

## BRAND VALUE IN VIRTUAL WORLDS: AN AXIOLOGICAL APPROACH

Stuart Barnes  
Norwich Business School, University of East Anglia  
Norwich NR4 7TJ, United Kingdom  
[stuart.barnes@uea.ac.uk](mailto:stuart.barnes@uea.ac.uk)

Jan Mattsson  
Department of Communication, Business and Information Technology  
Roskilde University  
P.O. Box 260, DK-4000 Roskilde  
Denmark  
[mattsson@ruc.dk](mailto:mattsson@ruc.dk)

### ABSTRACT

Online virtual worlds, including Second Life, are rapidly becoming recognized as an important new channel for marketing and brand-building. However, the nature of the channel and its consumers or users is likely to be quite different to other channels, including the Web. Consequently, this may have knock-on effects for traditional multi-channel brand management strategies. In an effort to understand this new channel, this paper details exploratory research aimed at assessing the brand value of real-life brands that have moved to the virtual world of Second Life. Using axiology, we develop a scale to measure brand value and then assess the value of eight real-life brands in Second Life. The results demonstrate both the value of the methodology and the apparent differences in consumer perceptions of brand in the virtual world. The paper rounds off with conclusions and implications for future research and practice in this very new area.

Keywords: online game, virtual world, marketing, brand value, second life.

### 1. Introduction

Online virtual worlds have become heralded as a technology of substantial future importance for marketers [Hemp 2006]. A 'virtual world' is defined as a three-dimensional, computer-generated environment that appears similar to our 'real' world, often massively multi-user and connected to the Internet, and developed to supply online entertainment and social networking for users. In our definition, virtual worlds are open-ended virtual interaction platforms or 'experience worlds'; thus, goals are not prescribed, and virtual worlds are not games in the traditional sense. For example, game-oriented environments, such as World of Warcraft, Sims Online and Everquest would be excluded from our definition. Current virtual worlds have become highly interactive, collaborative and commercial; these worlds have the potential to be new channels for marketing content and products, integrating 'v-commerce', or virtual e-commerce.

The best known virtual world is Second Life, which has grown rapidly from 2 million residents in January 2006 to more than 9 million residents in August 2007. Some 1.3 million people ran the official software and logged-in to Second Life in March 2007, an increase of 46 percent in the number of active residents from January 2007 [ComScore 2007]. In March 2007, 61 percent of active Second Life residents were from Europe (16 percent from Germany), compared to 19 percent from North America, and 13 percent from the Asia Pacific. In addition, 61 percent of residents were male while 39 percent were female [ComScore 2007].

Many of these virtual worlds have a firm basis for commercial development, including an in-world currency, customization of avatars and objects, concepts of property ownership, text and/or voice communication and many different marketplaces and communities [Castranova 2005; Good 2007; Manninen and Kujanpää 2007]. Virtual worlds provide extraordinarily flexibility and potential for brand-building. Tools for promotion include, for example, product placement of 3-D objects (similar to product brands, like beverages, as seen in films), real-world analogs (such as billboards and radio), advergames (mini-games or mini-worlds, with some element of advertising), and cross-promotion (such as coupons, dancing or camping in SL) [Vedrashko 2006].

The significance of brands in virtual worlds, such as Second Life, is already apparent. This virtual world, which has more than 13 million residents (as of May 2008), has more than 100 real life brands [KZero 2007a, New

Business Horizons 2007], including those in sectors such as auto (e.g., Mercedes, Mazda and Pontiac), media (e.g., AOL, Reuters and Sony BMG), travel (e.g., STA Travel), consumer electronics (e.g., Intel, Dell, Nokia and Sony Ericsson), consumer goods (e.g. Reebok and American Apparel), telecommunications (e.g. Vodafone and Telus), finance (e.g. ABN Amro and ING) and professional services (e.g., IBM and PA Consulting). A selected list of brands is provided in Table 1. On top of these brands there are many more universities and other organizations from the real world (including several embassies, such as Mauritius and Sweden) in SL.

Table 1. Selected prominent real-life brands in Second Life [New Business Horizons, 2007; KZero, 2007a]

