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Brand extension evaluation: real world and virtual world

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Abstract

Purpose – The purpose of this paper is to help marketing scholars view virtual worlds as new product–markets and trigger serious investigations on consumer evaluation of brand extensions when a brand is extended from the real world to a virtual world and vice versa.

Design/methodology/approach – The paper makes an extensive review of studies on virtual world. Further, it amalgamates understanding from well-established literature on consumer evaluation of brand extensions into the emerging virtual world understanding to conceptualize moderating influence of contexts – the real world context and a virtual world context – on how consumers evaluate brand extensions.

Findings – Through logical arguments supported by existing literature, the paper provides 14 well-conceptualized propositions that argue that the real world and virtual world contexts moderate the well-established relationships in brand extension literature. It broadly proposes that the relationships between the consumer evaluations of brand extension and its known determinants are stronger in case of within-the-world extensions and weaker in case of across-the-world extensions.

Research limitations/implications – The paper introduces to the marketing scholars an entirely new area of enquiry as it challenges the known brand extension knowledge when a brand is extended across the worlds.

Practical implications – Marketers considering launching new offerings across the contexts of real or virtual world would have implications on whether to extend the brand or not.

Originality/value – Virtual worlds have largely been construed in marketing literature as fictional worlds. There is not much explored in terms of virtual worlds as new product–markets. The study offers unique value in conceptualizing differences among within-the-world brand extensions and across-the-world brand extensions.

Keywords Consumer attitudes, Avatars, Brand extension, Virtual worlds

Paper type Conceptual paper

1. Introduction

In the early 1990s, *Worlds.com* created online virtual world sites for corporations such as *IBM*, *Visa* and *Coca-Cola*, which was followed by *Active World*, *Cyworld*, *Zwinky*, *There* and several other virtual community sites (Khariif, 2007) to make virtual economy a reality. *Linden Labs*, which created *Second Life*, claimed that it turned over \$1 billion in its initial six-year history with about 250,000 user-generated items created everyday generating user transactions worth \$50 million (PCPRO, 2010). With fast development of newer technologies and increasing Internet access through mobile devices, virtual worlds are likely to generate unique experiences and may draw higher interest of Internet users. According to Philip Rosedale, who founded *Second Life* and is now working on new virtual world site *High Fidelity*, virtual experiences would rival and surpass the real world to offer rich avatar interactions driven by sensor-equipped smart phones and tablets (Farber, 2013).

For over a decade now, several researchers from diverse fields such as behavioral science (Bayraktar *et al.*, 2012; Choi *et al.*, 2012; Lee and Park, 2011), education (Dreher *et al.*, 2009; Farahmand *et al.*, 2013), governance and law (Chambers, 2011; Fairfield, 2012; Gillies, 2008; Tseng and Ku, 2011), among others, have attempted to explore various real world issues in virtual world context. Within business domain too, the real-time, simulated environments have been of particular interest for researchers in collaboration, training and teamwork (Nissen and Bergin, 2013; Sadri and Condia, 2012; Venkatesh and Windeler, 2012, etc.).

Marketing scholars are increasingly exploring consumer behavior related issues in virtual world context as can be seen in several studies in recent times (Belisle and Bodur, 2010; Belk, 2013; Gabisch, 2011; Markos and Labrecque, 2009; Scaraboto *et al.*, 2013). Branding in virtual world is an area of growing interest among scholars, as seen from some of the recent studies (Barnes and Mattsson, 2011; Hansen, 2013; Muzellec *et al.*, 2012; Nah *et al.*, 2011). However, a large number of practitioners and scholars have considered virtual worlds as fictional worlds like a movie or a television soap opera (Muzellec *et al.*, 2013, 2012). Thus, researches have examined virtual worlds as either an advertising medium (Tikkanen *et al.*, 2009) or a virtual environment created for advertising called *adverworld* (Scaraboto *et al.*, 2013) with a purpose of communicating and influencing consumer attitudes toward the brand. Further, some have looked at

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virtual world branding as product placements (Lee and Faber, 2007), or virtual social worlds (Kaplan and Haenlein, 2009).

In this paper, virtual worlds are considered not as the fictional worlds but are understood to have virtual economies where brands with virtual offering is created, purchased or sold. Hence, firms may identify virtual worlds as new product-markets and diversify their business by offering newer products in these new markets to drive growth. Several brands including Nike and Levi's offer products in these markets where virtual products are purchased and consumed by avatars of individuals. A brand as a symbol of expressions carrying a cultural meaning is discussed (Aaker et al., 2001) in the literature, and its role in projecting self-identities (McCracken, 1986, 1989; Richins, 1994) too is widely discussed. In digital environments, virtual offerings have understandably limited functional value and are largely consumed for their symbolic – directed at self or others – value. Further, virtual worlds may be considered as platforms for digital self-expression for the consumers and hence brand's image may play a significant role.

