Butler University
Digital Commons @ Butler University

Scholarship and Professional Work - Business | College of Business

2008

Virtual World Affordances: Enhancing Brand Value

SoRa Park

Fiona Fui-Hoon Nah

David DeWester

Brenda Eschenbrenner

Sunran Jeon
Butler University, sjeon1@butler.edu

Follow this and additional works at: http://digitalcommons.butler.edu/cob_papers

Part of the Management Information Systems Commons, and the Technology and Innovation Commons

Recommended Citation
Park, SoRa; Fui-Hoon Nah, Fiona; DeWester, David; Eschenbrenner, Brenda; and Jeon, Sunran, "Virtual World Affordances: Enhancing Brand Value" (2008). *Scholarship and Professional Work - Business*. Paper 38.
http://digitalcommons.butler.edu/cob_papers/38

This Article is brought to you for free and open access by the College of Business at Digital Commons @ Butler University. It has been accepted for inclusion in Scholarship and Professional Work - Business by an authorized administrator of Digital Commons @ Butler University. For more information, please contact fgaede@butler.edu.

Journal of Virtual Worlds Research
jvwresearch.org ISSN: 1941-8477

Vol. 1. No. 2.
ISSN: 1941-8477
"Virtual Worlds Research: Consumer Behavior in Virtual Worlds"
November 2008

Virtual World Affordances: *Enhancing Brand Value*

By
So Ra Park, Fiona Fui-Hoon Nah, David DeWester, Brenda Eschenbrenner - University of Nebraska-Lincoln, Lincoln, Nebraska, USA;
Sunran Jeon, North Dakota State University, Fargo, North Dakota, USA

Abstract

Virtual worlds are three-dimensional, computer-generated worlds that are a natural extension of the existing Internet. Although many businesses are jumping on the bandwagon to maintain a presence in virtual worlds, there is no well-established knowledge or theory to guide businesses in their involvement in these environments. In this paper, we identify affordances in the virtual worlds that can be used to increase the state of flow experienced in a business virtual site, which in turn may enhance brand equity, or the perceived added value of a brand to customers. We present a conceptual model that can be used to guide future research and industry practice on business implications of the virtual worlds.

Keywords: Virtual worlds; affordances; brand value; brand equity; flow.

This work is copyrighted under the Creative Commons Attribution-No Derivative Works 3.0 United States License by the Journal of Virtual Worlds Research.

Virtual World Affordances:
Enhancing Brand Value

By
So Ra Park, Fiona Fui-Hoon Nah, David DeWester, Brenda Eschenbrenner
University of Nebraska-Lincoln, Lincoln, Nebraska, USA;
Sunran Jeon, North Dakota State University, Fargo, North Dakota, USA

Virtual worlds are the next stage of the Internet and they present opportunities for businesses to find new ways to provide value to customers. Examples of virtual worlds include Second Life, There, Active Worlds, and Kaneva. Bryson (1996) defines virtual reality or virtual environments as "the use of computers and human-computer interfaces to create the effect of a three-dimensional world containing interactive objects with a strong sense of three-dimensional presence" (p. 62). In virtual worlds, people "exist" through their avatars, which are digital representations of the user in the form of simulated bodies.

Avatars do not have to replicate the user's physical features or even look human (Walmsley, 2008). Digital representations can be anything from animals to animations. In fact, some of these "other than human" forms have developed their own subculture. Avatars increase one's sense of socializing "by putting a face to the audience and reinforcing its presence" (Walmsley, 2008, p. 13). A user's avatar can move by walking, running, or even flying. Also, a user's avatar can interact with objects, either real or imaginary, and with other avatars (Pratt, 2008). Some virtual worlds provide communication capabilities that include textual, visual, and auditory to facilitate involvement and learning (Eschenbrenner, Nah, & Siau, 2008), which can help to create brand awareness or enhance the value of a brand. Such learning can occur by interacting with others through their avatars or with other objects in the environment.

In the virtual world environment, instead of looking at pages of product descriptions like on a 2D Web, one can participate in designing or customizing products, and carry out text or audio conversations with the avatars of business representatives, thus increasing the richness of conducting business activities. Almost any business activity that can be conducted on the Web can be conducted in virtual worlds. Customers can look at virtual products, customize and order items, and ask customer service questions about products and services. Dell, for example, allows computers to be customized in Second Life and then purchased through a Web page (Brandon, 2007). Businesses are participating in virtual worlds because they see significant potential and opportunities with the exponentially increasing population in these environments (Schwarz, 2006).

Due to the attractiveness and potential of the online virtual environment for promoting products and services, companies are including a presence in virtual worlds to promote their brands. However, what affordances in virtual worlds can help to enhance brand equity or the added value of a brand?

This paper explores the business implications and potential of the virtual world to enhance brand equity. Businesses are utilizing the immersive environment to enrich customers' experiences, enhance interactions with customers on specific brands and products through hands-

on activities, and improve customer service by having the avatars of their representatives provide demonstrations and hands-on help, thus enhancing brand equity. We adopt the perspective of the theory of flow to explain how businesses can create and enhance positive perceptions of brand equity.

Background On Business Opportunities In Virtual Worlds

Virtual worlds are creating new windows of opportunity for business applications. In fact, the opportunity as a new commercial tool is very appealing (Brandon, 2007). For example, IBM is utilizing the virtual world environment to enhance customer training, create immersive social-shopping experiences, and host events (LaMonica, 2007). Best Buy's Geek Squad extended their customer service into the virtual worlds. Geek Squad, for example, will answer computer-related questions in Second Life (Brandon, 2007). Issues with computers that cannot be resolved within Second Life provide an opportunity to refer customers to a physical Best Buy location, where technicians can fix computer problems at Best Buy's regular rates. Many other companies have also created a presence in virtual worlds such as Second Life. They include H&R Block, Cisco Systems, Reuters, Dell, Sun Microsystems, Pontiac, Toyota, Mazda, Nissan, Circuit City, Sears, MTV, Adidas, American Apparel, and PA Consulting.