1-800-flowers.com	Comcast	Microsoft	Sony-Ericsson
ABN Amro	Daily Telegraph	MovieTickets.com	Sprint
Adidas	Dell	MTV	STA Travel
Aegon			Starwood Hotels
Ajax Football Club	Edelman	Pontiac/GM	Sun Microsystems
Amazon	Endemol	Press Association	
AMD	Europ Assistance		TAM Airline
American Apparel		Random House/Bantam	Telus
AOL	Fiat	Randstat	Telstra
Armani	Fox Atomic	Reebok	Text 100
Autodesk	H&R Block	Renault (Formula 1 Team)	Thompson netG
	Heineken	Reuters	TMP Worldwide
Bain & Company	Hublot		Toyota
Bantam Dell Books		NASA	
Bartle Bogle Hegarty (BBH)	IBM	Nat. Basketball Association	Unitrin Direct
BBC Radio 1	ING	NBC	
Best Buy Co. Inc.	Intel	Nissan	Visa Europe
Bigpond	iVillage		Vodafone
BMW		PA Consulting	
	Level 3	Philips	Warner Brothers
Calvin Klein	Logica CMG	Playboy	Weather Channel
Channel 4 Radio	L'Oreal Paris		Wired Magazine
Circuit City		Saxo Bank	
Cisco	Major League Baseball	Scion	Xerox
CNET	Manpower Inc.	Sears	
Coca-Cola	Mazda Europe	Sky News	Yankee Stadium
Coldwell Banker	Mercedes Benz	Softlab Group	Yves Saint Laurent
		Sony BMG	

The issue of brand-building in virtual worlds is embryonic. It is likely to follow a similar learning curve to other new media, such as the Web and mobile telephony. However, there is, as yet, no significant academic research output in this area. With this in mind, we embarked on an exploratory study into brand value in virtual worlds, focusing explicitly on the Second Life platform. The key research question for our research is: “What is the brand value of real life brands that have moved to the Second Life virtual world?” The approach we use to measure brand value is that of axiology [Hartman 1967]; which has been proven to be valid and reliable in marketing research [Danaher and Mattsson 1998; Lemmink and Mattsson 1996; 2002; Mattsson 1990; Mattsson and Wetzels 2006; Ruyter et al. 1997]. A scale was developed and applied to eight well-known real-life brands that have moved to Second Life. Both the scale and the brands are statistically analyzed.

The structure of this paper is as follows. In the next section we briefly describe some aspects of the nature of virtual worlds and implications for marketing and brands. This is followed by a section focusing on axiology and brand value literature. The fourth section describes the methodology used in the study. Section five presents the results of the study and these are discussed in section six. In the final section, the paper rounds off with conclusions and implications for research and practice.

**2. Background on virtual worlds and implications for marketing and brand**

There is a very small but growing literature examining the use of online ‘avatars’ in marketing. The word ‘avatar’ derives from the Sanskrit word Avatāra, meaning ‘descent’ and usually implies a deliberate descent into mortal realms for special purposes. On the Web, avatars are graphical representations of characters – typically

people – and are used in various applications including chat, instant messaging, blogs, games and virtual communities. We define ‘virtual world avatars’ (VWA) as three-dimensional and typically, but not exclusively, anthropomorphic representations of people, including related in-world behavior and paraphernalia, for the purposes of interaction within virtual worlds. Evidence suggests that avatars and virtual representations have an important role to play in marketing [Holzwarth et al. 2006; Li et al. 2002; Reeves 2000]. Such alter-egos may not equate in attitudes, personality and/or behavior to the individual in the real world. However, no studies have extended this with empirical research into virtual world settings.

Virtual worlds are complex phenomena because they offer many kinds of marketing experiences hitherto unseen in a single channel [Chambers 2005; Kleeberger 2002; Vedrashko 2006]. Virtual worlds are not only designed to entertain users (customers), but also to engage them in an experience. The use of multiple senses in this experience can make it much more effective [Kroeber-Riel and Weinberg 1999, p. 123], and this is even more the case in emotional, new or unstructured stimulating environments of the kind seen in many virtual worlds.

Pine and Gilmore [1999, p. 30] create a typology of experience realms based on the nature of experience factors and how they work and interact. Within their model, two key dimensions are indicated – customer participation (active or passive) and the environmental relationship (immersive or absorptive). Active participation refers to the situation where the consumer is directly influencing the performance, e.g. when playing a computer game or a team sport as a player; passive participation refers to the opposite situation where the customer does not influence the performance, e.g. when watching television or a stage play. Immersion refers to becoming part of the experience (also related to the concept of flow, e.g., see Csikszentmihályi 1998), such as playing a first-person computer game, for instance Grand Theft Auto (GTA); absorption refers to the situation where a customer’s attention is occupied by bringing an experience into his or her mind, e.g., watching a movie in a cinema. Translating these experiences to the virtual world environment, we can discern the following examples of experience realms:

- *Entertainment* (passive absorbed). In a virtual world, this would include the consumption of media content, or of live content, such as viewing a stage performance in the virtual world, watching a movie on a screen in SL or listening to music or radio.
- *Education* (active absorbed). Various examples in a virtual world environment include tutorials and online lectures. There are many examples of universities and other organizations that are now using Second Life for educational and teaching purposes.
- *Escapist* (active immersion). For example, casinos, themed areas and ‘sims’ (i.e., 3-D virtual games within SL) all provide this kind of escapism. An example of a ‘sim’ would be a virtual world area with a gothic theme or a science fiction combat theme.
- *Esthetic* (passive immersion). A typical virtual world example would be visiting a museum in SL such as the Second Life International Space Museum, Second Louvre or the Open Art Museum.

