



Satisfaction with virtual worlds: An integrated model of experiential value[☆]

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ABSTRACT

Although virtual worlds increasingly attract users today, few studies have addressed what satisfies virtual world users. We therefore defined and tested an integrated model of experiential system value and virtual world satisfaction. Drawing upon expectancy-value and cognitive evaluation theories, four important facets of experiential system value were hypothesized as determinants of virtual world satisfaction. Structural equation modeling was employed on a sample of 567 users of the virtual world Second Life. Direct and indirect effects were tested and are reported. Theoretical and practical implications are discussed.

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1. Introduction

The increase in the growth of virtual world usage is impressive. Indeed, they have been predicted as having about one billion registrants and 250 million active users by 2017.¹ As their rise offers new opportunities for designing and implementing business activities such as retailing, gaming, branding, recruitment, and co-creation, a better understanding of the factors satisfying virtual world users is needed. Satisfaction stimulates user loyalty and recommendation behavior, two important goals for virtual world designers and operators in their battle for new and returning visitors in a competitive field with many alternative sites. However, research on virtual world satisfaction is scarce and the influence of its determinants is not well understood. The prime purpose of our paper was therefore to provide an insight into the factors that drive user satisfaction with virtual worlds.

To study the drivers of virtual world satisfaction, we adopted an experiential value perspective [11]; i.e., one in which the system value is perceived by the user either directly through system use or indirectly by achieving explicit goals during its use. Since virtual worlds are multipurpose IS providing value through both *utilitarian*, and *hedonic* experience, an experiential value concept

can provide insight into the experiences that drive user satisfaction.

Using expectancy-value theory (EVT) and cognitive evaluation theory (CET) as theoretical foundations, we therefore proposed a model integrating value and satisfaction. The model addressed four sources of value: two intrinsic (escapism and entertainment), and two extrinsic (economic and ease of use). These four sources of value tap into the interactive and multi-purpose character of virtual worlds. By proposing and validating the model, we hoped to answer two questions:

- (1) Which experiential value elements are relevant drivers of user satisfaction with virtual worlds?; and
- (2) How and to what extent do these drivers explain virtual world satisfaction?

To investigate these questions, we initiated a literature study followed by an empirical analysis.

2. Virtual worlds today

Virtual worlds visually mimic complex physical spaces in which people can interact with others and use virtual objects and/or communicate via avatars; e.g., Habitat, developed by Lucasfilm games, was introduced in 1985 and can be considered as one of the first large scale multi-user virtual worlds in which participants were represented by an avatar. The Internet fueled the rise of a new generation of immersive 3-D virtual worlds like AlphaWorld (currently one of many worlds in the ActiveWorlds Universe, a

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¹ <http://www.strategyanalytics.com>.

community of hundreds of thousands of users who chat and build 3-D virtual environments in millions of square kilometers of virtual territory) and World of Warcraft (in which players control a character avatar within a game world, explore the landscape, fight enemies and monsters, and complete quests, with 12 million participants in 2010). While such games require their users to behave in the context of story lines that are provided by the game, virtual worlds like Second Life, The Sims Online, and ActiveWorlds allow their residents to live a virtual 'second' life independently of a built-in game scenario. In such virtual worlds, residents can interact, socialize, and participate in individual or group activities, or escape reality through leisure activities like watching a movie or travel through the virtual world. Residents can also create economic value, earning money by trading virtual objects and services (clothes, furniture, cars, movies). 21.9 million people have already registered for Second Life, while some Fortune 500 companies, like IBM, Philips, and ABN AMRO, have chosen to create a presence in such virtual worlds and actively use their virtual estates for activities like virtual team meetings, co-creation workshops with customers, and product launches.

3. Theoretical background

The theoretical background of our study was built on the integration of insights on experiential value and user satisfaction.

3.1. Value as a determinant of user satisfaction

Our central assumption was that value determines satisfaction. This is founded on EVT, a paradigm widely used by consumer value theorists to explain an individual's satisfaction with an object or behavior. According to EVT, an individual will be more satisfied with an object or behavior if he or she perceives it as more likely that the object or behavior possesses value. EVT has especially been applied to model the direct influence of perceived value on satisfaction.

