplinary research initiatives when studying store atmosphere effects on consumer behavior in the context of VRR. Specifically, the paper calls for employing established knowledge derived through the Information Systems and Marketing disciplines.

Keywords: *Information Systems, Marketing, User-Consumer Behavior, Virtual Reality Retailing, Store Atmosphere*

1 INTRODUCTION

In the 1990's, in the Web 1.0 era, electronic stores were two-dimensional (2-D) and users could only find images and text about the products they were interested in. Subsequently, with Web 2.0 users can be engaged in more activities as they can develop virtual communities and belong to a certain community and exchange ideas, enabling socialization and entertainment cues (voice chat, MSN, MySpace, Facebook, YouTube etc.). A virtual reality world is a 3D environment where users are engaged in numerous activities through their in-world representatives, the so-called "avatars". Simultaneously, they can talk with their friends (socialization) or find new friends, play electronic games (entertainment), build houses (interior and exterior decoration), develop furniture, buy and sell both virtual and real products and numerous others activities.

Users-consumers show complex behaviors in the new era of multichannel retailing, which includes both conventional and Web stores (Alba et al. 1997, Peterson & Balasubramanian & Bronnenberg 1997). However, while there has been considerable research in Web retailing, there are many unresolved issues in virtual reality environments as far as business activity and corresponding consumer behavior is concerned. Specifically, when an avatar puts in a virtual world, it has to face thousands of graphical, textual, audio and video elements. Moreover, there is no established knowledge about how consumers react in these virtual environments. To that end, there is a great need to understand how issues such as design and store atmosphere characteristics affect consumer behavior. This implies that both researchers and managers need an integrated and complete corresponding framework in order to understand when and why consumers choose specific virtual stores while shopping or in other words, what are the store selection criteria they use in order to select a virtual reality store to conduct their purchases. Along these lines, it is important to explore how store atmosphere characteristics (layout, scent, sound etc) affect shopping behavior at various stages of shopping (e.g. five stages model of consumer buying process).

In this article, we attempt to address the current business practice in virtual reality retailing. Also, emphasis is placed on reviewing the available literature on the store atmosphere topic as initiated in the conventional retailing landscape, and has been already applied in the 2D web one. Based on this discussion the objective of the paper is to set an initial research agenda on the topic of store atmosphere in virtual reality retailing.

2 LITERATURE REVIEW

Kotler (1973-4) has been the first researcher who stated that retailers should design their stores in such ways that produce explicit emotions and arouse specific feelings to consumers in the context of conventional retailing. Similarly, online retailers could provide an atmosphere via their website which can affect shoppers' image and experience with the online store (Eroglu & Machleit & Davis 2000). To that end, Vrechopoulos et al. (2000) introduced the term "Virtual Store Atmosphere" in Web retailing and then Siomkos and Vrechopoulos (2002) first developed the "Virtual Retail Mix" including "Virtual Store Atmosphere" as an element of this mix. Along these lines, Constantinides (2004) stated that Web site atmospherics, such as layout and product presentation, have the potential to engage consumers in unique and enjoyable experiences.

As far as 3D Web or Web 3.0 is concerned, O'Reilly (2006) reports that in recent years it has become a real phenomenon for many people to interact within Virtual Retailing Environments (VRE's) for real economic purposes. Similarly, Burke (1996) stated that 3D effectiveness in e-commerce lies in its ability to generate a virtual environment for the end-user in which his experiences will be affected the same way as in a physical environment. Along these lines Papadopoulou (2007) confirmed that the use of virtual reality for online shopping environments provides an experience to the consumer which is more enjoyable in comparison to conventional web stores (Web 1.0). Concluding, while retailing activity in the VRR context is quite active, research on designing the atmosphere of these stores is generally deficient (Apostolou & Koutsouris & Vrechopoulos 2008).

Another important issue in VRR store atmosphere is telepresence. VRR store environments are by definition rich in multimedia capabilities and representations, resulting in a highly interactive environment. Steuer (1992) considered these two elements as key characteristics that support telepresence. Virtual Reality Environments (VREs) by the help of technology can provide an environment where participants meet all five human senses (vision, hearing, olfaction, touch and taste-through electronic tongue-). This is considered as an important cue of VREs, enabling telepresence and interactivity (Steuer 2002) which results in highly vivid and enjoyable interfaces where the user has the control in modifying elements of the environment in real time. Similarly, it provides to the end users both functional and hedonic motives, which are considered important in traditional and online shopping channels (Childers et al. 2001, Babin & Darden & Griffen 1994). Especially, entertainment (hedonic motives) has proved to be an important factor in traditional (Bloch & Sherrel & Ridgway 1986, Babin et al. 1994) and online (Hoffman & Novak 1996, Childers et al. 2001) shopping environments.

