

2009

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Recommended Citation

Hooker, Robert; Wasko, Molly; and Paradice, David, "Linking Flow, Brand Attitudes and Purchase Intent in Virtual Worlds" (2009).
ICIS 2009 Proceedings. 106.

<http://aisel.aisnet.org/icis2009/106>

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LINKING FLOW, BRAND ATTITUDES, AND PURCHASE INTENT IN VIRTUAL WORLDS

Research-in-Progress

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Abstract

Virtual worlds initially gained visibility from businesses seeking to create a virtual brand presence within the online platforms. More recently however, many companies have abandoned virtual worlds, leading experts to speculate that a lack of knowledge about how to effectively market branded products may ultimately represent one the contributing factors in the seemingly mass corporate exodus. Virtual worlds offer opportunities for high levels of involvement in activities, which are consistent with flow theory. Flow has been defined inconsistently within the information systems (IS) literature. This research-in-progress examines how a reconceptualized model of flow influences brand attitudes and purchase intention of individuals participating in virtual worlds.

Keywords: Virtual worlds, flow, brand attitudes, purchase intention, involvement

Introduction

Virtual worlds are defined by the National Science Foundation as electronic environments that visually mimic complex physical spaces, where people can interact with each other and with virtual objects, and where people are represented by animated characters (Bainbridge 2007). Virtual worlds allow connections between individuals to be made in real-time, anytime, from across the globe (Benford et al. 2001; Ives & Junglas 2007; Lui et al. 2007). These connections are facilitated through the use of an avatar, which is a digital likeness created in an attempt by the user to present his/her physical self in the virtual world (Bray & Konsynski 2007; Schau et al. 2003).

The popularity of virtual worlds is supported by the rapid population growth of environments such as Second Life, which to date (September 2009) has over 16 million registered and 1.1 million active (monthly) participants. Gartner, a market-research firm, is forecasting that by 2011, 80% of active Internet users will have some sort of presence in a virtual world (Dell 2007). Likewise, such networks have gained increasing attention from businesses seeking to reap the full potential of these networks by effectively marketing to individuals participating in-world through their avatars. Therefore, the avatar is seen as more than just a digital representation of oneself—it may also represent a distinctly different ‘shadow’ consumer, one able to influence its creator’s purchase of real-world products and conceivably make its own real world purchases in the virtual world” (Hemp 2006b). It is for this reason that virtual worlds are seen by some as a foreshadowing of what the electronic commerce marketplace, and the Internet in general, may shortly look like (Hemp 2006a; 2006b; 2006c).

Virtual worlds are more advanced than other forms of multimedia computing, which distribute information in insightful, multisensory, and intuitive ways through the aggregation of rich audio, video, text, graphics, animation, and static images (Hong et al. 2004; Lim et al. 2000). Virtual worlds present information in a way which mimics reality and has the ability to attract and retain a participant's attention and excite his/her imagination (Nisbett et al. 1980). Within the marketing and advertising literature, this characteristic is seen as providing a virtual world participant with a sense of involvement that in some ways is consistent with the verisimilitude and richness of being in a real brick and mortar retail environment (Biocca 2007; Klein 2003; Suh et al. 2005; Watson et al. 2002). Additionally, this sense of involvement may serve to blur the line between the activity and awareness of virtual world participants, contributing to a state of flow, whereby their actions are characterized as being hyper-focused and highly involved (Csíkszentmihályi 1975). Creating a sustained level of involvement with a brand within a virtual world may influence a consumer's attitude towards a brand. In 2006, companies such as IBM were investing upwards of \$10 million dollars to create a brand presence within virtual worlds. However, as a result of using more traditional marketing techniques which lack customer involvement, many of these businesses have abandoned virtual worlds, citing an absence of traffic to their virtual brand spaces.