3.2. User satisfaction

Satisfaction is a measure for the success of IS, and is a critical construct in IS research since it relates to success factors such as trust, relationship intention, continuance intention and loyalty. Satisfaction reflects post-usage evaluative judgments concerning the use of a system. Following Muyelle et al. [12], satisfaction is defined as the attitude of a hands-on user towards the system.

Recently, Finn et al. [2] summarized 17 articles addressing the influence of system attributes on satisfaction, covering web-based systems such as webstores, portals, e-brokers, educational sites and financial sites. An update of their work with 5 related articles in the fields of virtual communities [4,8], online chatting [18] and m-commerce applications [9,19] revealed that a diversity of extrinsic values (e.g., ease of use, usefulness, knowledge sharing) and intrinsic values (e.g., design, aesthetics, entertainment, enjoyment) related to system use affected web-based satisfaction. Furthermore, the diversity of system elements underlined the need for a holistic approach when studying web-based satisfaction.

3.3. Experiential system value

In our study we focused on *experiential system value*, which we defined as a perceived, relativistic preference for system attributes or system performances resulting from system usage to achieve users' goals or purposes. Characteristic of experiential system value is that it may be derived either directly from system experience or from a weighted trade-off between what users receive from, and invest in, system use (extrinsic value).

Intrinsic value, by being dependent on interaction with the system itself, can be either active or a reactive, where *active* value results from collaboration with the system, while *reactive* value derives from a user's response to experience with the system. Since extrinsic value is related to concrete benefits, a distinction can be made between value in terms of performance expectancy (i.e., the gains resulting from system use) and effort expectancy (i.e., the effort needed to realize benefits).

4. Research model and hypotheses

4.1. An integrated model of experiential system value

We considered four sources of experiential system value that can be particularly relevant in virtual worlds: two sources of intrinsic value (escapism and entertainment), and two sources of extrinsic value (economic value and ease of use).

- *Escapism* is the extent to which the user becomes so absorbed in using an IS that it fulfills his or her desire to 'leave' reality in a cognitive and emotional way [3]. Following Mathwick et al., escapism is an *intrinsic* value, as it reflects elements of social play; it is an active source of intrinsic value because the user needs to be actively involved with the system to escape from reality. In virtual world settings, users can make use of avatars to construct a new self, take on the role of their choice, and escape from unpleasant or mundane aspects of everyday life.
- *Entertainment value* is the perceived degree to which the use of an IS is fun and pleasant. This is an *intrinsic* value as it offers instant pleasure, irrespective of the achievement of tasks. Furthermore, this is a reactive source of intrinsic value, as it reflects system experiences that enthrall the user, leading to enthusiasm and appreciation. In contrast with video and network games, virtual worlds offer various entertaining experience in persistent worlds that exist parallel to reality. Time-limitations or dependency on other users are lacking. These characteristics add a new perspective and make it useful to study in virtual world settings.
- *Economic value* is the buyers' net gain from acquiring a product or service, which is clearly an *extrinsic* value related to commercial activities. It is related to performance expectancy. Given the ever-increasing prominence of economic activity in the virtual world, this may be an important driver of user satisfaction, and thus an empirical investigation of the role of economic value is warranted.
- *Ease of use* is a user's belief that learning to navigate the system is free of effort. The concept is *extrinsic* and related to effort expectancy as it related to the effort a user must invest to use the system. Since using virtual world environments demands new navigational skills, ease of use is likely to be a driver of user satisfaction.

Together the four value concepts constitute an integrated model, which is displayed in Fig. 1. The model contains both direct and indirect effects, and involves eight hypotheses.