How contextual difference in real and virtual worlds influence the understanding of consumer attitudes toward brand extensions when the extension of brand is made from the real world to a virtual world or a virtual world to the real world becomes a significant issue in this light. This paper extends the theoretical discussion on brand extensions into a new context – that of virtual world where consumers' needs and motives are significantly different in their new avatars and at the same time, brand knowledge is not only common but may influence the purchase and consumption decisions across the worlds (Gabisch, 2011). In the following sections, relevant literature is discussed and based on that several propositions are developed. The paper discusses directions for future research and implications for managers.

2. Virtual worlds and marketing: review of relevant literature

There are various definitions of virtual worlds in literature. For example, Bell (2008) defined virtual worlds as synchronous, persistent network of people, represented by avatars and facilitated by networked computers. Schroeder (2008) clarified virtual worlds as persistent online social spaces or virtual environments that people experience together with others as a world of social interaction. Virtual worlds are also defined as persistent, synthetic, three-dimensional, non-game centric social spaces (Spence, 2008). Castronova (2005) observed that synthetic worlds are indeed separated from the real world with a membrane but that the membrane (“almost-magic circle”) is porous and serves the “objective of retaining all that is good about the fantasy atmosphere of the synthetic world, while giving users the maximum amount of freedom to manipulate their involvement with them”. In a similar vein, Denegri-Knott and Molesworth (2013) note that virtual worlds are “liminal space[s] – somewhere between the imagination and the material”. In this paper, virtual worlds are understood as synthetic, non-game centric, synchronous, persistent, three-dimensional social spaces that are inhabited by avatars. There exists more than a dozen such virtual environments in digital space but a popular example for the virtual world could be *Second Life*. It is important to note that

unlike other fictional environments, the virtual worlds are inhabitable and participatory (Damer et al., 2003; Klastrup, 2003), meaning that one can live inside it, have an identity and role and actively contribute to its culture. Hence, consumption motivations of the inhabitants based on their needs and desires in this alternative life can be an important characteristic of virtual worlds. Motivations for people from the real world to enter the virtual world as avatars could be the search for diversion, the desire to build personal relationships, the need to learn, and the wish to earn money (Kaplan and Haenlein, 2009). Avatars, thus, with the specific needs and desires play role of consumers in the virtual worlds.

An avatar[1] is any digital representation that has agency (an ability to perform actions) and is controlled by a human agent in real time (Bell, 2008). The digital representation can resemble humans, animals, any other creatures or even animations (Park et al., 2008). Avatars may be alter-egos or the most conspicuous online manifestations of people's desire to try out alternative identities or project some private aspects of themselves (Hemp, 2006). Within the virtual world, avatars can live out what could be mere desires and seemingly unattainable dreams for a real-world user (Markos and Labrecque, 2009). Becerra and Stutts (2008) found that the real-world user's body image (perceptions of attractiveness) is inversely related to his/her desire to become someone else and the desire to become someone else directly influenced the use of virtual worlds. Avatar's attitudes, personality and behavior may not equate to that of the individual in the real world (Barnes and Mattsson, 2008) but the extent of deviation can be ascertained (Belisle and Bodur, 2010; Messinger et al., 2008). Avatars are endowed with mannerisms, skills and wardrobes that their users create (using a variety of software tools), purchase (from shops within virtual worlds), receive as gifts (from other avatars), or earn (through economic activity within virtual worlds) (Hemp, 2006). Avatars can explore the environment within the virtual world, meet and speak with other avatars, and purchase a wide variety of virtual products (Kaplan and Haenlein, 2009). While avatars reflect different behaviors within the virtual world such as exploration, achievements, socialization or imposition (Bartle, 1996), their needs and hence the satisfiers – the products within the virtual world are likely to be different from their real-world counterparts.

Virtual products refer to products[2] offered to and consumed by avatars in a virtual world. Examples include Levi Strauss virtual jeans and Nike virtual shoes sold to avatars in a virtual world called *There* (Hemp, 2006). Hansen (2013) found that branded virtual products mean sociability, status and achievement, and real connections to avatars of a virtual world. Guo and Barnes (2009) found that several factors such as effort expectancy, character competency, the quality of virtual world system, social influence, virtual product resources, personal real resources, performance expectancy and self-actualization influence the virtual product purchase behavior of avatars. Lehdonvirta (2009) found that three types of attributes drive purchase decisions of virtual products by avatars: functional, hedonic and social. For instance, a virtual sword might be used for fighting (functional attribute), showing off one's equipment (hedonic attribute) or placed in storage as part of a collection (social attribute) (Lehdonvirta,

2009). However, consumption by *avatars* in virtual worlds could at best be termed as vicarious for the real-world users because consumption of virtual products by *avatars* is mutually exclusive to consumption in the real world. For instance, the real-world user cannot wear a pair of *Nike* shoes worn by an *avatar*.