The virtual worlds can become an optimal testing and marketing platform for companies if customers' experiences can be maximized in the virtual worlds. Erik Hauser, who is a founder of Swivel Media, a virtual brand management company, indicates, mentioning Schwarz, that the biggest benefit of businesses' presence in the virtual worlds is the '**engagement**':

> "In today's hyper cluttered space, marketers are lucky to get a second or minute of a consumer's attention. We were able to 'engage' our audience for hours not minutes or seconds." (Schwarz, 2006)

The above statement helps to explain and illustrate why the concept of flow is relevant and important for understanding the business implications of virtual worlds.

Theoretical Background

The theory of flow was developed by Csikszentmihalyi (1990, 1998) to describe the mental state when one is completely focused, absorbed, and engaged in an activity. Flow has been defined as an intrinsically enjoyable experience, such as one that a person might experience in a gaming event (Privette & Bundrick, 1987). Various flow models have been proposed, tested, and used to identify characteristics of individuals, technologies, and the environment that would create the flow state.

Ghani, Supnik, and Rooney (1991) studied the differences between computer-mediated groups versus face-to-face groups and identified two characteristics of the flow state as: (a) total concentration in an activity, and (b) enjoyment from carrying out the activity. As shown in Figure 1, Hoffman and Novak's (1996) model on flow comprises three categories of Web navigation characteristics: (a) an individual's skill set or control characteristics (skills and challenges), (b) the Web environment or content characteristics (interactivity and vividness), and (c) an individual's motivation or process characteristics (goal-oriented and experiential). Control characteristics are important because individuals can experience anxiety or boredom when the

congruence between skills and challenges is not met. Content characteristics relate to the mechanical systems enabling smoothness in online interactions, and the richness of the medium in enabling a variety of cues and in information presentation. Process characteristics describe an individual's cognitive motivation in an activity such as browsing the Web. These three categories present the conditions for experiencing the flow state. Figure 1 also shows possible outcomes of flow: increased learning, perceived behavioral control, exploratory mindset, and positive subjective experience.

Novak, Hoffman, and Yung (2000) developed a revised model in their subsequent research. In their model, flow in the Web environment is determined by (a) high levels of skill and control, (b) high levels of challenge and arousal, (c) interactivity in terms of speed, and (d) telepresence / time distortion. In comparison with their previous research (Hoffman & Novak, 1996), skill and challenge in control characteristics are separated as skill/control and challenge/arousal which contribute directly to flow. Novak et al.'s (2000) test of Hoffman and Novak's (1996) flow model suggests that applying the flow model in a limited context may require modifications based on the context of application. Since virtual worlds are new and emerging, we will draw on the three main categories of antecedents proposed by Hoffman and Novak to discuss how the distinct characteristics of the virtual world environment could morph the flow process experienced by (potential) customers in business virtual world sites.

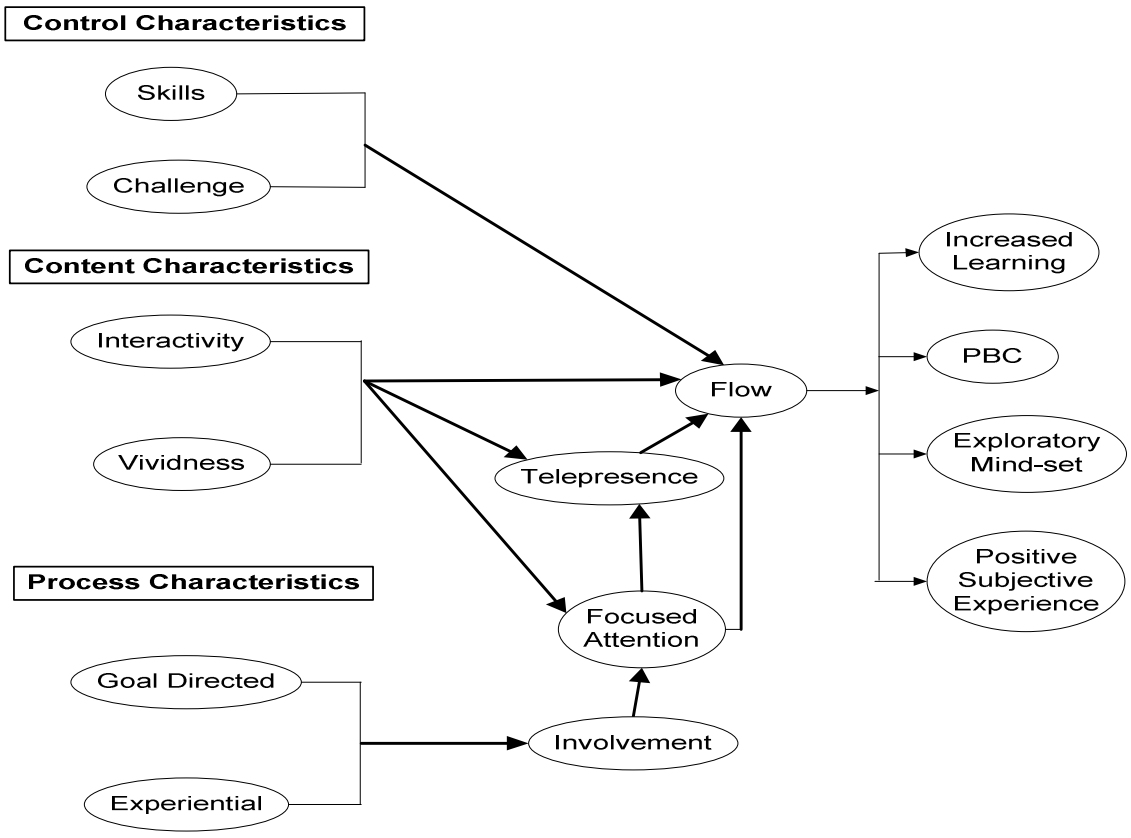

Figure 1. Hoffman & Novak's (1996) Model

Model Development

As discussed earlier, Hoffman and Novak (1996) identified three categories of characteristics (control, content, and process) contributing to the flow phenomenon. Control characteristics comprise skills and challenges while content characteristics include interactivity and vividness. Extrinsic and intrinsic motivations constitute process characteristics of flow antecedents. Note that we narrowed the scope of these two terms to emphasize the goal-oriented and experiential nature of motivation.