4.2. Hypotheses

4.2.1. Experiential value as a determinant of satisfaction

Our model is based on the positive and direct relationships between experiential value and user satisfaction, It is supported by empirical findings about the *individual* facets of experiential value as the key determinant of overall satisfaction in consumer settings (product or service evaluation and willingness to buy), This makes it plausible to assume that economic value positively affects satisfaction in virtual world settings. In addition, as escapism

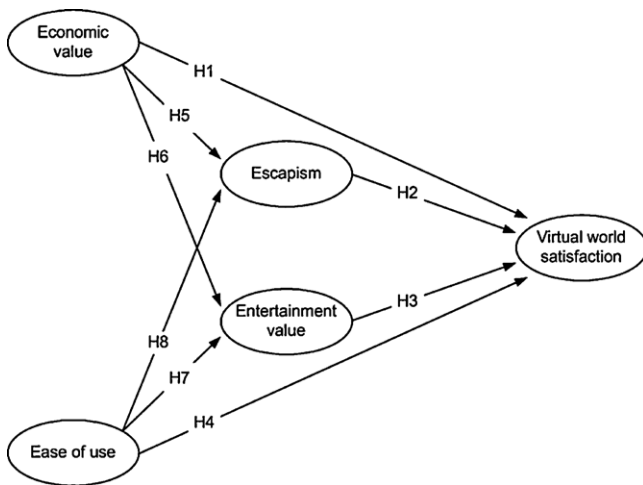


Fig. 1. Proposed theoretical model and research hypotheses.

reflects elements of play and that playfulness is a driver of online satisfaction [10], a positive relationship between escapism and satisfaction is likely. Finally, because of the effects of entertainment value and ease of use on web-based satisfaction [7], we assumed positive influences of them on satisfaction.

Thus we hypothesized:

H1. Economic value positively influences satisfaction with a virtual world.

H2. Escapism positively influences satisfaction with a virtual world.

H3. Entertainment value positively influences satisfaction with a virtual world.

H4. Ease of use positively influences satisfaction with a virtual world.

4.2.2. Extrinsic value as intrinsic value determinant

Virtual worlds evolved from primarily hedonic contexts to those in which extrinsic, utilitarian elements have added value to their users. The interrelationships between the extrinsic and intrinsic elements of value can be explained using CET, which is specifically concerned with contextual factors that contribute to immediate satisfaction by supporting intrinsic motivation. CET has been successfully applied to different forms of goal directed and recreational behavior, and is of particular interest in situations where both extrinsic and intrinsic motives exist.

In essence, its central proposition is that contextual cues or events that induce feelings of autonomy and competence are likely to enhance intrinsic motivation for an action. Autonomy pertains to the volitional and uncontrolled engagement in an activity, whereas competence concerns the feeling of effectively meeting the challenges of an activity [15]. In situations where extrinsic motives are perceived as non-controlling and convey positive information about an individual's competency, intrinsic motivation is likely to be stimulated. It seems plausible to assume that such situations exist in the context of virtual world systems. Ease of use reflects experiences of autonomy, whereas economic value mirrors experiences of competence (meeting the challenge of making good buys in virtual worlds). Perceiving the two extrinsic values delivers positive information about the individual's ability to control the environment, which is likely to have a positive effect on intrinsic constructs such as entertainment value and escapism.

Accumulating scientific research indicates that purchasing in offline or online settings is an entertaining experience as well as an opportunity to escape from reality or routine. Purchasing has been assumed to generate intrinsic value like entertainment and escapism when it is economic value-oriented, i.e., getting good value for money and bargain hunting. The achievement of obtaining economic value gives the shopper a sense of competence and is therefore gratifying. Thus we proposed:

H5. Economic value positively influences escapism.

H6. Economic value positively influences entertainment value.

Bruner and Kumar [1] found empirical evidence that if a mobile Internet device is perceived to be easy to use, it is likely to give the user a sense of control, which increases the fun of using it. This led to the hypothesis:

H7. Ease of use positively influences entertainment value.

Similarly, an easy to use system suggests that the user is in control – then the user is freed of negative mental reactions, such as anxiety. Therefore, ease of use can be expected to positively influence the user's ability to get so immersed in the system that it allows him or her to escape from real-life problems:

H8. Ease of use positively influences escapism.

