

# Defining, Applying and Customizing Store Atmosphere in Virtual Reality Commerce: Back to Basics?

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## ABSTRACT

*This paper studies the concept of Store Atmosphere in Virtual Commerce (V-Commerce) through the Web in order to empirically define its determinants and investigate their applicability and customization capabilities. A series of in depth interviews with field experts (study #1) along with an online questionnaire survey (study #2) served as the data collection mechanisms of the study. The empirical findings suggest that while the social aspect dimension of V-Commerce limits customization capabilities, it provides several innovative options for manipulating Store Atmosphere. Additionally, the results indicate that Store Atmosphere attributes can be grouped in three factors with high average scores concerning the importance users attach to them. Specifically, storefront, store theatrics, colors, music and graphics are grouped in Factor #1 and reflect the "Store's Appeal". Crowding, product display techniques and innovative store atmosphere services are grouped in Factor #2 labeled "Innovative Atmosphere", while store layout constitutes the only attribute included in Factor #3. The paper outlines the theoretical and managerial implications of these research results.*

*Keywords: Consumer Behaviour, Retailing, Store Appeal, Store Atmosphere, Virtual Reality Commerce*

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## INTRODUCTION

Virtual worlds (VWs) are three-dimensional environments where users engage in numerous activities through their in-world representatives, the so-called "avatars". Several VWs adopted characteristics and applications of social networks, but also exploit the integration of VWs

and other Web 2.0 applications as well as e-commerce (Messinger et al., 2009; Spence, 2008). In this paper we focus on these latter types of VWs, excluding purely game-oriented environments such as World of Warcraft from the scope of this research.

In VWs, users, through their avatars, can talk with their friends or make new friends (socialization), play in-world electronic games (entertainment), build houses (interior and

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exterior decoration), buy and sell both virtual and real products/services (v-commerce) and numerous other activities (Krasnikolakis & Vrechopoulos, 2009). Consequently, social presence in a VW store does not merely imply the co-existence of many avatars within the same store at the same time but also many other options that are also applicable in conventional retailing (i.e. in-world communication with other people). For example, these options may include the product rating, suggest-to-friend, shopping with friends, etc.

A number of business reports demonstrate the growing significance of VWs as a market. Indicatively, according to eMarketer (2010), users of the Second Life virtual world spent \$567 million on user-to-user transactions (i.e. user-generated virtual items for avatars) in 2009 (65% annual increase), while it is predicted that more than \$6 billion will be spent worldwide on virtual items by 2013. Also, virtual goods sales in this virtual world reached the amount of \$6.1 million in 2009. In Second Life alone, the number of users increased by 15% reaching 769 million worldwide in 2009 (eMarketer, 2010). At the same time, the increased interaction for real economic purposes within Virtual Retailing Environments (VREs) in recent years have been noted (O'Reilly, 2006). Saiman (2009), a virtual business owner, claims that the virtual "lifecycle of business" has many similarities with the real one. Studying the consumption of virtual goods in the context of virtual environments and commodities, Martin (2008) claimed that people consume virtual products to meet exchange- and symbolic-value than use-value.

In the context of VWs, several studies address the need to understand how VWs influence user behaviour (Messinger, Ge, Stroulia, Lyons, Smirnov, & Bone, 2008). Becerra and Stutts (2008), employing sociometer theory indicated that the willingness to become different from real life is one of the driving forces of the use of VWs. Landay (2008) stated that the avatar appearance affects the owner's social behaviour and this, in turn, influences real world behaviour. One step further, Messinger et al. (2008), through both qualitative and quantitative

research, found that behaviour in virtual worlds influences real world behaviour and vice versa. They also designated that users' avatars are often similar to themselves but better-looking. On the contrary, Vicdan and Ulusoy (2008), through a netnographic approach, found that the "body concept" is regarded differently in the virtual context, compared to the real environment.

The need to express their identity and find a specific group to belong, urges users to the consumption of virtual goods (Boostrom, 2008). Dechow (2008) suggests that data from past user behaviour combined with the development of artificially intelligent avatars would help entrepreneurs to influence user behaviour in various stages of the shopping process (i.e. direct change of the prices of the products, direct offer of value added services).

This dynamic role of VWs as an alternative e-shopping channel has also drawn research attention to Virtual Reality Commerce through the Web (V-Commerce) (Haven, Bernoff, Glass, & Feffer, 2007; Hendaoui, Limayem, & Thompson, 2008). For example, Frost, Chance, Norton, and Ariely (2008) note that virtual reality features enhance the value offered to customers, while in a similar vein Kim and Forsythe (2008) report that virtual reality applications through the web enhance the entertainment value of the shopping experience. Highly vivid interfaces such as 3D virtual stores provide motives, emotions, meanings and communication which are represented objectively (Mazursky & Vinitzky, 2005). Back in 1996, Burke stated that 3D effectiveness in e-commerce applications lies in their ability to generate a virtual environment for the end-user in which his/her experiences will affect shopping in the physical environment. While retailing activity in the VRE context is active, research on designing the atmosphere of these stores is generally deficient (Krasnikolakis & Vrechopoulos, 2009).

In order to address this research gap, the present paper aims to provide an initial understanding of the nature of store atmosphere in this fast evolving e-shopping landscape. This is achieved by building on earlier theoretical work defining this concept in the context of

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