We identify affordances provided by the virtual world environment and examine how they afford flow antecedents in virtual worlds. Gibson (1977) originally defined 'affordance' of an animal to be "a specific combination of the properties of its substance and its surfaces." Although this definition is frequently applied to the properties of objects (Norman, 1988), Gibson (1977) clarified that it can also be applied to an entire environment. The word "afford" means "to make available." An affordance is a property of an object, animal, or environment that affords, or makes available, certain actions. For example, having a handle affords the ability to carry an object, and the ability to fly affords the ability to travel quickly from one place to another. Virtual worlds afford a variety of actions and mental states, which in turn affect how people act in these worlds and interact with one another, which then affect feelings of presence and flow.

The affordances present in a virtual world can increase social networking opportunities in several ways. Most virtual worlds actively encourage the forming of social networks through groups that people can join and theme-specific locations where like-minded people can gather. The ability to host virtual events is another way in which people can be brought together. The global nature of virtual worlds allows people who would otherwise be separated by geography to meet in the same virtual space and form social networks. If a given social network takes an interest in a certain product, company, or service, then these social networks can then affect brand equity by forming and dispersing opinions about the product, company, or service. If the members of a social network rate a product highly and disseminate this information to others, it can lead to an increase in brand equity and product sales. Conversely, if a social network is formed around the dislike of a product, company, or service, then the negative opinions and protest actions by members of the group can have a devastating affect on its brand equity (Ward & Ostrom, 2006).

In the following subsections, each group of the antecedents will be explained and the affordances that explain the objects or environmental features enabling the antecedent characteristics will be discussed.

Control characteristics. In Hoffman and Novak's (1996) research, control characteristics relate to individual's skills and challenges. Novak et al. (2000) looked at control characteristics as skills and control of challenge. Skills, in the context of online navigation, are defined as "the web consumer's capacity for action during the online navigation process" (Azjen, 1988) while challenge, in the marketing context, is defined as "the consumer's opportunities for action on the web" (Novak et al., 2000). Control is "customer's ability for action" (Azjen, 1988). Hence, control of challenge refers to the customer's ability to utilize their skills when facing a challenge. Skills in the context of this research refer to the user's capacity to navigate the virtual world environment, manipulate virtual objects, and be involved in the activities provided by the

environment. Challenges, on the other hand, refer to the difficulties experienced in navigating the virtual world, in creating virtual objects, and in getting involved in the activities provided by the environment. Therefore, the affordances that allow for the use of skills and the affordances that present challenges to users are the same list of affordances. Any given affordance creates a challenge if the user struggles to use that affordance, such as having difficulty navigating, and the same affordance allows the use of skills if the user is experienced at navigation.

For the purpose of this paper, we will focus only on the environmental factors rather than individual factors in defining the affordances. In the case of virtual worlds, skills comprise of what a person needs to function in a virtual world such as being able to navigate from place to place, make new virtual objects such as clothes, and control one's avatar. Virtual worlds afford a variety of skills and challenges. The five affordances included in our model are navigational aids, mentors, help, training programs, and design templates (see Table 1).

Table 1 Affordances Influencing Control Characteristics in Virtual Worlds

Affordance	Description
Navigational aids	The ability to move from place to place is a key skill in virtual worlds, but it can also be a challenge for users that have difficulty using the supplied navigational aids. In order to move in a virtual world, users need to master the simple mechanics of moving forward, turning, jumping, and so forth. Once those basics have been learned, users can move their avatars over distances, which then require navigational skills. Virtual worlds provide different affordances that may help users navigate in the world. All virtual worlds provide navigation by sight, that is, users can look around and walk from their current location to their desired location. Most virtual worlds provide additional affordances in the form of maps or other navigation aids such as View-in-View Maps, Animation Guides, and Human-System Collaboration. Effective use of navigation allows individuals to meet more people, which can lead to participation in more social networks.
Mentorship	Virtual worlds may assist users in developing their skills by providing mentors. Second Life, for example, has a special island for new users. Experienced users can voluntarily visit this island and assist new users in learning the skills necessary to function in Second Life. These mentors can provide assistance in everything from learning to walk to customizing avatars.
Online help	Virtual worlds provide various help functions to users. Online help may be available through help screens and informational bulletin boards in the virtual world. PDF instruction manuals may also be available for downloading
Training programs	Some virtual worlds provide training programs. Avatar Island in Second Life, for instance, provides various types of training for new users. Users are able to participate in these programs at their own pace until they are able to function at a skill level sufficient to allow them to leave Avatar Island and enter the main areas of Second Life.
Design templates	Users can obtain a design template for given objects, such as clothes or transportation, and then use the template as a beginning design that can be further modified and customized.

Content Characteristics. The role of content characteristics on flow entails attracting the attention of users with appropriate information, richness of media, and stimulating content. Interactivity and vividness are components covering the technical and social enablers of artifacts and their characteristic behaviors within the virtual world.