5. Methods

5.1. Procedure

We conducted a survey of Dutch, registered users of Second Life to collect empirical data to test our hypotheses. The population consisted of a mailing list of 50,000 registered users who were sent an e-mail with an invitation to participate in our study. Users signed up voluntarily. The invitation included a link that led to a web-based survey. As an incentive, respondents were told that if they filled in their e-mail address their name would be placed in a raffle for ten book tokens each worth 20 Euros.

The questionnaire was translated from English to Dutch using a combination of standard and back translation. A bilingual speaker whose native language was Dutch translated the questionnaire into Dutch. A second bilingual speaker whose native language was English then compared this Dutch questionnaire to the original English questionnaire. A pretest was conducted to assess the wording and interpretability of the questionnaire and its introduction. Under supervision of a member of the research team, five graduate students participated in this pretest. The participants were asked to evaluate the clarity and interpretability of the questionnaire and to suggest improvements. Some minor modifications were made.

5.2. Measures

Multi-item scales were used to measure the research constructs. For each scale, items were based on previous studies (as shown in Appendix A). All items were part of reliable and validated measurement instruments. We did however tailor the items to the context of our study' e.g., we changed the target of the original *ease of use* items from "The Internet" to "Second Life". Additionally, we adapted some items of escapism and entertainment value to make them more suitable for an online context.

5.3. Sample

1348 respondents completed the online questionnaire. To make sure that the respondents had the experience needed for valid

Table 1
Sample demographics ($n = 567$).

Measure	Items	% of respondents (n)
Gender	Male	49% (278)
	Female	51% (289)
Age	<20	3.9% (22)
	20–29	14.3% (81)
	30–39	33.2% (188)
	40–49	28.9% (164)
	50–59	15% (85)
	60–69	3.7% (21)
Second Life experience	>69	1.1% (6)
	Very inexperienced	1.2% (7)
	Inexperienced	11.6% (66)
	Neutral	34.7% (197)
	Experienced	43.9% (249)
Second Life use	Very experienced	8.5% (48)
	Daily	6.0% (34)
	Few times a week	30.2% (171)
Reasons behind Second Life usage	Once a week	63.8% (362)
	Chat with other users	83.8% (475)
	Explore virtual worlds	73.4% (416)
	Make friends	67.2% (381)
	Play games	26.8% (152)
	Find information	13.1% (74)
	Network (business)	3.7% (21)
Buying (digital) products at Second Life	Other reasons	13.8% (78)
	Occasionally	47.6% (270)
	Regularly	37% (210)
	Often	15.3% (87)

answering, we removed those responses that indicated less than once a week use of Second Life as well as those who suggested that they did not buy at Second Life. After deleting these, the final sample consisted of 567 responses. Table 1 displays the demographics of the sample.

Obviously men and women were almost equally represented and most respondents were between 30 and 50 years old (62.1%, $n = 352$). Chatting with others, exploring Second Life as virtual worlds, and making friends were the dominant reasons for using the system.

Table 2
Dimensionality, reliability and convergent validity statistics.

Construct (no. of items)	Factor loadings measurement model (CFA)	Factor loadings structural model (SEM)	α	Composite reliability	Minim. item-to-total correlation	AVE
Economic value (2)	0.85; 0.80	0.74; 0.92	0.81	0.91	0.80	0.87
Escapism (4)	0.83; 0.90; 0.81; 0.77	0.83; 0.90; 0.81; 0.77	0.90	0.93	0.77	0.76
Entertainment value (4)	0.82; 0.78; 0.85; 0.66	0.82; 0.78; 0.86; 0.67	0.86	0.91	0.66	0.70
Ease of use (4)	0.89; 0.92; 0.87; 0.93	0.89; 0.91; 0.87; 0.93	0.94	0.96	0.87	0.86
Virtual world satisfaction (4)	0.90; 0.90; 0.86; 0.88	0.86; 0.89; 0.85; 0.87	0.92	0.95	0.86	0.83

Table 3
Discriminant validity: AVEs versus cross-construct squared correlations.