3 CURRENT BUSINESS PRACTICE

More than a hundred VREs were located in Web at the time of crafting the present research. Indicatively, except "Second Life", "There" and "Cyworld" that are considered as leaders in the VRE (Shin 2008), "Whyville" and "Teen Second life" are geared for teenagers. Some of them provide specific services to their users or "inhabitants" but their main resultant is entertainment. Finally, "Myrl", which is self-described as a cross-world entertainment platform that brings together inhabitants and the virtual worlds they inhabit, is a remarkable example of the competencies provided by this emerging B2C channel. Specifically, there are already 19 "integrated" worlds to choose from and Myrl can be considered as a bridge to online gaming and virtual goods trading.

There are numerous businesses that have invested or continue to invest in their presence in virtual worlds. Indicatively, Dell, IBM, Microsoft, Toyota, Nissan, Adidas and Nike are just few of the multinational companies that are very active in this environment. On the other hand, we have witnessed several companies trading in this virtual reality retailing environment (selling virtual/real goods/services) that have not any former presence either in conventional and web retailing and managing considerable profits (similar to the “pure-play” business model on the web). As far as the apparel industry is concerned, a remarkable activity that have been engaged in, is that the inhabitants of the virtual world (e.g. Second Life), by giving their dimensions (width, height, etc.) can try on clothes and see in a 3D representation whether they like them or not. That is well known since Web 2.0 where many retailers were turning to superior product visualization technologies in order to empower the entertainment value or reduce product risks of the shopping process (Kim & Forshythe 2008). Specifically, the reduction of product risks can be managed by facilitating product evaluation through the process of visualizing “your repreresenative” –i.e. avatar- trying on clothes which apply to your real dimensions. However, it should be underlined that, as happened in the Web 1.0 context, businesses build their virtual 3D stores driven mainly by technology abilities and not by taking into consideration the store atmosphere customization and manipulation capabilities in affecting consumer behavior. To that end, it is clear that as was the case in the Web 1.0 context there is need to approach store design through an interdisciplinary research approach (i.e. employ marketing established knowledge in an Information Systems intensive environment).

Furthermore, other companies build their virtual branches in order to engage their customers in the production phase by testing new (innovative) products generally under the research and development umbrella. Innovativeness, which is a human need for new experiences (Hirschman 1980) is expected to influence positively the intended use of virtual reality stores and empower retailer-consumer relationship (von Hippel 1988) through this interaction. Along these lines, firms can access consumer knowledge through an ongoing dialogue and relationship (Sawhney & Prandelli 2000).

Finally, in virtual worlds there are several universities, corporations and governments that use these platforms for offering improved communication capabilities as they provide multiple channels of communication (public and private text, voice chat, teleconference, images, audio, video). For example, universities build virtual classes and libraries where students can meet, discuss and study together. Also, some institutions including governments and universities use this channel as a promotional tool. In virtual places that have built, avatars-visitors are exposed to a great amount of rich information as far as the specific place visited is concerned. In sum, a great opportunity arises, as by manipulating the atmosphere of the place visited, consumer-user behavior can be enhanced.

4 RESEARCH FRAMEWORK

Heidjen (2004), considered that conventional technology acceptance models may not be appropriate when testing entertainment oriented IT platforms and introduced the term hedonic and utilitarian information systems. Along these lines, Holsapple and Wu (2007) based on hedonic theory, propose that technology acceptance model as far as Virtual worlds are concerned, should derive by examining the emotional and imaginal responses of users/consumers. According to Marketing theory, Lewison (1994) suggested that store image, store atmosphere and store atmospherics comprise the determinants of store atmosphere. Based on the aforementioned theories, we introduce the Research Framework for Store Atmosphere Determinants in Virtual Worlds in Figure 1.