Researchers such as Steuer (1992) and Novak et al. (2000) focus on the mechanical perspective of interactivity. Steuer defined interactivity as "the extent to which users can participate in modifying the form and content of a mediated environment in real time" and as a function of speed, range, and mapping. Novak et al. (2000) measured interactivity only with the speed of interaction. In a Web navigation environment, interpersonal interactivity may not be as important as in the virtual world environment because most information is one-directional but interpersonal interactivity is an important component of the virtual world environment. Virtual worlds, compared to other online applications, appear to promote both interpersonal as well as technical/mechanical aspects of interactivity. Hoffman and Novak (1996) identified the performance characteristics of ease of use, mapping, speed, and range as influencing interactivity, and recognized both interpersonal as well as mechanical aspects of interactivity. Ha and James (1998) identified five dimensions of interactivity in business Websites: playfulness, connectedness, information collection, reciprocal communication, and choice. The five dimensions cover both interpersonal communicative and mechanical interactivity.

In applying the dimensions of interactivity to virtual worlds, the following phenomena are observed in the virtual world environment: (a) interesting content and events (playfulness) can be easily found; (b) relationships are built among people (connectedness); (c) intended experiences are gained (information collection) by visiting places, viewing a movie, and meeting other people; (d) many means and opportunities to talk to other residents (reciprocal communication) are available; and (e) the environment gives people a feeling of control in communication, navigating, and participating in the promotional events (choice).

Lambard and Ditton (1997) suggest various ways to increase interactivity, that is: (a) when the medium responds to a greater number of inputs, (b) when the user can manipulate a greater number of object behaviors, (c) when the user can manipulate a higher degree of object behaviors, and (d) when the medium responds to user stimuli more quickly. The objects mentioned here would include common virtual objects and avatars. These guidelines imply that a virtual world can provide more interactive environment when there are more objects, including humans represented by avatars, when the objects are more responsive, and the responses from any object are quickly given and varied. We consider five affordances that can lead to interactivity, namely social networks, sports, event hosting, concierge, and reactive objects, and explain them in Table 2. While social networks, sports, and event hosting describe the environment where interactivity can be fostered, concierge and reactive objects are objects which provide interactive services.

Table 2 Affordances Influencing Content Characteristics (Interactivity) in Virtual Worlds

Affordance	Description
Social networks	Since virtual worlds allow avatars to express their emotions, gestures, and physical movements as realistically as possible, a person interacting with other individuals would receive feedback with multiple stimuli the instant the person speaks or touches. Social networks can take many forms, ranging from non-existent as in Myst (where there are no other users), to walking around randomly in Second Life, and to well organized social groups as in campaign teams in World of Warcraft. Social networks that are formed by satisfied users of a given product can increase brand equity by informing other people of the product.
Sports events	Sports events can allow short-term groups of people to interact with each other. "Sports" is used in a very general context to include anything from skydiving in Second Life, to playing at an amusement park, to stock car racing. Sports in virtual worlds range from passively watching sports events to actively participating in them.
Event hosting	Hosted business events are an example of a short-term gathering. Cisco recently held an event in which users were able to interact with a virtual data center and see a virtual version of very high-end networking equipment (Brandon, 2007). Such events can increase the loyalty of already satisfied customers and reach new customers.
Concierge	Businesses may have offices that receive visitors and offer some kind of concierge. In a virtual world business office, a concierge will be one or more persons who know the company and its products and can answer questions from virtual visitors. Best Buy's Geek Squad provides a service similar to our concept of a concierge by answering customers' questions about products. Effective concierges can improve visitors' opinions about the company.
Reactive objects	Reactive objects can be modified by users. The first example a typical user will encounter is his or her avatar. An avatar can be modified in almost any way imaginable, from changing its gender, species, size or other characteristics. Another example is being able to customize virtual versions of objects that can then be purchased in their customized form in the real world.

Vividness is defined as "the representational richness of a mediated environment as defined by its formal features" (Steuer, 1992) and comprises both depth and breadth of vividness. Valacich, Paranka and George (1993) examined the breadth dimension of vividness and define it as "the number of sensory dimensions presented …closely related to media concurrency." Walther (1992) suggests that the breadth of communication narrows when there are not many visual and audio cues. Steuer (1992) examined the depth dimension by assessing the quality in each of the sensory dimensions.

In looking at the breadth and depth of vividness, businesses can utilize different media to present contents effectively. For example, Nike in Second Life promotes their athletic shoes by giving away free shoes in places like free markets. By giving away shoes, Nike can use writing, pictures, video streams, and/or graphics to efficiently deliver their messages to enhance breadth. Quality of the promotional activity can be realized when the video shown in the promotion is of superior quality in terms of fidelity and sound quality.

Aside from the mechanical aspects of interactivity and vividness, content involves social considerations as well. Lambard and Ditton (1997) identify social realism, in the use of media convention and in the nature of task or activity making, in which the user experience becomes more realistic. Social realism will be increased by reducing the error patterns that computers

generate, and incorporating conventional human tasks and human speech or behavior patterns (Lambard & Ditton, 1997).

High quality video and audio are necessary for any world to be perceived as vivid. However, just having high-resolution images and stereo will only convey a static sense of vividness. Hence, vividness needs to be incorporated into the interactivity dimension in virtual worlds. Five affordances that can contribute to vividness in the virtual worlds are realistic objects, spatial 3D, avatars, multimedia, and haptic feedback (see Table 3).