Thus, overall, virtual worlds appear to provide an extraordinarily diverse range of possible experiences and appeals for marketing (Kleeberger 2002; Vedrashko 2006).

Taken to the extreme, virtual worlds enable the extension of self or the creation of alter-egos that in themselves are the target of marketing [Hemp 2006, pp. 50-57]. Such developments appear to rise to the top of Maslow’s [1943] hierarchy of needs and go well beyond the capacity of traditional online games. In this sense, the richness and potential of marketing in virtual worlds is immense.

Figure 1 demonstrates some instances of marketing and brands in Second Life. In examples 1 and 2, we see 3-D product placement. This form of advertisement helps to build brand awareness and enables users to experience facets of the virtual or real-life product in 3-D. In these examples, the polygonal representations of a real-life car can be examined and even driven (albeit in a limited, computer controlled fashion) and a mobile phone can be examined and carried on the avatar. Example 3 gives an instance of multimedia being used to help to promote digital content and products. Typically such products are in the media industry, including music, movies, television and so on. In the example, an album is promoted and can be purchased at the same location.

Example 4 gives an instance of the personalization and individual expression enabled for a brand in SL; at the Reebok store, the user may, for a small fee (L\$50, which is approximately US\$0.2), buy and customize a pair of training shoes to their own specifications. Example 5 provides an illustration of highly developed themed brand islands in SL; Dell has a number of linked islands that covers a wide range of subsumed brands, including books and customized computers. Here we see a central area with shops and other buildings built around the Dell logo. Other Dell islands can be reached from here. Finally, the last example is the themed brand island of AOL. This is themed on a desert island and contains video screens and media clips, e.g. of musicians such as the Nine Inch Nails, games, such as a large skateboard park, AOL brand merchandising (as seen in the screenshot) and many other activities.



**Example 1:** 3-D product placement: the Mazda Hakaze



**Example 2:** 3-D product placement: Sony Ericsson W950 mobile phone



**Example 3:** Rich multimedia advertising and video for Justin Timberlake album (Sony BMG)



**Example 4:** Personalization of 3-D products: Reebok shoes



**Example 5:** Themed island for Dell Computers



**Example 6:** Themed island for AOL

Figure 1. Examples of brand-building in Second Life

### 3. Axiology and brand value

The marketing literature typically defines value as the trade-off between benefits and sacrifices [Zeithaml 1988; Anderson and Narus 1999]. However, value can also be more broadly construed as covering the entire realm of

human experience. In such a scheme emotions cannot be neglected as a basic premise for consumer evaluations [Oliver 1994]. Few comprehensive value models have been applied to investigate marketing relationships. In this study we utilize the axiological model developed by Nobel Prize nominee Robert S. Hartman [1967]. This model is built around some basic philosophical assumptions (axioms); it is also multi-dimensional, covering different levels of human values among them emotional (E), practical (P) and logical (L). The combination of these three value dimensions gives rise to nine value types which comprise our multidimensional scale of the relationship construct.

In this way we generate a multidimensional scale of higher or lower level value types. Emotional value types are expressed by items 1-3, practical value types by items 4-6 and logical value types by items 7-9. Hence, the value construct encompasses a number of value types of different magnitudes. Let us explain this in more depth.

Hartman's [1967] value concept is formal and defines value as the degree of fulfillment of the intention of its concept. By intention is meant the person's own norm, or content of goodness criteria for a concept already existing mentally prior to valuation. This norm is compared (at the moment of valuation) to what is actually perceived of the concept. The more of these goodness criteria that are seen to be present, the more value is assigned by the person. Value is therefore not something inherent in the thing or situation valued, but the relation between the amount of goodness criteria (ex ante) and what is perceived of these criteria in a thing or situation (ex post). We term this mental process a valuation and its outcome value. Valuation consists of the mental comparison between the intention and the perceived extension of a concept. The part of the intention which is fulfilled during valuation is defined as positive value and the remaining part (non-fulfilled) negative value. We can write it as a formal relation as follows:

$$(1) \text{ Value} = \text{Intention} - \text{Extension}$$

As mentioned above Hartman differentiates between three value dimensions: the intrinsic (which we term emotional=E), extrinsic (here termed practical=P) and systemic (here termed logical=L). The reason we use different labels is to facilitate comprehension of the dimensions. These dimensions are said to be different modes of perceiving reality like different wave lengths of light reflected by the eye. Differentiating these dimensions by their degree of richness, the emotional dimension is defined to be far greater than the practical, which in turn is greater than the logical. Simply speaking, the emotional dimension is said to contain an infinite number of properties, each a continuum. The practical dimension also contains an infinite number of properties but each and every one of them is considered denumerable (discrete). The logical dimension, finally, only has a finite number of denumerable properties. Hence richness of a value dimension refers to the number and complexity of its properties.