Virtual products consumed by *avatars* in a virtual world are offered by business enterprises, which may also offer real products in the real world and transactions similar to the real world take place in this virtual environments. Virtual worlds, in fact, are thriving economies with their own markets and currencies (Chambers, 2011). The effective GDP of a virtual world *Second Life* once “running at around the size of the Seychelles” was USD750 million (Reynolds, 2008). Virtual worlds may stipulate their own currencies for transactions. For instance, the currency of the virtual world *Second Life* is referred to as *Linden Dollars*. Convertibility between *Linden Dollar* and real-world currency such as USD is facilitated at various Internet exchanges (Hemp, 2006). According to Lehdonvirta (2009), in 2007, the global volume of real money trade of virtual goods was estimated at USD2.1 billion per year.

Marketing literature has hardly examined virtual worlds as virtual economy and product–markets, which has specific consumer needs different than the real world. Most studies pertaining to virtual worlds in marketing literature have discussed the use of virtual worlds as channels for brand presence (Barnes and Mattsson, 2011), vehicles for advertisement (Barnes, 2007; Scaraboto *et al.*, 2013), mediums for product placement (Muzellec *et al.*, 2012; Gabisch, 2011) and reverse product placement (Edery, 2006; Muzellec *et al.*, 2012), laboratory for conducting research (Bainbridge, 2007), customization for delivering product in real world (Papagiannidis *et al.*, 2008), environment for simulation of real-world products (Nah *et al.*, 2011; Lui *et al.*, 2007; Tikkanen *et al.*, 2009), database of *avatar*-based cues for segmenting and targeting real-world users (Belisle and Bodur, 2010; Hemp, 2006). Thus, most studies in literature examine virtual worlds as alternative media – to communicate real brands or to collect marketing information for real brands. Not much is explored in literature with regard to virtual world as a market in itself.

3. Virtual worlds as product–markets for business growth

This paper views virtual worlds as product–markets for business growth. Such a view is supported by the three aspects discussed below:

- 1 One of the key qualities of a virtual world is the “worldness”, meaning a sense of coherence, completeness and consistency within the world’s environment, aesthetics and rules (Pearce and Artemesia, 2009). Further, the *avatars* of the users live life here with specific needs (Damer *et al.*, 2003; Klastrup, 2003). Inhabitants of virtual worlds, also called *avatars*, thus form a unique and self-contained economy, with its own independently managed production and consumption system, like that of the real world. However, the commerce between virtual worlds and the real world can be understood as that similar of international trade governed by exchange rates for virtual world currencies.
- 2 Owing to their alter-ego, the consumer behavior of *avatars* could be markedly different from that of their real-world counterparts; while the possibility of real-world-like behavior of avatars cannot be dismissed altogether, virtual worlds by their very nature offer tremendous scope for alter-ego to realize its dreams while still making the brand extensions relevant. Thus, while learning and attitudes do get transferred, the differences in the desires and motivations make the consumer behavior very different in the synthetic world (cf. “the almost-magic circle” of Castronova, 2005; “liminal space” in Denegri-Knott and Molesworth, 2013).
- 3 Virtual products cannot be consumed due to form, motives, social or economic constraints in real world and vice versa. While goods and services offered within virtual worlds are targeted at *avatars*, goods and services offered within real world are targeted at real-world consumers. As virtual worlds can be viewed as product–markets, various strategies for business growth propounded by Ansoff (1957) and Tauber (1981) become relevant. A synthesis of Ansoff’s (1957) product–market strategy and Tauber’s (1981) product–brand strategy is produced in Figure 1.

For organizations rooted in the real world, virtual worlds can become new product–markets and vice versa. Thus, there are two possible strategies from Figure 1 that can be used by organizations for business growth. One is diversification through existing brand and the other is diversification through a new brand. Thus, for firms aiming at growth from diversifying into the virtual world markets with virtual products, extending real brand to the new offerings is a strategic choice. Brand extensions refer to the use of established brand names for introducing new products (Loken and John, 1993). In fact, several brands from real world are

Figure 1 Market, Product, and Brand Strategies for Business Growth

		Product					
		Existing		New			
Market	Existing	Market Penetration Through Existing Brand	Product Development Through Existing Brand	Existing	Brand		
		Market Penetration Through New Brand	Product Development Through New Brand	New			
	New	Market Development Through Existing Brand	Diversification Through Existing Brand	Existing			
		Market Development Through New Brand	Diversification Through New Brand	New			

Notes: (1) The figure is a synthesis of Ansoff’s (1957) and Tauber’s (1981) matrices for business growth and (2) The scope of this paper is limited to the marketing aspects of the shaded region

said to have presence in virtual worlds (Barnes and Mattsson, 2011) and some brands are also said to have exited virtual worlds (Kuntze *et al.*, 2013). Thus, it is important to conceptualize brand extension issues when a real-world brand is extended to a new virtual world offering and vice versa when a firm aims growth through such diversification.