Table 3 Affordances Influencing Content Characteristics (Vividness) in Virtual Worlds

Affordance	Description
Realistic objects	Having an object that looks real is one level of vividness, but the next level is for that object to act real. As an example, consider a motorcycle. Virtual worlds afford vividness by allowing objects to have dynamic and realistic qualities. A motorcycle in a virtual world should have all of the correct components of a real motorcycle including having moving parts, and making realistic sounds that change according to situations such as high or low stress on the engine. It should also be possible for users to ride the motorcycle in the virtual world and have it respond in realistic ways. Presenting realistic virtual copies of real-world objects can be used as a marketing tactic.
Spatial 3D	Spatial 3D refers to the three-dimensional sense of immersion provided by virtual worlds in which people can see into the distance, move in all three dimensions, and view in all three dimensions.
Avatars	Avatars interact with objects, allow the user to know exactly where he or she is, can see their reflection in mirrors, hold objects in their hands, and see other users while talking to them. Business representatives can take the form of avatars and communicate with visitors or (potential) customers.
Multimedia	The multimedia nature of virtual worlds affords various means of conveying information. Information can be transferred using text, graphics, and audio. Virtual worlds allow text to be conveyed in any of the usual ways, although sometimes with minor differences, over other online environments. For example, instead of posting text on a Web page, it can be posted with virtual paper on a virtual bulletin board that users can read in the virtual world. The vividness of a virtual world will be increased if the graphics the user sees are realistic looking and of high quality and color depth. Virtual worlds can also increase vividness by using background or ambient sounds, such as birds singing in the distance, the sound of the wind blowing, or water flowing to increase the vividness of the virtual world experience. For example, Second Life increases the vividness of flying by adding the sound of rushing air. Furthermore, the sound increases as an avatar flies faster and decreases when the avatar decreases speed, which enhances the feeling of speeding through the air.
Haptic feedback	Haptic feedback is the term used to convey a sense of touch to users. Virtual worlds can have two types of haptic feedback, one for the avatar and one for the user. Of course, avatars cannot feel anything, but the vividness of interacting with objects in the virtual world can be increased by conveying a sense of bumping into furniture, walls, trees, and other objects. It decreases the vividness of a tree when one's avatar can walk right through it with no resistance and it increases the vividness of a wall when one's avatar is not only stopped by the wall, but hits it with a little "thud" sound and slightly bounces back from the impact. Haptic signals can also be sent to the user's real body using equipment such as game controls that vibrate; these controllers already exist and are in commercial use with certain video games. More recent advances even allow computers to convey a sense of touch to users. For example, Japan's NTT company recently announced a glove that allows the user to "touch" and feel virtual objects (Knight, 2007).

Both interactivity and vividness influence content, thus increasing the level of perceived reality in the virtual environment. Vividness answers questions such as how technology can provide more output stimuli and reactions to input stimuli, and whether sound will also be 3D. The interactive nature of objects, such as tactile stimuli, force feedback, and movements, in the virtual world also adds reality to the world (Lambard & Ditton, 1997).

In regards to content characteristics, social interactivity would be increased when objects are responding to avatars in more humane ways and when there are more people who can build relationships nearby. Widening the number of expressions avatars can make, providing a variety of methods and options to code object behaviors, having more users in the world, and other efforts to increase social cues and interactions can increase the social interactivity and vividness. The increased interactivity, in turn, would help people to feel that they are in the real world rather than an augmented world.

Process Characteristics. Process characteristics refer to the motivation for people to start Web navigation (Hoffman & Novak, 1996). Sharafi, Hedman, and Montgomery (2006) identify how different levels of challenge would require either intrinsic or extrinsic motivation to reach the flow state. Hoffman and Novak (1996) view the process characteristics to be either goal-oriented or experiential. We termed process characteristics of goal-orientation as extrinsic motivation and experiential orientation as intrinsic motivation since they are two different aspects of a user's motivation. Motivation can arise from personal factors such as desire, curiosity, and interest which are intrinsic in nature, while extrinsic motivation refers to a user's response to environmental factors such as reward, social pressure, and punishment.

Virtual world users could be motivated to participate in activities that pose challenges to them. For example, there are several places in Second Life where you can go and receive Linden dollars by participating in surveys. Three affordances in virtual worlds that affect extrinsic behavior are monetary incentives, free trials and services, and competitive events (see Table 4). These extrinsic motivation affordances can be used as part of the marketing and public relations campaign. If implemented properly, such affordances can encourage and influence the use of products and ultimately, increase brand equity.

Table 4 Affordances Influencing Process Characteristics (Extrinsic Motivation) in Virtual Worlds

Affordance	Description
Monetary incentives	Monetary incentive refers to any kind of incentive a business or site offers to users or their potential customers. For example, H&R Block offered a substantial discount on their Tango software to people that visited the company island in Second Life (Brandon, 2007). Nearly any type of coupon, discount or money give-away that can take place in the real world can also be offered in virtual worlds.
Free trials and services	Companies can also offer free products and services, either temporarily or permanently. Any type of free offers such as buy two get one free offers, free product give-aways, and virtual product give-aways can be offered in virtual worlds. Monetary incentives and free products, trials, and services can have the same impact on extrinsic motivation in the virtual world as they do in the real world.
Competitive events	Gifts such as trial samples or other prizes for competitive events can lure people to participate as well. In addition to the prizes that can be won in such contests, many people are also motivated by the competitive nature of such contests. Attracting people to contests by appealing to people's competitive nature can produce the same business benefits as doing so in the real world by creating excitement and word-of-mouth advertising opportunities, not to mention generating innovative ideas from new and existing customers.

People are intrinsically motivated to do something when they get pleasure and satisfaction from the behavior itself (Deci, 1975). Virtual worlds also afford ways to tap into people's intrinsic motivation in ways that can benefit businesses such as creating a community of loyal customers and using games to entice potential customers to buy or learn more about specific brands or products. Three examples of such affordances in the virtual world environment are exclusive memberships, exclusive ownership, and games (see Table 5).