Let us now define different value types from these three value dimensions. The formal expression of value suggested above, namely value = intention - extension makes it possible to construct nine different combinations of value dimensions. Both the intention and the extension can become emotional, practical, and logical. Hence we have the following possibilities (denoting E= emotional; P= practical and L= logical); E-E, E-P, E-L, P-E, P-P, P-L, L-E, L-P and L-L. Each one of these values can be seen as a positive or a negative value, and therefore, we can construct 18 types, nine positive and nine negative. In this paper we used the nine main value types, each one as a bipolar scale. Hartman has suggested that these value types can be ordered as an ethical measuring rod in his value instrument [Hartman 1973].

Early research on this instrument (called the Hartman Value Profile) and its underlying theory has verified the value dimensions [Elliott 1969] and its empirical validity [Lohman, 1968; Austin and Garwood 1977]. Davis [1978] goes further and finds the theory formally true, that is that all values can be accounted for, and that it allows us to order value experiences. Moore [1973] also finds that the value dimensions can serve as a basis for an ethical theory. Mattsson [1990] was the first to apply and validate Hartman's value theory in a great number of business contexts. It was possible to logically confirm the Hartman value hierarchy [Mattsson 1990, p. 116-121]. A number of marketing applications have validated the Hartman approach to values [Ruyter et al. 1997; Lemmink and Mattsson 1996; 2002; Danaher and Mattsson 1998].

#### 4. Methodology

As discussed above, the study is based on Hartman's axiology and uses nine items for measuring the various aspects of brand value. In addition an overall item for assessing convergent validity is also included (question 10). The survey items are provided in the Appendix. The selection of an axiological methodology is pertinent due to a number of reasons: few items are needed for an assessment in comparison to other methods, which facilitates and speeds-up delivery in Second Life; since the methodology is generic and formal it makes it comparable across brands and types; semi-blind items fit different brands and contexts more easily; in the theory goodness equals value which equals precision in our assessment of brands; this is the first study of its kind employing axiology in Second Life and therefore we are testing our ideas in an exploratory way; and, as discussed above, axiology is already established in many settings.

Each item was rated on a seven-step bipolar scale from “strongly agree” (7) to “strongly disagree” (1). Neutral was given the score of 4. The design of the surveys was to evaluate eight brands, two in each of four brand types: automotive, consumer electronics, consumer wear and media. These brand types were identified as prominent sectors with sufficient target consumer brands. Many target brands were visited in Second Life; the specific brands chosen were considered to be prominent in real life and to have a sufficient brand offering to be evaluated by respondents in Second Life; all the selected brands were operational, well-known and provided sufficient context for evaluation. These brands were Mercedes and Mazda (automotive sector), Nokia and Sony Ericsson (consumer electronics sector), Reebok and American Apparel (consumer wear sector) and AOL and Sony BMG (media sector). The selection of brands provided the basis for an inter-brand and inter-sectoral comparison.

Two surveys were created in QuestionPro; each survey evaluated four brands – one from each sector. The survey randomized the survey questions to reduce ordering bias. A Second Life URL (SLURL) was also provided for each brand to teleport the avatar directly to the SL location. In addition, data was also collected on age, gender and SL experience. An incentive to answer the questionnaire was provided (L\$2500=US\$10 approx.) and optionally the Second Life ID (or ‘SLID’ – an individual’s name in SL) was collected to be entered into the prize draw. The winner was selected at random and paid directly in SL.

The survey respondents were recruited via a convenience sample through five academic and professional marketing groups in Second Life. It was felt that such groups would provide the kind of informed feedback necessary for refining the survey and a comment box was provided at the end of the survey for this purpose. This was used to make some minor amendments before the main survey (see conclusions). Instant messages (IM) inviting responses were posted to groups in SL (along with the web link) and responses were collected for two weeks during July 2007. The message was repeated after one week. In total 63 responses were collected representing 252 brand assessments.

Although we plan to run confirmatory factor analysis on the main study data, for the pilot study our intention was to use exploratory factor analysis and basic descriptive statistics to compare the initial results of brand value between the eight brands. In particular we are interested to see if there is uni-dimensionality of the scale, and sufficient reliability and convergent validity.

## 5. Results

This section reports on the results of the pilot study. Since this is the first phase of a larger program of research, the focus is on exploratory statistics and descriptive analysis.