Creating immersive and engaging brand activities that are consistent with flow theory may be critical in imprinting a positive brand perception into the minds of virtual world participants. Additionally, positive attitudes about a brand have been shown to influence consumer purchase intention within the traditional marketing literature (Aaker 1996; 2001). However, these relationships have not been tested within the context of virtual worlds. Furthermore, the coverage of flow theory has been fragmented and incomplete within the IS literature stream (Guo & Poole 2008; Jiang & Benbasat 2005). This leads us the research questions guiding this study: 1) *How do the perceptions of the virtual world activity influence an individual's mental state?*; 2) *How does the individual's mental state in the virtual world influence his/her attitudes toward a brand?*; and 3) *Do a virtual world participant's attitudes toward a brand influence his/her intention to purchase a brand's product?* The purpose of this study is to investigate these questions by examining the extent to which flow and its antecedents influence attitudes and purchase intention of a brand by virtual world participants (Figure 1).

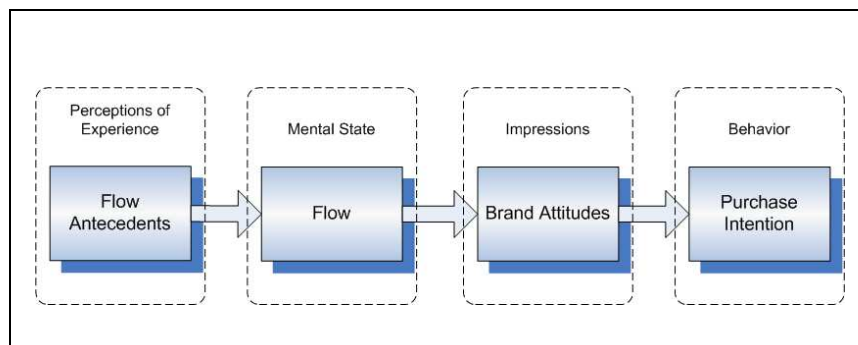


Figure 1. Conceptual Model

Literature Review

Virtual Worlds

Virtual worlds are electronic environments that visually mimic complex physical spaces where people can interact with each other and with virtual objects, and where people are represented by animated characters (Bainbridge 2007). Included within this definition are massively multiplayer online games (MMOGs include World of Warcraft and America's Army), three-dimensional social networking platforms (e.g., Club Penguin and IMVU), and virtual reality driven environments (e.g., Second Life and There). Virtual worlds can be categorized in terms of their realism vs. fantasy or their level of progression vs. emergence (Schultze et al. 2008; Schultze & Rennecker 2007). MMOGs such as Mabinogi and EverQuest are characterized as being fantastical and progressive, where progressiveness describes how scripted and goal-driven the platform is. Second Life, Active Worlds, and IMVU are more realistic, and devoid of preordained goals. Other virtual world platforms, such as Entropia Universe, are a combination of each dimension (Figure 2).