When brand extensions are used by organizations rooted in the real world and a virtual world, they can result in various scenarios as summarized in Figure 2. As can be seen in Figure 2 a brand in the real world can be extended within real world (RRBE) or into virtual world (RVBE). Similarly, a brand in virtual world can be extended within virtual world (VVBE) or into real world (VRBE). However, as virtual worlds are product-markets that came into existence very recently, experience of success of brand extensions within real world may not help generalize for brand extensions involving virtual worlds. Academic studies on brand extensions involving virtual worlds are rare. An exception is that of a recent study by Barnes and Mattsson (2011), which replicates some of the results found for RRBE into RVBE. Moving on from replication, this paper theoretically addresses two research questions as follows:

- 1 Between RRBE and RVBE, how different are the strengths of effects of established determinants on attitude toward the extension and revision of attitude toward the parent brand?
- 2 Between VVBE and VRBE, how different are the strengths of effects of established determinants on attitude toward the extension and revision of attitude toward the parent brand?

In the next section, theory building using relevant literature on brand extensions and virtual worlds is undertaken to arrive at specific propositions.

4. Brand extensions from real world to virtual world and virtual world to real world: review of relevant literature and propositions

Studies on consumer evaluation of brand extensions have focused on a variety of factors concerning parent brand (Aaker and Keller, 1990; Dacin and Smith, 1994), parent brand and the extension fit (Aaker and Keller, 1990; Park *et al.*, 1991), extension product category characteristics (Kardes and Allen, 1991; Volckner and Sattler, 2007) and consumer traits (Klink and Athaide, 2010; Klink and Smith, 2001). Most of the literature, however, is focused on the influence of parent brand characteristics and types of brand extension fit on consumer evaluation of brand extensions (Czellar, 2003; Grime *et al.*, 2002), and accordingly this paper contrasts the influence of parent brand characteristics and parent brand extension fit

between the real-world and virtual world contexts. It can be conceptualized that the well-established relationships between the consumers' attitude toward extension and its antecedents (and also relationships between the revision of attitude to the parent brand and its antecedents) would vary in strength from the real-world context to a virtual world context. The following subsection 4.1 theorizes the moderating influence of contexts (the real- or a virtual world) on the relationships between consumers' attitude toward the extension and its established determinants, and subsection 4.2 theorizes the moderating influence of contexts on the relationships between consumers' revision of attitude toward the parent brand and its established determinants.

4.1 Consumer's attitude toward the extension

4.1.1 Attitude toward the parent brand

Attitude is defined in literature as the predisposition to respond in a consistently favorable or unfavorable manner (Chapman and Aylesworth, 1999) or as consumer's perception of the overall quality (Aaker and Keller, 1990) or restricted to affective component (Boush *et al.*, 1987; Bhat and Reddy, 2001). Attitude toward the parent brand was largely found to be positively related to attitude toward the extension for real world to real-world brand extensions (Bhat and Reddy, 2001; Bottomley and Doyle, 1996; Bottomley and Holden, 2001; Boush *et al.*, 1987; Hem *et al.*, 2003; Sunde and Brodie, 1993; Volckner and Sattler, 2007; Van Riel *et al.*, 2001; Van Riel and Ouwersloot, 2005). Studies of Bottomley and Doyle (1996), Bottomley and Holden (2001), Sunde and Brodie (1993), Van Riel *et al.* (2001), Van Riel and Ouwersloot (2005) are all replications of Aaker and Keller's (1990) seminal study in different geographic locations and evidence was consistently found for the relationship between attitude toward the parent brand and attitude toward the extension.

However, several studies reported that the effect of attitude toward the parent brand on attitude toward the extension was stronger when there was more product category fit (i.e. similarity between parent product and extension product) (Bottomley and Doyle, 1996; Bottomley and Holden, 2001; Boush *et al.*, 1987; Echambadi *et al.*, 2006; Van Riel *et al.*, 2001; Van Riel and Ouwersloot, 2005; Volckner and Sattler, 2007). In all the studies cited above, the common theoretical perspective for explaining the moderating effects of product category fit on attitude transfer is categorization and according to the perspective of categorization (Sujan, 1985), attitude transfer is enhanced from category to instance when there is perceived fit between category and instance.