### 5.1. Sample characteristics

In all, we had 252 assessments of value for specific brands in Second Life. Both surveys had four brands; the first had 36 responses and the second had 27 responses. The sample was 61.9% male and 38.1% female, with a median age of 35 to 44 years. Many respondents had used Second Life for less than six months (69.8%), with 30.2% using it for less than one month; only 11.1% had used SL for a year or more.

### 5.2. Assessing the validity and reliability of the scale

Previous applications of Hartman’s axiology to brand value have variously found three dimensions (questions 1-3, 5-6 and 7 to 9) and uni-dimensionality of the complete scale, which may suggest a second-order grouping. Reliability analysis suggests strong reliability of the individual components and of the overall scale, all of which are well above the 0.7 cutoff suggested by Nunnally [1978] above the 0.8 cutoff suggested by Straub and Carlson [1989] for professional applications (see Table 2).

Table 2. Reliability analysis

Items	Cronbach’s Alpha
1-3	0.93
4-6	0.93
7-9	0.87
<b>Overall</b>	<b>0.97</b>

To evaluate the dimensionality of the scale, we used exploratory factor analysis on the pooled data set (n = 252). The data suggests strong and positive correlations between all nine items at the 0.1% level of significance. The global measure of sampling adequacy is also very high (KMO = 0.959) and the null hypothesis of independence among items is rejected at the 0.1% level of significance. The MSA of all items in the anti-image correlation matrix is well above 0.9 (the lowest being 0.945). An exploratory factor analysis with Principal Components Analysis and Direct Oblimin rotation suggests a single factor explaining 79.7% of variance. Table 3 shows the high factor loadings, all of which are well above the 0.5 mark suggested by Hair et al. [1998]. Thus, the data supports the

hypothesis of mono dimensionality or of a second-order grouping. The scale displays strong convergent validity; the correlation between the scale and question 10 (overall brand value) is 0.866, which is significant at the 0.1% level.

Table 3. Factor Loadings

Item	Loading
Q1	.896
Q2	.939
Q3	.910
Q4	.899
Q5	.931
Q6	.909
Q7	.826
Q8	.870
Q9	.851

5.3. Analysis of the brand value data

Let us now consider the value of each of the eight brands in our two surveys in terms of the individual axiological items in our scale. Table 4 shows the average scores for each brand on the nine dimensions. We can see some broad patterns in the results. For example, the value of Mazda is fairly neutral across the board, with slightly higher scores for evaluation of practical elements; Mercedes is well above this for all items, with all scores above 4.5 and L-P rated at 5.48. The consumer wear brands, Reebok and American Apparel, are both near-neutral, with Reebok edging slightly positive (averaging 4.21). AOL appears to be rated lowest across all brands, averaging just 3.43, with only one item where it is not lowest overall (L-E). On the other hand, the other media brand evaluated, Sony BMG, rated highly and averaged 4.54. Top of all for brand value are the consumer electronics brands, Nokia and Sony Ericsson, which averaged 4.87 and 4.72 respectively; two of Nokia's ratings, P-L and L-P are above 5.

Table 4. Average scores for individual brand value dimensions

Brand	EE	EP	EL	PE	PP	PL	LE	LP	LL	Overall
Mazda	3.83	4.14	4.19	4.00	4.31	4.19	4.06	4.42	4.00	<b>4.13</b>
Mercedes	4.56	4.56	4.59	4.67	4.74	4.67	4.56	5.48	4.59	<b>4.71</b>
Reebok	4.03	4.25	4.25	3.97	4.36	4.22	4.28	4.25	4.28	<b>4.21</b>
American Apparel	3.85	4.00	3.96	3.93	3.93	3.85	3.93	4.19	4.22	<b>3.98</b>
AOL	3.17	3.36	3.33	3.42	3.28	3.19	4.14	3.72	3.22	<b>3.43</b>
Sony BMG	4.67	4.63	4.52	4.56	4.70	4.52	4.37	4.67	4.26	<b>4.54</b>
Nokia	4.70	4.96	4.78	4.93	4.93	5.04	4.85	5.00	4.67	<b>4.87</b>
Sony Ericsson	4.75	4.94	4.36	4.58	4.92	4.81	4.69	4.78	4.64	<b>4.72</b>

Table 5. Grouped brand value dimensions, overall rating and ranking of brands

Brand	EX	Rank	PX	Rank	LX	Rank	XE	Rank	XP	Rank	XL	Rank	Sum	Rank	Q10	Rank
Mercedes	13.70	4	14.07	3	14.63	1	13.78	3	14.78	2	13.85	2	42.41	3	5.44	1
Sony Ericsson	14.06	2	14.31	2	14.11	3	14.03	2	14.64	3	13.81	3	42.47	2	4.97	2
Nokia	14.44	1	14.89	1	14.52	2	14.48	1	14.89	1	14.48	1	43.85	1	4.93	3
Sony BMG	13.81	3	13.78	4	13.30	4	13.59	4	14.00	4	13.30	4	40.89	4	4.74	4
Mazda	12.17	6	12.50	6	12.47	6	11.89	6	12.86	5	12.39	6	37.14	6	4.72	5
Reebok	12.53	5	12.56	5	12.81	5	12.28	5	12.86	5	12.75	5	37.89	5	4.39	6
American Apparel	11.81	7	11.70	7	12.33	7	11.70	7	12.11	7	12.04	7	35.85	7	4.33	7
AOL	9.86	8	9.89	8	11.08	8	10.72	8	10.36	8	9.75	8	30.83	8	3.53	8