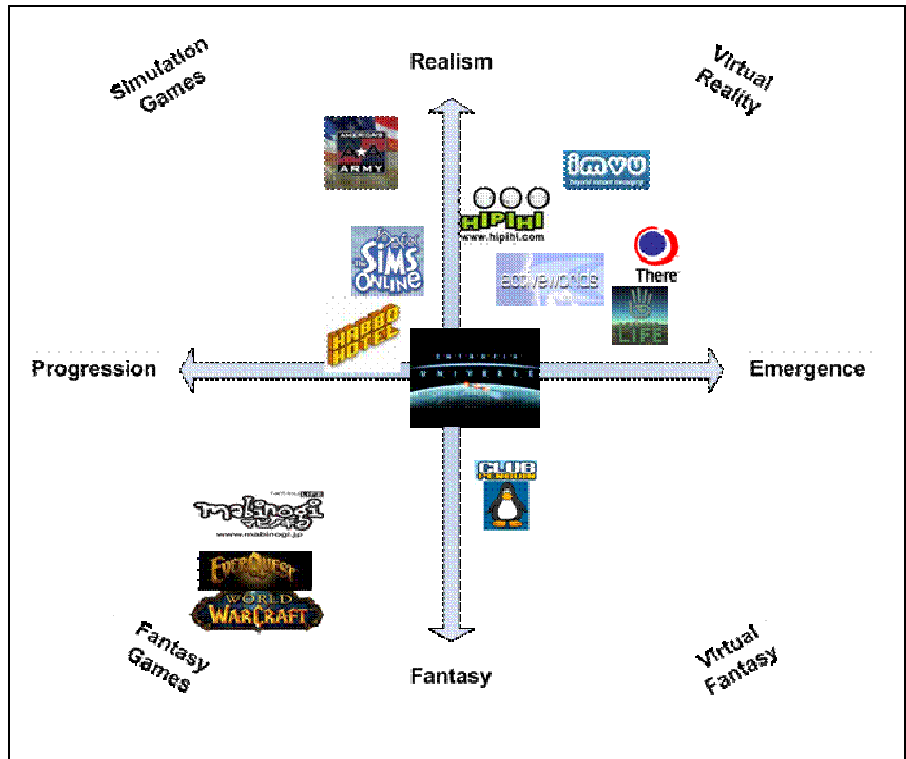


Figure 2. Virtual Worlds Using Schultze (2007; 2008) Framework

Regardless of the type of virtual world, significant amounts of money are being made within them, thereby making them attractive to businesses (Mennecke et al. 2007). However, despite a total of between \$3 and \$4 million dollars per month being spent by participants in Second Life in 2009, many businesses have exited the virtual world, citing a lack of consistent traffic as the reason for their exit (Semuels 2007). A random sample of twelve businesses with a Second Life presence in 2006 reveals that only two still maintain a corporate brand presence within the platform as of 2009 (Table 1).

Table 1. Sample of Businesses in Second Life (2006 vs. 2009)	
2006	2009
ABN-AMRO	
Ben & Jerry's	
Calvin Klein	
Coca-Cola	
Dell	Dell
Hermann Miller	
IBM	IBM
Level 3	
Mercedes-Benz	
Reebok	
Starwood	
Toyota	

The reason for inconsistent traffic at many of these brand locations may be because many brands rely on static images to convey their messages to virtual world participants. However, virtual worlds allow for immersive, engaging, and enjoyable experiences that are consistent with a feeling of total involvement known as flow (Csíkszentmihályi 1975). To date, no known research has examined how a virtual world participant's flow

experience impacts brand attitudes or the intention to purchase the brand in the future, thereby underscoring one of the expected contributions of this research.

Flow Theory

Building off of Csíkszentmihályi's (1975) conceptual description of flow, this study defines flow as *the optimal mental state* an individual may become immersed into. Inherent within this definition is the understanding that "optimal" equates to a positive, rather than a negative or neutral mental state. Flow has been extensively referenced across the fields such as psychology, education, and music, and is deemed to be important for understanding human computer interactions and attitudes (Agarwal & Karahanna 2002; Trevino & Webster 1992). Csíkszentmihályi (1975; 1988) describes flow as consisting of nine dimensions. These dimensions are as follows: 1) Clear goals; 2) Loss of self-consciousness; 3) Focus; 4) Lost sense of time; 5) Explicit feedback; 6) Sense of control over activity; 7) Intrinsic pleasure of action; 8) Ability vs. challenge balance; and 9) Automaticity.

Clear goals are achieved through the marriage of understood expectations and an individual's abilities and/or skills (Csíkszentmihályi 1975; 1990; 1993). Clear goals have been shown to impact web browsing, web navigation, and web design issues (Chen 2006; Chen et al. 2000; Guo & Poole 2008; Hoffman & Novak 2003; Pace 2004; Pilke 2004). The loss of self-consciousness occurs when an individual's actions and level of awareness merge, and the line of demarcation between the two is blurred as a result (Csíkszentmihályi 1975; 1990; 1993). The concerns of the individual are cast aside, because the person is completely engrossed in the activity at hand. The loss of self-consciousness has been an important factor in literature examining user psychology in virtual reality environments (Reid 2004). When an individual becomes engrossed in an activity, a high level of focus and concentration has usually been achieved (Ghani & Deshpande 1994; Li & Browne 2006; Nel et al. 1999; Novak et al. 2000; Pace 2004; Rettie 2001; Trevino & Webster 1992; Webster et al. 1993). Additionally, an individual may also lose track of time or have a distorted sense of time when involved in an activity (Chen 2006; Chen et al. 2000; Guo & Poole 2008; Hoffman & Novak 1996; Novak et al. 2000; Pace 2004; Rettie 2001; Skadberg & Kimmel 2004).