Construct	Economic value	Escapism	Entertainment value	Ease of use	Virtual world satisfaction
Economic value	0.87				
Escapism	0.08	0.76			
Entertainment value	0.15	0.24	0.70		
Ease of use	0.06	0.03	0.11	0.86	
Virtual world satisfaction	0.17	0.16	0.32	0.12	0.83

Note: the bold scores (diagonal) are the AVEs of the individual constructs. Off-diagonal scores are the squared correlations between the constructs.

6. Results

6.1. Test of dimensionality

Exploratory factor analysis (EFA) was run using the principal components model with the oblique rotation technique (Direct Oblimin). Oblique rotation was applied since the goal of the EFA was to obtain theoretically meaningful factors, and not to reduce the number of variables. The data passed the thresholds for sampling adequacy (KMO MSA 0.893, Bartlett's test of sphericity 7586 $p < 0.001$). Two items were removed since they demonstrated high cross-loadings. The final factor solution was then derived. Together, the five factors explained 80% of the variance in the data. Unidimensionality of the measures was confirmed since each item loaded highest on its intended factor.

6.2. Measurement model

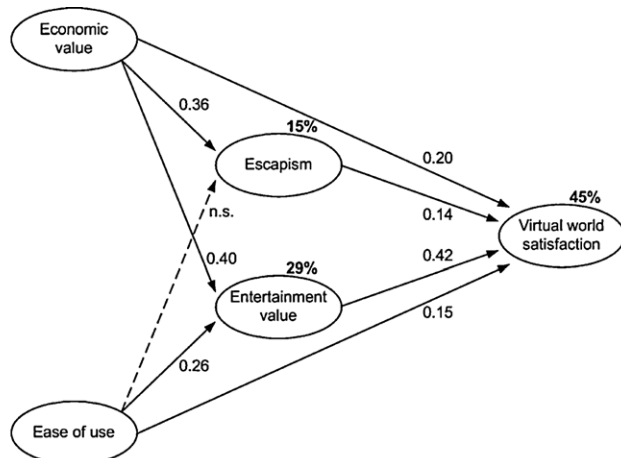
Confirmatory factor analysis (CFA) was used to assess the psychometric properties of the measures. We used Amos 7 with maximum likelihood estimation (MLE) to assess the measurement model. Except for the Chi-square statistic ($\chi^2 = 366$, $p < 0.001$), all fit indices demonstrated a good fit with the data (CMIN/DF 2.93; GFI: 0.93; AGFI: 0.91; NFI: 0.95; TLI: 0.96; CFI: 0.97; RMSEA: 0.058). As such, the results confirmed the dimensionality of the solution, and suggested convergent and discriminant validity. We further studied the validity and assessed the reliability of the measures by computation of Cronbach's alphas, composite reliabilities, minimum item-to-total correlations and Average Variance Extracted (AVE) scores (see Table 2).

The results strongly confirmed the reliability of the measures. The alphas and composite reliability scores exceeded 0.80, and all AVEs surpassed the 0.50 guideline. The convergent validity of the measures was confirmed by the factor loadings (CFA), alphas, AVEs and minimum item-to-total correlations. All scores exceeded accepted rules of thumb (factor loadings: 0.70; alpha's: 0.80; AVEs: 0.50; minimum item-to-total correlations: 0.40). Finally, we conducted two additional tests of discriminant validity. First, we used the CFA output to study the within-construct item factor loadings and compared these to across-construct item loadings. Since all within-construct item loadings were high, and lower than the cross-loadings, discriminant validity could be assumed. Then, we studied the individual AVEs and compared the scores with the squared correlations among the constructs. All AVEs exceeded the

Table 4
Hypothesis testing results ($n=567$).