For a more definitive comparison based on aspects of E, P and L, we need to group the ratings. Table 5 shows total scores based on emotional, practical or logical evaluation of something (EX, PX and LX) and emotional, physical or logical characteristics (XE, XL and XP). For example, EX = EE + EP + EL. For AOL, EX = 3.17 + 3.36

+ 3.33 = 9.86 A sum of ratings and the average of question 10, which rated the overall goodness of the brand, are also provided. Overall, question 10 ranks Mercedes highest, well above the competition (average of 5.44). In the cluster below is Sony Ericsson in second (4.97) and Nokia in third place (4.93). This is followed in another two clusters by Sony BMG and Mazda, and then Reebok and American Apparel. AOL rates lowest at only 3.53, below the mid-point. A similar pattern is found in the overall sum of the nine ratings. There is a core group at the top, with Mercedes and Nokia exchanging places between first and third. Mazda and Reebok, closely rated, exchange ranks between five and six.

The data on EX, PX, LX, XE, XP and XL is shown more clearly in the radar chart in Figure 2, which serves to provide a profile for the eight brands in SL. Nokia literally runs rings around the competition, with only one exception; Mercedes rates highest for logical evaluations of aspect of brand. Sony Ericsson and Mercedes jostle for ranks 2 and 3 for all but one of the groups; Sony Ericsson rate second for emotional and physical evaluation and for emotional aspects of brand. Mercedes rate better for logical evaluations and aspects. For EX, Sony BMG rates third, pushing Mercedes into fourth place. Otherwise, Sony BMG is consistently fourth and we can discern three clusters: Nokia, Mercedes, Sony Ericsson and Sony BMG at the top (with Sony BMG at the lower end); Reebok, Mazda and American Apparel in the middle (with American Apparel at the lower end); and at the bottom end, AOL, rating well below all other brands.