Behavior that results in direct and explicit feedback to the participant allows them to adjust or modify their actions while involved in an activity (Csíkszentmihályi 1975; 1990; 1993). Additionally, an overall perception of control over one's actions in an environment is viewed as a characteristic of flow (Chen 2006; Chen et al. 2000; Ghani & Deshpande 1994; Guo & Poole 2008; Huang 2003; Jiang & Benbasat 2004; Klein 2003; Li & Browne 2006; Novak et al. 2000; Pace 2004; Reid 2004; Rettie 2001; Trevino & Webster 1992; Webster et al. 1993). This element of control is one of the more frequently examined aspects of flow, as seen in literature investigating its influence in web and software design and usage, email, online gaming, and online experiences (Chen 2006; Chen et al. 2000; Ghani & Deshpande 1994; Guo & Poole 2008; Hoffman & Novak 1996; Huang 2003; Jiang & Benbasat 2004; Klein 2003; Li & Browne 2006; Novak et al. 2000; Pace 2004; Rettie 2001; Trevino & Webster 1992; Webster et al. 1993). Along with a perception of control, comes the feeling that the activities with which a participant is involved are neither too challenging nor too easy, striking a balance between the participant's ability and challenge level with a task. Lastly, participants in prior studies have reported feeling as though their actions were intrinsically rewarding and/or automatic while in a state of flow (Agarwal & Karahanna 2002; Chen 2006; Chen et al. 2000; Ghani & Deshpande 1994; Guo & Poole 2008; Hoffman & Novak 1996; Li & Browne 2006; Lombard & Ditton 1997; Nel et al. 1999; Novak et al. 2000; Pace 2004; Reid 2004; Skadberg & Kimmel 2004; Trevino & Webster 1992; Webster et al. 1993).

To date, the IS literature has used flow theory inconsistently. As evidenced within the brief cross-section of IS literature utilizing flow (Table 2), most research generally uses only three or four of Csíkszentmihályi's original dimensions in examining flow's interactions within various IS contexts. At times, flow itself is used as a dimension. A portion of this inconsistency may stem from the fact that prior literature has failed to separate the flow experience from its dimensions (Guo & Poole 2008; Jackson & Marsh 1996; Quinn 2005). These failures have led to different researchers to mistakenly integrate the previously labeled dimensions of flow, making a test of each individual "dimension" necessary (Guo & Poole 2008; Hoffman & Novak 2009; Quinn 2005; Sanchez-Franco 2006).

IS researchers are currently at the advent of understanding virtual worlds, a context in which an understanding of flow may play a key role. Based upon prior literature, we hypothesize that the nine dimensions of flow are antecedents of a flow state. We have created a nomological network of key flow indicators to test a reconceptualized, holistic model of flow. We expect that this will serve as a valuable contribution to theory by

helping to create a uniform foundation for not only testing flow’s potential influence upon brand attitudes within virtual worlds, as in this study, but also future studies examining human computer interactions.

Table 2. Sample of Flow Coverage within IS Literature	
Reference	“Flow”
Trevino & Webster (1992); Webster et al. (1993)	Focus, curiosity, control, intrinsic interest
Ghani & Deshpande (1994)	Enjoyment, concentration
Chen et al. (2000)	Time distortion, concentration, loss of self consciousness, telepresence
Agarwal & Karahanna (2002)	Flow and cognitive absorption
Chen (2006)	Time distortion, concentration, telepresence, loss of self consciousness

Brand Attitudes

A brand is defined as a “distinguishing name and/or symbol (such as a logo, trademark, or package design) intended to identify the goods or services of either one seller or a group of sellers, and to differentiate those goods or services from those of competitors” (Aaker 1991). A brand creates a perception about a product on the part of a consumer (Grannell 2004). Thus, as Aaker (1991) notes, a brand signals to a customer the source of a product and protects both the customer and the producer from competitors who might attempt to provide similar, or even identical, products.