Hypothesis	Path	β	Sign.
1	Economic value \rightarrow Virtual world satisfaction	0.20	<0.001
2	Escapism \rightarrow Virtual world satisfaction	0.14	<0.01
3	Entertainment \rightarrow Virtual world satisfaction	0.42	<0.001
4	Perceived ease of use \rightarrow Virtual world satisfaction	0.15	<0.001
5	Economic value \rightarrow Escapism	0.36	<0.001
6	Economic value \rightarrow Entertainment value	0.40	<0.001
7	Ease of use \rightarrow Entertainment value	0.26	<0.001
8	Ease of use \rightarrow Escapism	0.08	n.s.

Note: all expected relationships are positive in nature; n.s. refers to non-significance.



Note: all path coefficients are significant at $p < 0.001$, except for escapism \rightarrow virtual world satisfaction ($p < 0.01$).

Fig. 2. Results structural model. Note: all path coefficients are significant at $p < 0.001$, except for escapism \rightarrow virtual world satisfaction ($p < 0.01$).

values of the squared correlations among the constructs in the corresponding rows and columns (see Table 3). As such, discriminant validity was redemonstrated.

6.3. Structural model

SEM was applied to estimate the structural model (Amos 7.0; MLE). Apart from the Chi-square statistic ($\chi^2 = 454$, $p < 0.001$), all fit indices indicated acceptable fit with the data (CMIN/df: 3,600; GFI: 0.92; AGFI: 0.89; NFI: 0.94; TLI: 0.95; CFI: 0.96; RMSEA: 0.068). We estimated the path coefficients (β) and R^2 values of the structural model. Table 4 shows the overall results, which are also shown in Fig. 2.

Overall, the results strongly confirmed the predictive power of the model. The amount of variance explained is quite high. The results indicated that seven hypotheses (H1, H2, H3, H4, H5, H6, H7) were supported while one (H8) was rejected.

The four dimensions of experiential value explained 45% of virtual world satisfaction, which is quite encouraging. Entertainment value and economic value had substantial direct effects (>0.19), whereas the direct influence of ease of use and escapism was weaker though still significant. For the second-order effects, economic value loaded strongly on escapism and entertainment value, while ease of use had a strong influence on entertainment value. The influence of ease of use on escapism was not significant.

7. Discussion and conclusion

Our results have provided insights into the relationships between experiential system value and virtual world satisfaction. These offer three theoretical contributions: (1) they show that

satisfaction with virtual worlds is derived from a mix of intrinsic and extrinsic experiential values, (2) they emphasize the interrelatedness of extrinsic and extrinsic values, and thus the applicability of CET for explaining satisfaction with virtual worlds, and (3) they offer a more system-specific insight into the antecedents of IS user satisfaction, specifically the importance of intrinsic value.

Our results confirmed that experiential value is a strong and direct determinant of users' satisfaction with virtual worlds, showing that virtual world users derive satisfaction from a mixture of intrinsic and extrinsic value sources. A few virtual world studies e.g., [16,17] tapped into the multi-purpose characteristic of these systems by exploring the impact of several intrinsic and extrinsic values. However, our experiential value perspective provided a more holistic perspective on value and satisfaction.

Furthermore, our study paid specific attention to the interrelatedness of extrinsic and intrinsic values. Thus we showed that extrinsic experiential value associated with autonomy (ease of use) and competence (economic value) had second-order effects on satisfaction, via intrinsic forms of experiential value (entertainment, escapism). This provided evidence of the applicability of CET in virtual world settings and contributed to the relatively unexplored field of motivation research in 3-D worlds.

Our findings showed that the influence of ease on use on escapism was not significant. A re-estimation of the structural model (Amos 7.0; MLE) using the sample of rather inexperienced users excluded from the original analysis ($n = 781$) showed that for this group ease of use *did* significantly influence escapism ($\beta = 0.14$, $p < 0.001$). In addition, we found a stronger influence of ease of use on entertainment and satisfaction for the sample of inexperienced users (entertainment: $\beta = 0.31$, $p < 0.001$; satisfaction: $\beta = 0.33$, $p < 0.001$) than for the sample of rather experienced users (entertainment: 0.26 , $p < 0.001$; satisfaction: $\beta = 0.15$, $p < 0.001$). These results suggest that ease of use is a more relevant and influential factor for inexperienced users.