Table 5 Affordances Influencing Process Characteristics (Intrinsic Motivation) in Virtual Worlds

Affordance	Description
Exclusive memberships	Many people are strongly motivated by a sense of belonging, a feeling that many business use to promote customer loyalty through various membership and customer relationship management programs. Businesses can easily offer space in virtual worlds to which only members have access, such as the virtual equivalent of a private social club. For example, an airline could partner with Pontiac, which has a presence in Second Life, to offer miles to people who purchase cars, either virtual or real, in Second Life. These types of membership programs can increase the exclusiveness and prestige of products.
Exclusive ownership	Some virtual worlds motivate user's sense of belonging to a world by allowing exclusive ownership of everything from clothes to land. In many virtual worlds, users can customize their avatars with items owned exclusively by the user, either because the user directly developed the items or because the user paid someone else to design the items. Ownership can extend to other items, such as weapons in World of Warcraft, vehicles or mounts, buildings, and land.
Games	Games and other amusements can be used to intrinsically motivate people to engage in activities that also benefit the businesses providing the games. Games can refer to multi-user or single-user activities, but the focus is on events that users are motivated from within themselves to participate in.

All of the affordances discussed above under control, content, and process characteristics are antecedents that contribute to the flow experience.

Outcomes of Flow. Various outcomes of flow are possible. They include cognitive, task-related, and behavioral outcomes. In the context of virtual worlds and marketing, relevant outcomes from these categories that are of particular interest include persuasion, attitude belief, product belief, product awareness, attitude towards brand, attitude change, purchase consideration, customer confidence, purchase intention, user satisfaction, and behavior change. Therefore, outcomes of flow that are experienced in a virtual world environment may present opportunities to improve a company's marketing efforts. In particular, we are interested in one of the most important aspects of marketing and promotion, brand equity.

A brand is defined as "a promise of benefits to a customer or consumer" (Raggio & Leone, 2007) and "a name, symbol, design, or mark that enhances the value of a product beyond its functional purpose" (Farquhar, 1990). Brand equity is "the 'added value' with which a given brand endows a product" (Farquhar, 1990). Hence, brand equity is the strength of one's attitude toward a brand. Brand equity is important considering the following quote from the Director of Global Interactive Marketing, Coca-Cola Co. :

> "So much of our metrics aren't about sale, but they're about brand love. Brand value and brand love are our key metrics." (Capps, 2007, p. 6).

Businesses are leveraging on the immersive environment of the virtual world to enrich and enhance customers' experiences with specific brands and products through various interactive and hands-on activities, thus enhancing value of the brand. Brand equity has been classified as a strategic asset that requires continual maintenance and development in order to achieve profitable long-term results in the current marketing environment (Sriram, Balachander, & Kalwani, 2007). Brand equity can provide competitive advantages by developing a brand platform that can be leveraged for new product introductions, increasing resilience in industry downturns or crises, and creating resistance or barrier to competition (new or existing) (Farquhar, 1990).

The four dimensions of brand equity are brand awareness, brand associations, perceived quality, and brand loyalty (Washburn & Plank, 2002; Pappu, Quester, & Cooksey, 2005). Brand awareness influences the recognition and/or recall of a certain product (Percy & Rossiter, 1992). Both recognition and recall influence customers' purchases either by reminding or questioning the category need of the product/brand or by recalling the particular brand when there is a category need for the particular product. Brand awareness is one of best predictors of purchase (Axelrod, 1968). For example, if consumers have limited product information, they may rely on their familiarity with a particular brand to influence their purchasing decisions (Lane & Jacobson, 1995). It is important to note, however, that a brand must not only be familiar, but must also be preferred. The former is related to brand awareness while the latter is related to brand associations, perceived quality, and brand loyalty.

Etterberg (2003) suggests that a new approach for building brand value is needed. He suggests that the following factors are needed for building a brand: customer relationships through excellence in customer service or experiences, relevancy through unique merchandise offerings or expertise, retrenchment or reaching out to customers through technological means or

convenience strategies, and rewards through time-savings or gaining stature through use of the product or service.

Virtual world environments present new opportunities or approaches to building and maintaining brand equity through engagement in the flow experience. Through the immersive nature of a virtual environment, customers can develop greater brand awareness and associations. With the experience of flow in the virtual environment, customers can enhance their recognition and recall of a particular brand, which may positively influence their attitude towards a particular brand. The rich, interactive experiences that can be developed can influence customers' evaluations of a brand through more intense affective and cognitive experiences. Considering previous research has indicated that non-attribute product factors were more influential than product attributes (Park & Srinivasan, 1994), the experience in virtual environments may positively influence brand equity more so than product features themselves. Also, considering that advertising has been demonstrated to be more effective in influencing brand equity than sales promotions (Sriram et al., 2007), virtual environments present new channels to reach and interact with customers. Virtual environments present opportunities for individuals to engage in flow, which can then influence the brand image that customers develop and retain.

Virtual worlds create an environment where customers can actively engage in activities offered by companies and some of the activities are related with product development. Companies are interested in increasing the level of brand equity felt by customers for two reasons. First, total customer experience leading to customer satisfaction can be created when there is active involvement of the customers (Mascarenhas, Kesavan, & Bemacchi, 2006). Secondly, customer participation in product development along with the business can help to reduce self-serving bias (Bendapudi & Leone, 2003; Shin, 2006). Self-serving bias is detrimental to the companies because it reflects customers' tendency to reduce the deserved positive claims on companies while increasing the unfound blames on the companies. Further, the more actively engaged customers are, the greater the brand equity they perceive.

Figure 2 summarizes the discussions in the paper and the development of the conceptual model.