Attitudes are defined as “a particular evaluation of an object, which could influence emotions, knowledge or behavior with regard to that object” (Ajzen & Fishbein 1980). Brand attitudes, therefore, are defined as a consumer’s evaluation of a brand. Such emotional evaluations may include whether or not a consumer likes, dislikes, or has a positive or negative feeling about a brand.

A consumer’s attitude about a particular brand is a function of their exposure and experience with a brand (Aaker 2001; Ajzen & Fishbein 1980). Customers tend to develop cognitive connections with brands (Peterson & Ross 1972). This occurs through the creation of psychological attachment, which “ties” a consumer to the brand (Raju et al. 2009). This psychological attachment is driven by a consumer’s experience with a brand, and becomes deeply rooted within the individual’s psyche (Fournier 1998; Raju et al. 2009). Experiences that have positive notions tend to connote positive feelings about a brand. Flow is an optimal (positive) mental state that results from an experience. Brands that become embedded into a virtual world participant’s subconscious memory during the flow state, as a result from an experience with the brand, may strongly influence a consumer’s attitudes towards a brand. Within a virtual world, a brand experience might be as subtle as a subliminal ad placement within the environment, or be as complex as an event devoted to specifically marketing the products of a brand to consumers participating within the virtual world.

Several researchers have called attention to the need for research examining flow’s relationship with brands in virtual worlds (Hemp 2006a; 2006c; Park et al. 2008). Hoffman & Novak (2009) go further, by specifically calling for the need to study flow’s relationship with brand attitudes within the virtual world context. This is due to relationship between brand attitudes and purchase intention, which has yet to be examined within IS or marketing literature on virtual worlds (Choi et al. 2007; Hoffman & Novak 2009; Hsu & Lu 2003; Mathwick & Rigdon 2004; Richard & Chandra 2005; Sanchez-Franco 2006).

Research Model and Hypotheses

The hypothesized model for this research is presented in Figure 3. Each of the hypothesized relationships is discussed below.