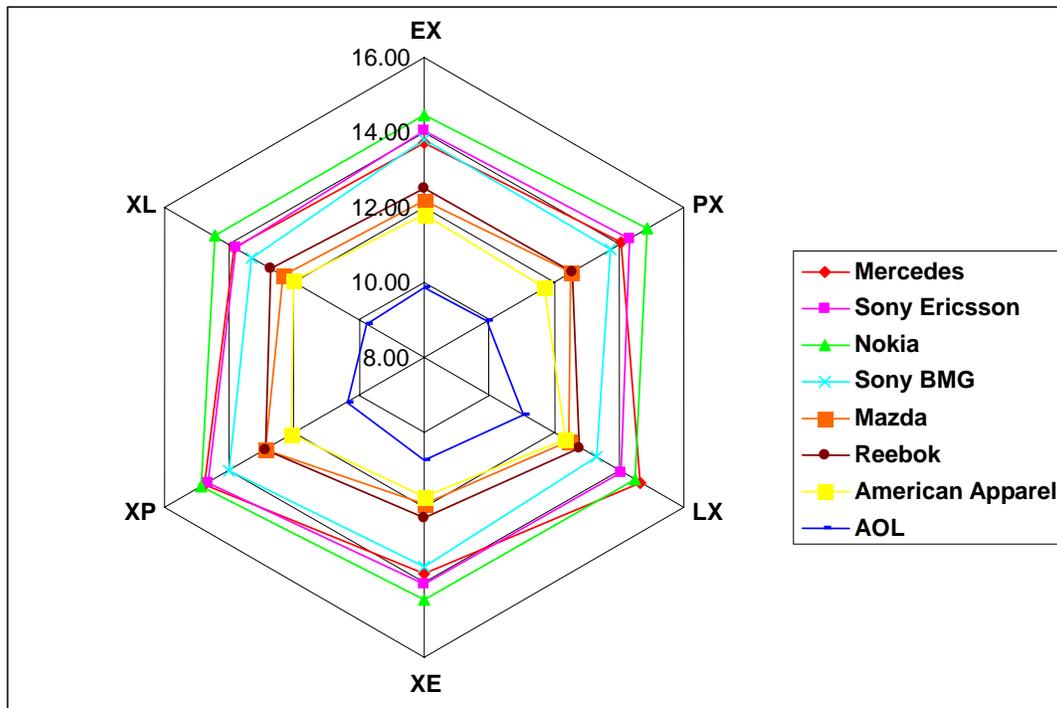


Figure 2. Radar chart of grouped brand value dimensions

#### 5.4. Analysis of responses by age, gender and SL experience

We were interested to see if there were any differences in responses due to demographic variables. For this purpose we used ANOVA on the data for each brand. We found no differences in the responses to questions or grouped variables (EX, PX, LX, XE, XP, XL and Overall) according to gender. Similarly, splitting age into two groups (under 35 and 35 and over), we found only two, related significant differences in responses; for Reebok, there were higher ratings for Q2 (E-P) ( $p=0.037$ ) and XE ( $p=0.046$ ) for younger rather than older respondents. However, we did find significant differences in the perceptions of those that had used SL for less than three months and three months or more. The significant relationships are highlighted in bold in Table 6. Specifically, those that had used SL for longer periods of time had lower ratings for AOL, Mercedes (Merc), American Apparel (AA), Sony BMG (SBMG) and Nokia. For AOL, this focused on emotional aspects (E-E, E-P and XE) and Q10. For Mercedes this focused on emotional and logical aspects (E-E, E-P, E-L, P-L, L-E, L-L, EX, LX, XE and XL) and overall. For AA this was limited to P-L and for SBMG to emotional and logical aspects in E-E, L-E, L-L, LX and XE. Nokia, at

the extreme, differed on every single item. Apparently, some brands and their products and services do not port easily to SL and deteriorate in the perceptions of more experienced users.

Table 6. ANOVA for SL experience and the eight brands (p-values reported)

Item	Brand							
	Mazda	Reebok	AOL	SE	Merc	AA	SBMG	Nokia
Q1 (E-E)	0.65	0.17	<b>0.05</b>	0.61	<b>0.03</b>	0.32	<b>0.04</b>	<b>0.00</b>
Q2 (E-P)	0.61	0.89	<b>0.05</b>	0.44	<b>0.04</b>	0.41	0.16	<b>0.00</b>
Q3 (E-L)	0.13	0.13	0.27	0.83	<b>0.03</b>	0.43	0.10	<b>0.00</b>
Q4 (P-E)	0.61	0.74	0.08	0.78	0.14	0.37	0.20	<b>0.00</b>
Q5 (P-P)	0.22	0.77	0.21	0.80	0.37	0.15	0.25	<b>0.00</b>
Q6 (P-L)	0.65	0.98	0.24	0.58	<b>0.04</b>	<b>0.04</b>	0.09	<b>0.00</b>
Q7 (L-E)	0.29	0.12	0.15	0.27	<b>0.01</b>	0.24	<b>0.02</b>	<b>0.00</b>
Q8 (L-P)	0.20	0.53	0.13	0.39	0.13	0.07	0.08	<b>0.00</b>
Q9 (L-L)	0.72	0.80	0.10	0.49	<b>0.01</b>	0.35	<b>0.05</b>	<b>0.00</b>
Q10	0.48	0.34	<b>0.04</b>	0.90	0.21	0.50	0.12	<b>0.00</b>
EX	0.34	0.32	0.07	0.59	<b>0.03</b>	0.37	0.08	<b>0.00</b>
PX	0.70	0.98	0.12	0.85	0.13	0.12	0.16	<b>0.00</b>
LX	0.26	0.33	0.07	0.33	<b>0.01</b>	0.15	<b>0.04</b>	<b>0.00</b>
XE	0.68	0.33	<b>0.04</b>	0.48	<b>0.03</b>	0.26	<b>0.05</b>	<b>0.00</b>
XP	0.29	0.77	0.09	0.63	0.11	0.15	0.14	<b>0.00</b>
XL	0.32	0.48	0.15	0.62	<b>0.01</b>	0.16	0.07	<b>0.00</b>
OVERALL	0.40	0.50	0.07	0.56	<b>0.03</b>	0.18	0.08	<b>0.00</b>

## 6. Discussion

The evidence suggests a strong, valid and reliable mono-dimensional scale for measuring brand value. The application of the scale to eight well-known brands in SL suggests strong variation in brand value, both overall and within the particular elements of emotional, practical and logical value. The context in our study is the brand in SL - its brand presence. Thus, context impacts/detracts from brand perceptions. This is seen in brand value; dimensions of the brand differ because of this difference between prior perception of the brand in RL and what SL context gives. We need a generic tool to measure this – and axiology has proved of value in this respect.

Perhaps not surprisingly, the prestige brands of Nokia, Sony Ericsson and Mercedes rated highest. The representation of clearly recognizable designs and image for mobile phones and cars translates nicely to SL. AOL was a major outlier and rated very poorly in all aspects. The representation of this brand simply does not work in SL – AOL Pointe is rather chaotic and fragmented and appears to focus too much on obvious self-promotion. Other brands fell in-between.