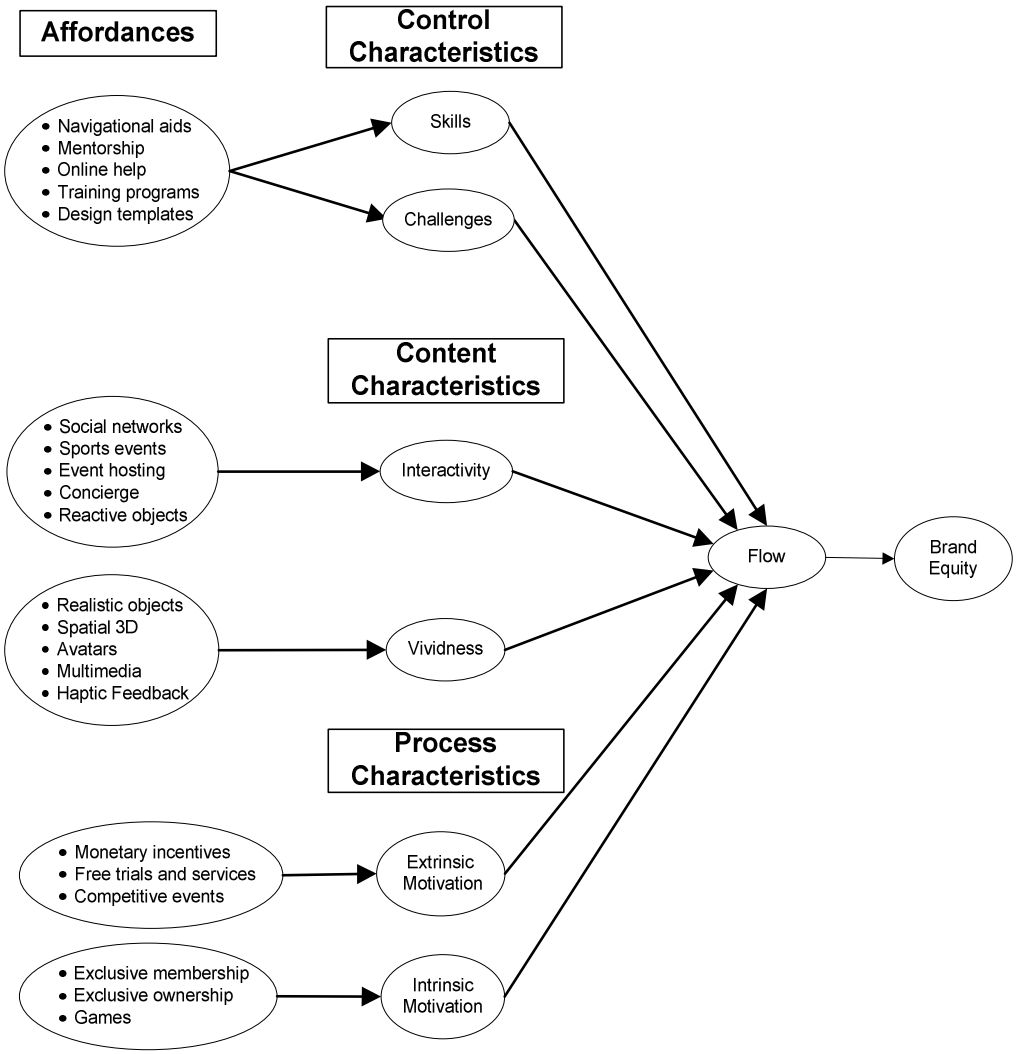

Figure 2. Conceptual Model

Figure 2 highlights the affordances that could be made available on a business virtual world site to enhance the flow experiences of customers, which in turn help to increase their perceived equity or added value of a brand. Future research will be carried out to test this model in a business virtual world setting.

According to our model which is developed from a review of the literature, businesses need to capitalize on affordances available in the virtual world environment. By enhancing customers' flow experiences while interacting in a business virtual world site, customers are more likely to enjoy and interact with the site to the extent that their perceived equity of the brand also increases.

Conclusions

We have proposed a model to explain how the virtual world environment can be used by businesses to enhance brand equity. The model links environment-induced and business-enabled affordances to enhance the flow state, which in turn increases customers' perceived brand equity. While we attempt to identify a list of relevant affordances for business use to increase their brand equity, our list is not exhaustive. More research is needed to identify a comprehensive list of affordances that could be helpful to businesses for enhancing the flow experiences of customers and for increasing their perceived brand equity.

This paper makes several contributions. First, this research is the first attempt to identify virtual world affordances of flow antecedents. We identify meaningful affordances which could benefit businesses and increase their brand value or equity. By increasing the engagement of customers at a business virtual world site, stronger customer values and perceived brand equity can be attained. Acquiring new customers through a virtual world could be cheaper due to the reduced geographical boundaries and increased access to specific segments of the market. Increasing customers' brand equity is expected to yield a higher level of customer retention. Therefore, identifying these affordances is important because companies can focus on instituting those affordances in their business presence within a virtual world to bring favorable outcomes.

Second, there has been little research conducted in virtual worlds due to the short history and the lack of business adoption until recently. Our research is one of the very few first articles to examine the significance of virtual worlds to businesses. Third, we expect to contribute to both the academic and business worlds by adopting the theory of flow to explain the usefulness of the virtual world technology for marketing by businesses. While researchers have examined consumer behavior on Websites using the flow theory, there is little or no research done in a virtual world setting. Finally, we develop a conceptual model which can be tested empirically. By identifying useful affordances for business use, our research attempts to contribute to the weak knowledge base in this area and provides some pointers to help businesses grab the golden opportunities presented by this new technology.

Acknowledgement

We would like to acknowledge the funding provided by the Lattanze Center at Loyola College to support this research.

Bibliography

Axelrod, J. N. (1968). Attitude measures that predict purchase. *Journal of Advertising Research, 8*(1), 3-17.

Azjen, I. (1988). *Attitudes, personality and behavior*. Chicago: Dorsey Press.