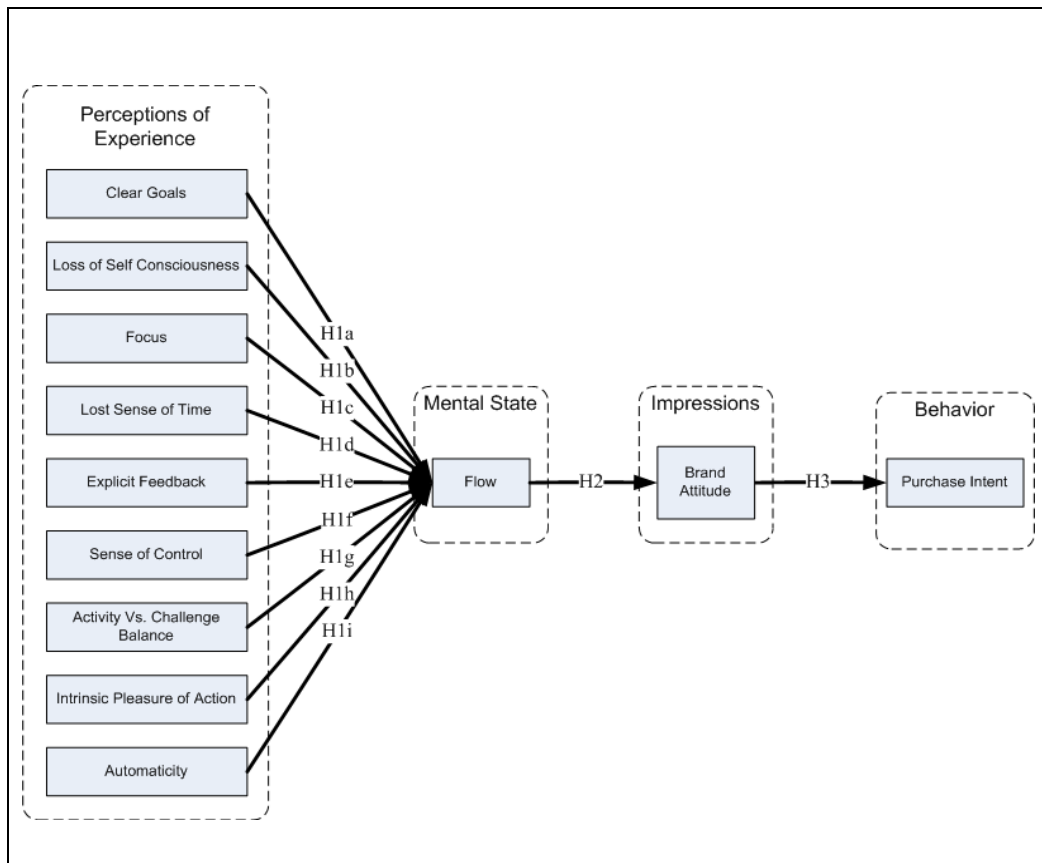


Figure 3. Hypothetical Model

Flow

Because flow is a high-performance experience, and performance is improved when people have specific goals motivating them to exert effort, clear goals give people a direction in which to exert their effort (Csíkszentmihályi 1975; Latham & Seijts 1999; Locke & Latham 1999; Quinn 2005). If individuals are self-conscious about themselves while performing an activity, flow may not be achieved (Csíkszentmihályi 1975; 1990; Jackson & Marsh 1996). Furthermore, flow may not be achieved without focus, because an individual isn't concentrating on the task at-hand (Csíkszentmihályi 1990; Jackson & Marsh 1996; Quinn 2005). Therefore,

H1a (+): Clear goals positively influence an individual's achievement of flow

H1b (+): Loss of self-consciousness positively influences an individual's achievement of flow

H1c (+): Focus positively influences an individual's achievement of flow

If an individual becomes acutely aware of time while involved in an activity, they are not highly involved in the activity (Csíkszentmihályi 1975; 1990; Jackson & Eklund 2002; Jackson & Marsh 1996). When feedback is clear, the individual need not exert cognitive effort to assess the feedback (Csíkszentmihályi 1975; 1990; Jackson & Eklund 2002; Jackson & Marsh 1996). Also, when an individual feels "in control," s/he can concentrate more on the activity rather than on maintaining control (Csíkszentmihályi 1975; 1990; Jackson & Eklund 2002; Jackson & Marsh 1996; Quinn 2005). Thus,

H1d (+): Lost sense of time positively influences an individual's achievement of flow

H1e (+): Explicit feedback positively influences an individual's achievement of flow

H1f (+): Sense of control positively influences an individual's achievement of flow

If the challenge facing the individual and his/her abilities aren't appropriately balanced, a re-framing of the activity must take place to maintain focus, possibly even during the activity, which would interrupt the flow (Csíkszentmihályi 1975; 1990; Jackson & Marsh 1996; Orlikowski 2000; Quinn 2005). If the activity itself is pleasurable, the participant will desire to continue participating, thus helping to establish flow (Csíkszentmihályi 1975; 1990; Jackson & Csíkszentmihályi 1999; Jackson & Marsh 1996). Likewise, if a participant's actions do not feel to be automatic, they may not achieve flow (Csíkszentmihályi 1990; Csíkszentmihályi & Csíkszentmihályi 1988; Jackson & Csíkszentmihályi; Jackson & Marsh 1996). Hence,

H1g (+): Ability vs. challenge balance positively influences an individual's achievement of flow

H1h (+): Intrinsic pleasure of action positively influences an individual's achievement of flow

H1i (+): Automaticity positively influences an individual's achievement of flow

Brand Attitude and Purchase Intent

Brand attitudes can be enhanced with increased exposure and experience with a brand. Lastly, Positive brand attitudes are highly correlated with customer purchase intention (Aaker 1996; 2000; Park et al. 2008). Therefore,

H2 (+): An individual's flow during an activity directly influences his/her attitude about a brand

H3 (+): An individual's attitude about a brand directly influences his/her intent to purchase the brand

Method

This study is focused at the individual-level of analysis, as it utilizes flow as a theoretical perspective for assessing the brand attitudes and purchase intentions of individuals. The data site for this research includes participants in one of the largest and most popular virtual worlds. Study participants are experienced users of the virtual platform from which data will be collected.