Figure 2 A typology of brand extensions

		Extension	
		Real World	Virtual World
Parent Brand	Real World	'Real World to Real World Brand Extension' (RRBE)	'Real World to Virtual World Brand Extension' (RVBE)
	Virtual World	'Virtual World to Real World Brand Extension' (VRBE)	'Virtual World to Virtual World Brand Extension' (VVBE)

Note: Shaded regions in the figure are underexplored in literature

Consumers may perceive better product category fit in the real world to the real-world brand extension than in the real world to a virtual world brand extension because virtual world differs from the real world in that virtual worlds act as “proxies of materially real goods” (Denegri-Knott and Molesworth, 2013) and also, virtual worlds can be construed as completely opposite to the real world in terms of user behavior (Becerra and Stutts, 2008; Barnes and Mattsson, 2008). Hence, attitude transfer from parent brand to the extension should be stronger for within-world brand extensions and weaker for across-world brand extensions[3]. Thus the following are proposed:

- P1a.* The positive relationship between attitude toward the parent brand and attitude toward the extension is stronger for real world to real-world brand extension but weaker for real world to virtual world brand extension.
- P1b.* The positive relationship between attitude toward the parent brand and attitude toward the extension is stronger for virtual world to virtual world brand extension but weaker for virtual world to real-world brand extension.

4.1.2 Number of products in brand portfolio

Number of products in brand portfolio is defined in literature as the number of product types affiliated with the parent brand (Dacin and Smith, 1994). The number of products in a brand portfolio was found to be positively related to attitude toward the extension for the real world to the real-world brand extensions (Dacin and Smith, 1994).

Dacin and Smith (1994) argued that:

- number of products in brand portfolio acts as a collateral or bond for consumers to judge extensions (Wernerfelt, 1988);
- if the extension will be of poor quality, it will affect the sales of both the extension and other products of the brand (Sullivan, 1990); and
- consumers can be assumed to recognize that the bigger the size of collateral, the lower the likelihood of extension being of poor quality.

However, number of products in the portfolio of a brand in the real world may become less credible collateral for brand extension into a virtual world. While the possibility of across the world spillover effects is hard to be dismissed (Papagiannidis *et al.*, 2014; Xanthopoulou and Papagiannidis, 2012), it however makes sense to assume that within-the-world spillover effects are stronger than across-the-world spillover effects. This is because the virtual world *avatars* of the real-world consumers have different motivations and desires and the virtual world is protected by the membrane “acting as a shield of sorts protecting the fantasy world from the real world” (Castronova, 2005). The *avatars* can be assumed to recognize that:

- real world and virtual world are different;
- real products can't be used in virtual world and virtual products cannot be used in real world; and
- the chances of sales of products of a brand being affected in one world due to poor performance in other world are relatively low.

Thus, the following are proposed:

- P2a.* The positive relationship between number of products in brand portfolio and attitude toward extension is stronger for real world to real world brand extension but weaker for real world to virtual world brand extension.
- P2b.* The positive relationship between number of products in brand portfolio and attitude toward extension is stronger for virtual world to virtual world brand extension but weaker for virtual world to real-world brand extension.

4.1.3 Quality variance across products in brand portfolio

Quality variance across products in brand portfolio is defined in literature as consumer's perception of the distribution of quality across product types of a brand (Dacin and Smith, 1994). Quality variance across products in brand portfolio was found to be negatively related to the attitude toward the extension for real world to real-world brand extensions (Dacin and Smith, 1994; Volckner and Sattler, 2007).

Dacin and Smith (1994) argued that:

- quality variance across products in brand portfolio affects the extent to which consumers perceive the brand to be a source of reliability;
- if there is more variance in quality across products of a brand, then consumers will be uncertain as to whether overall brand quality is generalizable to the extension; and
- more the uncertainty, consumers are found to give more importance to less favorable information and judge the extension unfavorably.

As the virtual world *avatars*' desires are different, driven by alter-ego, and include trying out alternative identities (Hemp, 2006), their expectations from the satisfiers too are different and hence the perceived quality may take a different meaning. Further, based on the idea that the people act in accordance with a frame of reference produced by the groups (Merton and Rossi, 1949), the fellow *avatars* in the virtual worlds is likely to have more influence in shaping the expectations of and evaluations made by an *avatar* compared to the real world understanding of the consumer. When quality variance across products of a brand is high in one world, extension of such an unreliable brand into another very different world could be perceived by consumers as extremely humorous or ridiculous[4]. Thus, the negative effect of quality variance across products of a brand on extension evaluation is likely to be stronger for across-world extensions. Thus, the following are proposed:

- P3a.* The negative relationship between quality variance across brand portfolio and attitude toward the extension is weaker for real world to real-world brand extension but stronger for real world to virtual world brand extension.
- P3b.* The negative relationship between quality variance across brand portfolio and attitude toward the extension is weaker for virtual world to virtual world brand extension but stronger for virtual world to real-world brand extension.