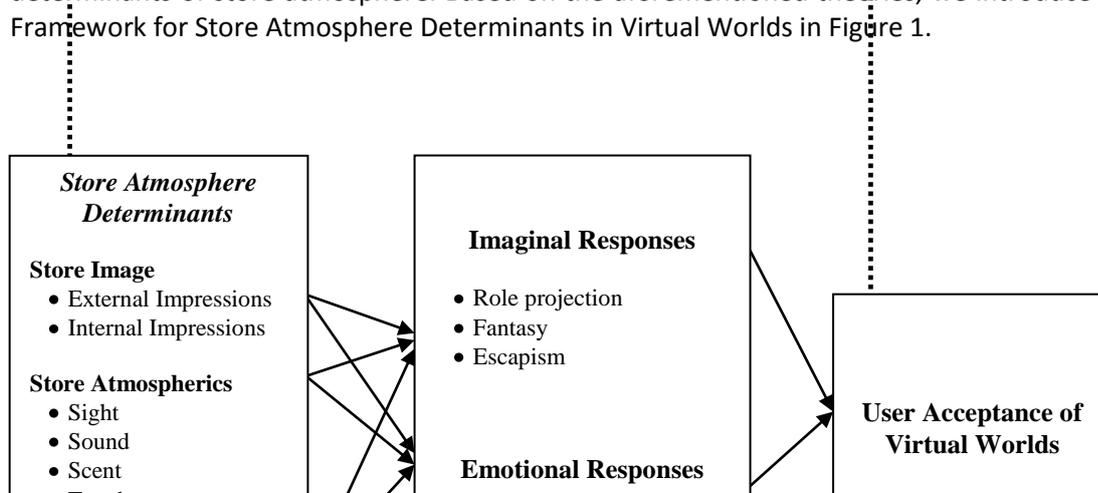


Figure 1. Research Framework for Store Atmosphere Determinants in Virtual Worlds

We propose that there should be further research about how and in which way store atmosphere cues affect imaginal or emotional responses to users/consumers. For example, the owner of a store may develop a game available to consumers and the winner of every week will get special discounts or some products for free. This practice may evoke special emotional responses (arousal and enjoyment) to consumers which will be guided by the owner of the store. Similarly the owner can organize social events, theatrics and exhibitions in the store that will affect both imaginal (fantasy, escapism) and emotional (arousal, enjoyment, emotional involvement) responses of users/consumers in order to increase sales, build loyalty and enhance its image (Lewison 1994).

5 DISCUSSION AND RESEARCH CHALLENGES

VREs comprise an open, cost-effective and widespread channel. As it is based on the Internet platform, geography and distance constraints are reduced. In a traditional environment, communicating and interacting with customers requires physical proximity. These constraints for obvious reasons limit the number of consumers that a firm can communicate with. However, in a web environment the absence of the physical proximity does not allow for an interaction and communication. Along these lines, an Ernst and Young (1999) study on online shopping found that the inability to talk to a salesperson is considered an important reason which affects consumers negatively. Similarly, Sproul et al. (1996) state that when people being asked questions in text vs. by a human face they prefer the human face. In VREs, avatars can simulate numerous of physical gestures and mimics involving vivid and affective psychological states. To that end, it is clear that this social aspect further supports the need to adopt an interdisciplinary approach towards investigating causal relationships (i.e. cause –and-effect relationships) between virtual reality retailing information systems-stores (i.e. the cause) and user-consumer behavior (i.e. effect). In other words, it is quite obvious that such type of research studies should employ literature from both Information Systems (e.g. Human Computer Interaction, Evaluation of Information Systems) and Marketing (e.g. Retailing, Services Marketing, Consumer Behavior) disciplines in order to provide robust research insights.

There has been considerable research on traditional and 2-D web retailing about the norms that people follow at various stages of shopping process. For example, when a consumer visits a physical store and wants to buy a home cinema set, is expected to walk around the store, find the place where home cinemas are located, look at the prices, read the specifications, inspect the unit (touch, lift up, walk around and watch from different angles, etc.) and probably talk to the salesperson and ask questions about the product. On the other hand, in terms of the virtual reality 3-D environment, there are not specific guidelines or norms that avatars follow whether they shop real or virtual goods. In these environments, is technologically applicable to present an item in its “physical” context (e.g, cookery in a kitchen). Moreover, as VREs retain many characteristics both from virtual and web environment we

should address how various combinations (e.g. text vs images vs 3-D) will help companies meet consumers needs.

Another important factor that researchers are interested in and resulted in many empirical studies and corresponding research insights is the personalization concept in the context of online shopping (Pralhalad & Ramaswamy 2004, Thomke & von Hippel 2002, Shankar 2000, Wind & Rangaswamy 2001). But in the context of virtual reality retailing, it seems that personalization capabilities are restricted. As it is a social and interactive environment where two or more avatars can simultaneously visit a specific store at the same time, an interesting question is whether we can manipulate store atmosphere characteristics (e.g. layout, colors, scent, music). Rather this should not be an option but we should spend on finding how other personalization cues (e.g. personal discounts, text informing about a new book that there is in stock and probably an avatar would be interested in, etc.) affect consumer behavior. To that end, Lewison's (1994) store environment classification framework (store image, store atmospherics and store theatrics), explores the applicability and customization capabilities of the aforementioned factors in relation to conventional, and web environment. Indicatively, however, the ability of flying in many virtual worlds instead of walking brings about changes in terms of the landscape. Specifically, the question that arises is whether layouts by this time known, generate special emotions and affect avatars' shopping behavior, or if new forms of layouts should arise to meet people's needs.

Finally, as mentioned earlier, since firms use virtual presence in virtual worlds as a tool for designing and testing innovative products, a reverse marketing perspective perhaps should be applied. To that end, Sawhney and Kotler (2001) address that *"in the information-rich regime, marketers need to evolve further towards customer-configured offerings, where the customization is done by customers, and not by marketers"*. However, in any case firms in VREs should employ robust guidelines about whether and how a firm-centric or customer-centric personalization approach affects the target group they are interested in.

The present study discusses the effects of virtual store atmosphere on consumers' shopping experience. One of the more significant findings emerged from this study is that while according to the established knowledge from conventional and web retailing, store atmosphere seems to significantly affect consumer behavior, corresponding research in virtual reality environments is still on its infancy. To that end, defining and investigating the role of store atmosphere determinants in this emerging retail channel would be of great help in providing sufficient guidelines about the way that retailers should build their virtual reality stores in order to meet customer needs and generate specific emotions and feelings.

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