Bendapudi, N., & Leone, R. P. (2003). Psychological implications of customer participation in co-production. *Journal of Marketing, 67*, 14-28.

Brandon, J. (2007, May 2). The top eight corporate sites in Second Life. *Computer World,*

Bryson, S. (1996). Virtual reality in scientific visualization. *Communications of the ACM, 39*(5), 62-71.

Capps, B. (2007). How to succeed in Second Life. *Advertising Age, 78(*22), 6.

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience.* New York: Harper & Row.

Csikszentmihalyi, M. (1998). *Flow: The psychology of engagement with everyday life.* New York: HarperCollins.

Deci, E. L. (1975). *Intrinsic motivation.* New York: Plenum.

Eschenbrenner, B., Nah, F., & Siau, K. (2008). 3-D virtual worlds in education: Applications, benefits, issues, and opportunities. *Journal of Database Management, 19*(4), 91-110.

Etterberg, E. (2003). Goodbye 4Ps, hello 4Rs. *Marketing Magazine, 108*(14), 8.

Farquhar, P. H. (1990). Managing brand equity. *Journal of Advertising Research, 30*(4), RC7-12.

Ghani, J.A., Supnik, R., & Rooney, P. (1991) The experience of flow in computer-mediated and in face-to-face groups. *Proceedings of the Twelfth International Conference on Information Systems,* 229-236. Association for Information Systems.

Gibson, J. J. (1977). The theory of affordances. In R. Shaw & J. Bransford (Eds.), *Perceiving, acting, and knowing: Toward an ecological psychology* (pp. 67-82). Hillsdale, NJ: Lawrence Erlbaum Associates.

Ha, L., & James, L. E. (1998). Interactivity reexamined: A baseline analysis of early business web sites. *Journal of Broadcasting & Electronic Media, 42*(4), 457-474.

Hoffman, D., & Novak, T. (1996). Marketing in hypermedia computer-mediated environment. *Journal of Marketing, 60*, 50-68.

Hoffman, D., & Novak, T. (2000). How to acquire customers on the web. *Harvard Business Review, 78*(3), 179-188.

Knight, W. (2007). Tangible display makes 3D images touchable. Retrieved October 7, 2007, from http://technology.newscientist.com/article/dn12169

Lambard, M., & Ditton, T. (1997). At the heart of it all: The concept of presence. *Journal of Computer Mediated Communication, 3*(2).

LaMonica, M. (2007). IBM: Like the web, virtual worlds will become business friendly. Retrieved November 4, 2007, from http://www.news.com/8301-10784_3-9730042-7.html

Lane, V., & Jacobson, R. (1995). Stock market reactions to brand extension announcements: The effects of brand attitude and familiarity. *Journal of Marketing, 59*(1), 63-77.

Mascarenhas, O., Kesavan, R., & Bernacchi, M. (2006). Lasting customer loyalty: A total customer experience approach. *Journal of Consumer Marketing, 23*(7), 397-405.

Norman, D. A. (1988). *The design of everyday things.* New York: Doubleday.

Novak, T., Hoffman, D., & Yung, Y. (2000). Measuring the customer experience in online environments: A structural modeling approach. *Marketing Science, 19*(1), 22-44.

Pappu, R., Quester, P.G., & Cooksey, R.W. (2005). Consumer-based brand equity: Improving the measurement – empirical evidence. *Journal of Product and Brand Management, 14(*3), 143-154.

Park, C. S., & Srinivasan, V. (1994). A survey-based method for measuring and understanding brand equity and its extendibility. *Journal of Marketing Research, 31*(2), 271-288.

Percy, L., & Rossiter, J. R. (1992). A model of brand awareness and brand attitude advertising strategies. *Psychology & Marketing, 9*(4), 263-274.

Pratt, M. K. (2008). Avatars get down to business. *Computerworld, 42*(26), 22-29.

Privette, G., & Bundrick, C. M. (1987). Measurement of experience: Construct and content validity of the experience questionnaire. *Perceptual and Motor Skills, 65*, 315-332.

Raggio, R. D., & Leone, R. P. (2007). The theoretical separation of brand equity and brand value: Managerial implications for strategic planning. *Brand Management, 14*(5), 380-395.

Schwarz, J. (2006). Bold new opportunities in virtual worlds. *iMedia Connection.* Retrieved January 2, 2008, from http://www.imediaconnection.com/content/8605.asp

Sharafi, P., Hedman, L., & Montgomery, H. (2006). Using information technology: Engagement modes, flow experience, and personality orientations. *Computers in Human Behavior, 22(*5), 899-916.

Shin, N. (2006). Online learner's 'flow' experience: An empirical study. *British Journal of Educational Technology, 37(*5), 705-720.

Sriram, S., Balachander, S., & Kalwani, M. U. (2007). Monitoring the dynamics of brand equity using store-level data. *Journal of Marketing, 71*(2), 61-78.

Steuer, J. (1992). Defining virtual reality: Dimensions determining telepresence. *Journal of Communication, 42*(4), 73-93.

Valacich, J. S., Paranka, D., & George, J. E. (1993). Communication concurrency and the new media: A new dimension for media richness. *Communication Research, 20*(2), 249-276.

Walmsley, A. (2008, August 13). Avatars are face of web audience. *Marketing*, p.13.

Walther, J. B., & Burgoon, J. K. (1992). Relational communication in computer-mediated interaction. *Human Communication Research, 19*(1), 50-88.

Ward, J. C., & Ostrom, A. L. (2006). Complaining to the masses: The role of protest framing in customer-created complaint web sites. *Journal of Consumer Research, 33*(2), 220-230.

Washburn, J. H., & Plank, R. E. (2002). Measuring brand equity: An evaluation of a consumer-based brand equity scale, *Journal of Marketing Theory & Practice, 10*(1), 46-61.