4.1.4 Product category fit

Product category fit is defined in literature as consumer's perception of similarity between the product category of the extension and that of the parent brand (Bhat and Reddy, 2001; Boush *et al.*, 1987; Boush and Loken, 1991). Aaker and Keller (1990) distinguished product category fit as "demand side perspective" (substitute and complement) and "supply side view" (transferability). Smith and Park (1992) distinguished product category fit as "extrinsic bases of similarity" (needs satisfied and usage situations) and "intrinsic bases of similarity" (component parts and manufacturing skills). Some studies reported that transferability and complementarity are more important influencers of attitude toward extension than substitutability (Aaker and Keller, 1990; Bottomley and Doyle, 1996; Bottomley and Holden, 2001; Sunde and Brodie, 1993). Bottomley and Doyle (1996) and Bottomley and Holden (2001) observed that this could be due to few brand extensions being substitutes in the stimuli used by researchers. Aaker and Keller (1990) observed that a fit on either transferability or complementarity may be adequate and a high fit on both is not necessary. Similarly, Bottomley and Holden (2001) observed that an extension does not need high fit on multiple dimensions of fit to be favorably received. More recent study by Goh *et al.* (2013) has introduced the notion of category design consistency or the extent to the design of an extension product is prototypical of its category exemplar.

Product category fit was largely found to be positively related to attitude toward the extension for real world to real world-brand extensions (Aaker and Keller, 1990; Bottomley and Doyle, 1996; Bottomley and Holden, 2001; Boush *et al.*, 1987; Boush and Loken, 1991; De Ruyter and Wetzels, 2000; Hem *et al.*, 2003; Park *et al.*, 1991; Sunde and Brodie, 1993; Volckner and Sattler, 2007; Van Riel *et al.*, 2001; Van Riel and Ouwersloot, 2005). In a recent study, Barnes and Mattsson (2011) found support for this effect for real world to virtual world brand extensions [5]. The theoretical reason for product category fit to be positively related to attitude toward extension is that when product category fit is less, consumers may doubt the firm's ability to produce the extension and may find it less credible (Aaker and Keller, 1990; Bhat and Reddy, 2001). Such a doubt on firm's ability could, however, stand heightened from consumer's point of view for across-world brand extensions. For instance, consider a real shoe *vis-à-vis* a virtual shoe. Although, the idea of a shoe is common across the real shoe and the virtual shoe, the real-world consumer cannot use the virtual shoe and an avatar cannot use the real shoe. According to Lee (2004), the virtual objects made using technology are experienced as artificial objects as they do not have authentic connection from the technology user's perspective irrespective of how vivid the simulation is. Further, the artificiality of an object may vary across domain – physical, social or self. Borrowing from Lee (2004), for example, computers are actual objects in real environment but they become artificial when people start responding to them as if they were social actors like humans. As an *avatar's* digital representation in virtual world can resemble humans, animals, any other creatures, objects or even animations (Park *et al.*, 2008), the understanding of physical, social and self-domains is likely to be different in the real and virtual worlds.

Consumers may thus be assumed to turn skeptical about the ability of the firm. Therefore, although the notion of product category fit could be extended to across-world extensions and although product category fit was found to positively influence attitude toward extension for real world to virtual world brand extensions (Barnes and Mattsson, 2011), still the strength of the effect could be stronger for within-world extensions and weaker for across-world extensions. Thus, the following are proposed:

- P4a. The positive relationship between product category fit and attitude toward extension is stronger for real world to real-world brand extension but weaker for real world to virtual world brand extension.
- P4b. The positive relationship between product category fit and attitude toward extension is stronger for virtual world to virtual world brand extension but weaker for virtual world to real-world brand extension.

4.1.5 Brand image fit

Brand image fit is defined in literature as consumer's perception of similarity between the extension's image and that of the parent brand (Bhat and Reddy, 2001) or consumers' perceptions of whether the brand-concept associations (e.g. status and reliability) are potentially relevant and/or desirable in connection with a particular product (Park *et al.*, 1991; Broniarczyk and Alba, 1994). Viot (2011) conceptualized brand image fit as the perceived consistency between brand extension and parent brand identity, with brand identity having two dimensions: personal and social. More recent study by Goh *et al.*, (2013) has introduced the notion of brand design consistency or the extent to which the design of an extension product is congruent with the parent brand image.

Park *et al.* (1991) found that:

- consumers react more favorably to the extensions of a functional brand name when the extension products reflect a functional concept than when they reflect a prestige concept; and
- consumers react more favorably to the extensions of a prestige brand name when they reflect a prestige concept than when they reflect a functional concept.