Although the rankings were similar throughout, there was also some variation in the aspects of brand value rated more highly; for example, Mercedes rated better on logical evaluation and less well on emotional aspects. To some degree this make intuitive sense, since Mercedes is all about uniqueness, quality and high specifications, but it is difficult to get emotionally excited about a car that is represented in 3-D; the emotional quality of the cars interior and attention to detail, the purr of the engine, and so on are mitigated. Similarly, American Apparel does not work well for physical aspects; the look and feel of good value and well designed clothing does not translate easily to virtual worlds.

Perhaps most interesting are the differences in perceptions of respondent groups. While age and gender have little effect (except for the greater XE and E-P for younger Reebok customers, indicating positive impression of the active, sport branding and personalization of shoes within SL), experience with SL does, and the data supports the anecdotal evidence in the business press that experienced users are not impressed with the way many RL brands have approached SL. For example, the Brand Science Institute [2007] in a survey of 200 SL users found the 72% were disappointed with the brand activities of companies in SL, with 42% citing a lack of commitment; only 7% suggested a positive brand influence. Moreover, users of SL, by nature of wearing a different persona, are likely to think differently [Hemp 2006]. Nokia and Mercedes appear to be hit hardest across many aspects by the ‘SL Effect.’ AOL appears to lose its emotional value at AOL Pointe and AA is not such good value for money for digital clothes bought in a virtual world, however similar the designs may look.

## 7. Conclusions

Overall, the study suggests that virtual worlds are a very different area of brand research that will require considerable attention from researchers and practitioners alike in order to create perceptive value for consumers. Clearly, the issue of moving a brand from real life to Second Life is not straightforward and even big brands like AOL are having major problems making it work. Since completing this research, three of the lowest rated brands studied - AOL, American Apparel and Reebok - have left Second Life. It is imperative for business to understand the true nature of Second Life and that there are risks involved in 'joining the bandwagon'. A strategic approach must be taken to be sure to capture E values and interactivity in P. Nevertheless, there clearly is potential value in successfully using Second Life in an experimental way for managers.

Considerable effort is required in understanding the nature of the brand and repackaging, and, in some cases, reformulating this in a way that is compatible with virtual worlds, their altered reality and that of their residents. Although this parallels the initial challenges with marketing on the Web, the more absorptive, individualized and highly interactive nature of the medium imply that this is a step change of much greater magnitude. Notwithstanding, other established or entrenched new media channels have a rich set of metrics to learn from. Such metrics do not yet exist in virtual worlds, providing a compelling research issue.

Many topics in this highly embryonic area of research and practice warrant future investigation. For example, consider the following. What are the determinants of consumer behavior with respect to branding in virtual worlds and what metrics can we use to measure brand effectiveness in virtual worlds? How effective are models of branding in virtual worlds both compared to each other and to other forms of branding on the Internet? What is the impact of branding in virtual worlds on other aspects of consumer behavior, including perceived utility, trust and product knowledge? How does branding in virtual worlds impact on various typologies of consumers? How do brands develop in virtual worlds and what is the role of advertising? What is the value and likelihood of success of real-life brands in virtual worlds and how are the aspects of brand value (e.g., emotional, physical and logical) similar or different to brands in real-life? How is the impact of branding in virtual worlds likely to change over time, as media and the market for virtual worlds matures? What is the future of branding in virtual worlds? For example, how will this new channel impact on other forms of branding, particularly in new media channels? These questions merely scratch the surface of this new research area.

This study is the pilot for a larger study that will take place during 2007. The study will use survey bots placed at the locations of each brand to provide greater context to the brand assessments. It is hoped that at least 200 responses will be collected for each of eight brands, in two phases. Again, two of each brand type will be assessed. The bots that will be used have been designed so that there is variation according to a number of avatar characteristics.

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**APPENDIX: Survey Items Used**

Item No.	Question	Value Tag	Description
1	I feel great pride identifying with Mazda.	E-E	Emotional value associated with something emotional
2	What Mazda delivers feels right for me.	E-P	Emotional value associated with something physical
3	I feel I am able to trust Mazda completely.	E-L	Emotional value associated with something logical
4	Mazda does me good.	P-E	Physical value associated with something emotional
5	Mazda is a satisfying buy.	P-P	Physical value associated with something physical
6	What I get from Mazda is worth the cost.	P-L	Physical value associated with something logical
7	The uniqueness of Mazda stands out.	L-E	Logical value associated with something emotional
8	Mazda is a symbol of quality.	L-P	Logical value associated with something physical
9	Information about Mazda is always correct.	L-L	Logical value associated with something logical
10	Mazda is a good brand.	-	Overall measure of brand value