Our research also adds to the wider research on IS user satisfaction as it expands the antecedents of satisfaction from rather generic, overall system evaluations, such as information quality, IS performance and service quality, to more specific system perceptions, such as economic value and escapism. Moreover, it provides empirical support for the nomological validity of intrinsic value, which has received little attention in the IS satisfaction literature, and demonstrates the role of this value construct in explaining the psychological processes leading to satisfaction.

From a practical point of view the outcomes of our study serve to improve the guidelines for the design and development of virtual world features and settings that specifically stimulate the satisfaction of their users. Designers as well as operators of virtual worlds should note that the nature of virtual worlds demands a holistic approach. A key challenge for virtual world design and development will not only be to address the four sources of experiential value, but also to be set the right priorities. For

example, virtual world development teams should give priority to investments in economic value and entertainment value features because of their overall effect on satisfaction. However, the teams should be challenged to go beyond the level of individual experiential value sources and search for interesting combinations. Economic gains from trading virtual properties, for instance, are not a goal in themselves – their main influence on satisfaction, as identified in our model, lay in enhancing both escapism and entertainment value. Thus, economic transactions should be designed to include game-like elements. Particularly, our results suggest the need for the development of features and an infrastructure that enable and support economic activities that can benefit from entertaining virtual world features (e.g., through the development of virtual goods like furniture and clothes to sell at a profit, or earn money for avatars or acting as a virtual home decorators, etc.).

8. Limitations

Of course, our study had some limitations. First, we examined only one virtual world. While the functions and features of Second Life are comparable to some other virtual worlds, our findings may not be fully generalizable. Second, our sample consisted of experienced virtual world users; thus caution is needed when extrapolating our findings to inexperienced users. Third, in line with the goal of our research. The target in our study was the virtual world as a whole; thus we focused on the economic value of the system. Thus we did not address different products, nor different entertaining activities, different options in avatar-mediated navigation or ways to escape from reality. Finally, whereas we demonstrated the strong predictive power of the four facets of experiential system value under examination, the addition of other values could result in additional insights.

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Appendix A. Measurement scales (***) removed after EFA)

Economic value (seven point Likert scale ranging from highly disagree to highly agree [11]). Mean (SD) = 4.24 (0.99).

1. The products that can be bought in <name virtual world> are a good economic value.
2. Overall, I'm happy with the prices of the products in <name virtual world>.
3. The prices of the product(s) I purchased in <name virtual world> are too high, given the quality. (reverse) ***
Escapism (seven point Likert scale ranging from highly disagree to highly agree [6,11]). Mean (SD) = 4.93 (1.31).
1. Using <name virtual world> makes me feel like I am in another world.
2. Using <name virtual world> "gets me away from it all".
3. I get so involved when I use <name virtual world> that I forget everything else.
4. Using <name virtual world> truly feels like "an escape".
Entertainment value (seven point Likert scale ranging from highly disagree to highly agree [11,14]). Mean (SD) = 5.76 (0.84).
1. I think <name virtual world> is very entertaining.
2. The enthusiasm of <name virtual world> is catching, it picks me up.
3. Using <name virtual world> entertains me.
4. I think <name virtual world> is exciting. ***

5. I think <name virtual world> is imaginative.
Perceived ease of use (seven point Likert scale ranging from highly disagree to highly agree [5,13]). Mean (SD) = 4.74 (1.31).
1. Learning how to use <name virtual world> is easy.
2. <name virtual world> is clear and understandable to use.
3. It is easy to become skilful at using <name virtual world>.
4. Overall, <name virtual world> is easy to use.
Web-based satisfaction (seven point semantic differentials [5]). Mean (SD) = 5.41 (1.09).
1. very dissatisfied–very satisfied
2. very displeased–very pleased
3. very frustrated–very contented
4. absolutely terrible–absolutely delighted

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