Broniarczyk and Alba (1994) found that extensions were more preferred if they were related to the specific association(s) of parent brand. Similar result was reported by Bhat and Reddy (2001), Goh *et al.* (2013) found that brand design consistency (i.e. the extent to which the design of an extension product is congruent with the parent brand image) is positively related to consumer's attitude toward the extension. Sichtmann and Diamantopoulos (2013) found that brand origin-extension fit (i.e. overlap between attributes associated with a country and those associated with the extension product category) is positively associated with consumers' attitude toward the extension.

In the context of the real world to a virtual world brand extension, Barnes and Mattsson (2011) introduced a notion called channel-extension fit (i.e. extent of suitability of a particular virtual world channel for a particular brand's presence) and found it to be positively related to consumer's attitude toward extension. Although brand image fit could be

positively related to attitude toward the extension for across-world extensions, the strength of the effect could differ between within-world extensions and across-world extensions. This is because consumers could be skeptical as to whether the brand associations found relevant for across-world extensions could actually be realized in practice. For instance, consider Nike, which sold virtual shoes that allowed wearers to run faster than other avatars (Hemp, 2006). Even though avatars can find, at the time of announcement of the extension, Nike's real world brand association of superior performance to be relevant for virtual shoes, they still would be skeptical as to whether that brand association could be delivered successfully in a virtual world context. This same issue applies for virtual world to real-world brand extensions, i.e. can an association of a brand in virtual world, though deemed relevant for a proposed extension to real world, be actually realized in real world? Thus the following are proposed:

- P5a.* The positive relationship between brand image fit and attitude toward extension is stronger for real world to real-world brand extension but weaker for real world to virtual world brand extension.
- P5b.* The positive relationship between brand image fit and attitude toward extension is stronger for virtual world to virtual world brand extension but weaker for virtual world to real world brand extension.

4.2 Consumer's revision of attitude toward the parent brand

4.2.1 Attitude toward the extension

Revision of attitude toward the parent brand is defined in literature as change in attitude of the consumers toward the parent brand after learning about the extension (Dwivedi *et al.*, 2010; Lei *et al.*, 2004). The attitude toward the extension was found to be positively related to the revision of attitude toward the parent brand for the real world to the real-world brand extensions (Chen and Chen, 2000; Loken and John, 1993).

According to the typicality-based perspective (Weber and Crocker, 1983), the impact or weight given to information on beliefs about a family brand name depends on whether the information pertains to more or less typical members of the category and thus when information about the brand extension suggests that the extension is atypical of products marketed under the family brand name, then consumers will be less likely to make an inference from the individual extension to the family brand beliefs (Loken and John, 1993; Martinez and Pina, 2010). As a virtual world differs from real world in that virtual worlds act as "proxies of materially real goods" (Denegri-Knott and Molesworth, 2013) and that the real-world users may consume products in a virtual world merely to attain dreams (Markos and Labrecque, 2009), attitude transfer from extension to the parent brand should be stronger for within-world brand extensions and weaker for across-world brand extensions. Thus, the following are proposed:

- P6a.* The positive relationship between attitude toward the extension and revision of attitude toward the parent brand is stronger for real world to real-world brand extension but weaker for real world to virtual world brand extension.

- P6b.* The positive relationship between attitude toward the extension and revision of attitude toward the parent brand is stronger for virtual world to virtual world brand extension but weaker for virtual world to real-world brand extension.

4.2.2 Product category fit

Product category fit was found to be positively related to the revision of attitude toward the parent brand for real world to real-world brand extensions (Dwivedi *et al.*, 2010; Keller and Aaker, 1992; Romeo, 1991).

When product category fit is less, consumers may doubt the firm's ability to produce the extension and may find it exploitative (Keller and Aaker, 1992). Such doubts of consumers may, however, be heightened for across-world extensions because of the perceived differences between real world and virtual world (e.g. virtual products cannot be consumed in real world and vice versa). Thus, the following are proposed:

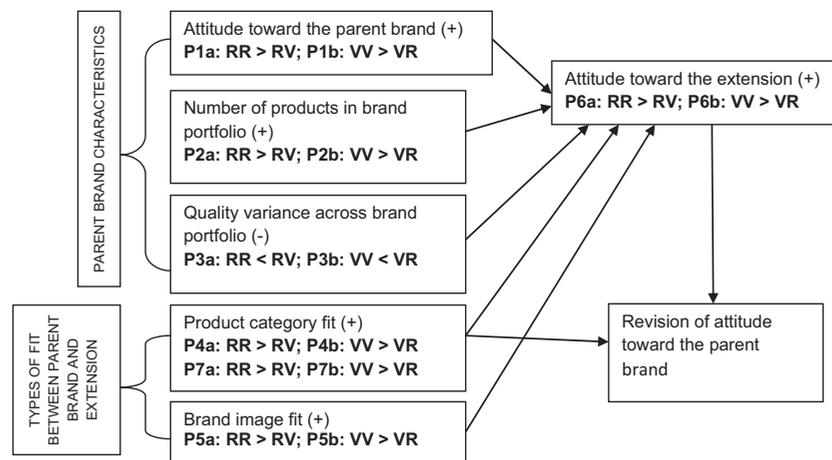
- P7a.* The positive relationship between product category fit and revision of attitude toward the parent brand is stronger for real world to real-world brand extension but weaker for real world to virtual world brand extension.
- P7b.* The positive relationship between product category fit and revision of attitude toward the parent brand is stronger for virtual world to virtual world brand extension but weaker for virtual world to real-world brand extension.