Data will be collected using a field experiment design. The specifics of the design are still being developed as of this writing, but the experiment will consist of two phases. In the first phase, study participants will take part in a virtual beauty contest where several outfits from a single virtual brand, which is sponsoring the pageant, will be modeled by avatars walking along a catwalk. The virtual beauty pageant will last for approximately three hours, during which study participants will be allowed to vote upon which competitor they thought was the most attractive. Although study participants will primarily be focused upon the event taking place around them, advertisements for the clothing brand will be placed in clear view, around the stage. Additionally, periodic announcements will be made at the beginning of each of the three pageant segments (consisting of evening wear, swimsuit, and armor).

In the second phase of the study, which takes place immediately following the beauty pageant, study participants will complete an online survey. All independent and dependent variables will be assessed using previously validated survey instruments, utilizing 5-point Likert scales. The perceptions of the experience will be assessed using the Flow State Scale 1 & 2, which have proved to be highly reliable (Jackson & Marsh 1996; Jackson & Eklund 2002). Brand attitudes will be measured using items adapted from prior marketing and brand management literature (Aaker 2000, Ajzen & Fishbein 1980; Bower & Landreth 2001). Lastly, purchase intention will also be measured using items adapted from prior marketing literature (Bower 2001a; 2001b).

The data collected will be analyzed using partial least squares, due to its ability to test complex path models via a single step, as well as its robustness to multicollinearity (Billings & Wroten 1978). A determination of sample size was calculated by determining the component loadings that are ten times the number of paths leading to the most complex endogenous dependent variable (Chin & Newsted 1999; Chin 1998). Based upon an examination of the model, it is determined that while more will be sought, a minimum of 100 subjects will be needed to test the relationships outlined with the power analysis indicating a 0.23 effect size with a power of 0.80.

Expected Contributions

Despite the increasing attention that virtual worlds have seen with respect to marketing by companies, little is known about the perception of brands within virtual worlds, much less how a consumer's experience with a brand in a virtual world may influence intention to purchase a product. Most businesses appear to view virtual worlds simply as new channels, like many others, for advertising products and services. However, a strategy that has been successful in conventional electronic commerce may not be successful in a virtual world.

The purpose of this study is to develop an understanding of the perception of brands within virtual worlds from the viewpoint of those participating in them, and ultimately improve our understanding of marketing to virtual world participants as consumers. While examining this issue, this study seeks to fill another gap in the literature by exploring the influence of flow on the brand attitudes and purchase intent of consumers participating in virtual worlds. This examination focuses on products from brands that may be purchased for use in a virtual world. In order to successfully test the relationship between an individual's perceptions of an experience, his/her optimal mental state, attitudes about a brand, and purchase intent of a branded product, this research seeks to contribute an important theoretical contribution by examining a full, but reconceptualized model of flow with its key indicators. This expected contribution is critical to not only establishing a foundation for flow theory's use within the virtual world context, but also in creating a more consistent understanding of flow within the IS and marketing literature streams, where the theory has been used inconsistently.

Conclusion

By improving understanding of how an individual's mental state influences brand attitudes within virtual worlds, businesses can begin to identify how best to approach these participants from a marketing perspective. Additionally, purchase intentions are closely related to actual purchases, which impacts corporate profitability. Such potential findings underscore the practical importance of this research, particularly while companies seek to understand the potential value virtual worlds present to their brands. Ultimately, the results of this study may help researchers to better understand aspects of consumer behavior within virtual worlds, while helping businesses to better understand how to more effectively market to virtual world participants.

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