There are 14 propositions (*P1a–P7a* and *P1b–P7b*) specified in this paper. *P1–P5* are concerned with factors affecting consumers' attitude toward the extension. *P6–P7* are concerned with factors affecting consumers' revision of attitude toward the parent brand. All the propositions are summarized in Figure 3.

5. Conclusion

While there are studies in marketing that attempt to explain virtual worlds as alternative channels for brand communication and consumer research, very rarely virtual worlds have been understood by marketers as a new market. As virtual world economies gather strength and become key product-markets for businesses to diversify, managers need to examine if extending the existing brand into a virtual world makes sense or not. This paper amalgamates well-researched domain of brand extensions in the real world with emerging understanding of virtual worlds as product-markets to propose moderating influence of the context. Based largely on the idea of Hemp (2006) that the consumers in a virtual world are avatars – alternative identities of the real world individuals, the paper proposes that the known antecedents influencing the consumer attitude toward the extension and the post-extension revision of attitude toward the parent brand are likely to have much higher influence when the extension is within a world. The known antecedents influencing consumer attitudes toward the extension and the post-extension revision of attitude toward parent brand are likely to have less stronger influence in case of across-the-world extensions (the real world to a virtual world and virtual world to the real world).

Figure 3 Conceptual model



Notes: P1a, for example, reads that the positive effect of attitude toward the parent brand on attitude toward the extension is stronger for brand extension from real world to real world but weaker for brand extension from real world to virtual world. For P6 and P7 alone, the endogenous factor concerned is revision of attitude toward the parent brand

The propositions specified in this paper suggests that the effects of consumers' attitude toward the parent brand, number of products in brand portfolio, quality variance across brand portfolio, product category fit, and brand image fit on consumers' attitude toward the extension are stronger for within the world extensions and weaker for across the world extensions. This means that for example if the consumers have favorable attitude toward a brand, extending it within the same type of world (real or virtual) is more likely to work compared to across the world extension. The propositions also suggest that the effects of attitude toward the extension and product category fit on revision of attitude toward the parent brand are stronger for within the world extensions and weaker for across the world extensions. Future research is called for to empirically assess the validity of all the propositions.

Apart from providing strong theoretical argument that the existing brand extension knowledge may not hold true when the extension is across the worlds, the paper introduces to the marketing scholars an entirely new area of investigation. Brand extension researchers may like to examine if there exist inverse relationships between certain known antecedents and the attitude toward the extension if the extension is across-the-world extension. Keeping in mind the fact that the individuals look for alternative identities in their *avatars*, as an illustration, the attitude toward a brand in one world may have negative relationship with the attitude toward its extension in another world. Further, there could be entirely new set of determinants that may have positive influence on the extension outcomes, which researchers may try to examine.

Marketers, looking at expanding their business in virtual worlds need to find new answers before they decide to extend their existing brands in newer world rather than relying on current brand extension knowledge. Significant implication for marketers of this study is in deciding whether to extend an existing brand from one world to another world while launching a new product in the market across the world.

Further, it appears that brand managers may need to spend more dollars for marketing communication when it comes to ensuring the success of across the world extensions. Alternatively, marketers may need to tailor their marketing communication for across the world brand extensions in a much more calculated and careful manner to make an extension work.

In a nutshell, the paper challenges conventional theory of consumer evaluation of brand extensions when a real-world brand is extended to a virtual world and vice versa. It is likely to trigger more investigations of consumer evaluations of brand extensions based on newer theories in human psychology.

Notes

- 1 In Hindu religion, the Sanskrit word *Avatar* is used to denote an incarnation of God.
- 2 Products include both goods and services.
- 3 Within-world refers to real world to real world and virtual world to virtual world. Across-world refers to real world to virtual world and virtual world to real world.
- 4 Aaker and Keller (1990) mention that if the fit is incongruous, the extension may be regarded as humorous or ridiculous.
- 5 In the paper by Barnes and Mattsson (2011), the name of the brand extended is mentioned but not the name of the extension product category for which product category fit and extension attitude was measured.

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