



## Purchasing behavior in social virtual worlds: An examination of Habbo Hotel

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### ARTICLE INFO

*Article history:*  
Available online 15 January 2013

*Keywords:*  
Virtual worlds  
Social virtual worlds  
UTAUT  
Purchasing behavior  
Habbo Hotel

### ABSTRACT

Spending real money on virtual goods and services has become a popular form of online consumer behavior, particularly among teenagers. This study builds on the Unified Theory of Acceptance and Use of Technology (UTAUT) to examine the role of motivation, social influence, measured with perceived network size as well as user interface and facilitating conditions in predicting the intention to engage in purchasing in social virtual worlds. The research model is tested with data from 1045 users of Habbo Hotel, world's most popular virtual world for teenagers. The results underscore the role of perceived network size and motivational factors in explaining in-world purchase decisions. The study shows that virtual purchasing behavior is substantially influenced by the factors driving usage behavior. Hence, virtual purchasing can be understood as a means to enhance the user experience. For virtual world operators, reinforcing the sense of presence of user's social network offers a means to promote virtual purchasing.

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### 1. Introduction

Virtual worlds have become popular spaces for social interaction. As of July 2011, virtual worlds have received 1.4 billion registered users, 70% of which are between 5 and 15 years old.<sup>1</sup> In addition to the growing usage rates, the importance of virtual worlds is also increasing from an economic perspective. The overall annual revenue of virtual worlds has been reported to be \$7 billion and total volume of the US virtual goods market to be worth \$2 billion in 2011.<sup>2</sup>

Purchasing behavior inside virtual worlds plays a pivotal role for the virtual world operators since many virtual worlds do not apply access fees or periodical subscriptions. Instead, virtual worlds generate revenue from selling virtual goods or property, and offering premium accounts with exclusive features and benefits for the users. For example, Habbo Hotel sold virtual goods worth €4.5 million to its users in December 2010.<sup>3</sup>

Virtual worlds can be classified into gaming worlds and social virtual worlds (SVWs) (Jung, 2011). Unlike gaming worlds, SVWs do not have narrative goals or level-ups. The attraction of SVWs lies within the in-world social setting, i.e. interaction with other users in the 3D environment via customizable avatars, while exploring the virtual environment. Hence, SVWs can be viewed to belong to social communication technologies (Koo, Wati, & Jung, 2011). SVWs can facilitate in-world games. However, in contrast to gaming worlds, the games are not designed as a core component of the user experience. As a result, we define SVWs as persistent computer-mediated 3D environments, designed for social interaction and entertainment, where the users are represented as avatars (Bartle, 2003; Bell, 2008; Mäntymäki & Salo, 2011).

Prior literature has examined the role of virtual experiences and the virtual environment (Animesh, Pinsonneault, Yang, & Oh, 2011). Furthermore, the perceived value of virtual items and those factors that are intrinsic to the purchasing process have also been found to affect decisions to purchase in virtual worlds (Guo & Barnes, 2011). In addition, purchasing has been positioned as a subsequent behavior resulting from continuous service usage (Mäntymäki & Salo, 2011). Besides these contributions, the overall body of knowledge on purchasing behavior in SVWs is limited.

To address this gap in the literature, the objective of the study is to examine what factors predict purchasing behavior in social virtual worlds. We build on the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh, Morris, Davis, & Davis, 2003; see also Venkatesh, Thong, & Xu, 2012) to develop an integrative framework accommodating the motivational factors, perceived network size, user interface and facilitating conditions as predictors of virtual purchasing behavior.

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<sup>1</sup> Q2 2011 VW cumulative registered accounts reaches 1.4 billion, kZero, 2011, <http://www.kzero.co.uk/blog/?p=4625>, retrieved: January 4, 2012.

<sup>2</sup> Hudson, C., Smith, J. Inside Virtual Goods: The US Virtual Goods Market 2011–2012, <http://www.insidevirtualgoods.com/us-Virtual-goods/#aboutreport>, retrieved: February 12, 2012.

<sup>3</sup> Sulake Corporation, Habbo – Where else? Sulake Corporation, 2012, <http://www.sulake.com/habbo/?navi=2>, retrieved: December 6, 2012.

On a contextual level, research on virtual worlds has been biased towards virtual worlds for adults, particularly Second Life (see e.g. Animesh et al., 2011; Goel, Johnson, Junglas, & Ives, 2011; Nah, Eschenbrenner, & DeWester, 2011; Saunders, Rutkowski, van Genuchten, Vogel, & Orrego, 2001; Shelton, 2010; Zhou, Jin, Vogel, Fang, & Chen, 2011), despite the fact that young people constitute the largest demographic group of virtual world users (Bell, 2008; Wasko, Teigland, Leidner, & Jarvenpaa, 2011). To fill in this second gap in the literature, we empirically focus on Habbo Hotel, which has 278 million registered users and is the most popular virtual world for teenagers with 5 million monthly unique visitors from 150 countries.<sup>4</sup>

## 2. Theoretical background

### 2.1. Purchasing behavior in virtual worlds

The distinct characteristic of virtual goods and services (virtual items, characters, currencies, premium memberships) is that they do not have a clear atomistic equivalent or component in them (Fairfield, 2005), and they can only be consumed and have value inside a specific virtual environment.

The literature has identified a number of factors that influence purchasing behavior in virtual worlds. Shin (2008) found perceived risk and social norm the principal determinants of the intention to engage in transactions with virtual currency, followed by attitude, perceived usefulness and ease of use. Lehdonvirta (2009) identified three conceptual categories for the purchase drivers of virtual items, namely functional (game performance and advanced characters), hedonic (aesthetic appeal) and social drivers (visual appearance and rare collectibles). Guo and Barnes (2011) found that extrinsic motivators, such as effort expectancy, performance expectancy and perceived value, as well as intrinsic motivators, such as perceived enjoyment and the customization of the character, predicted the purchase intention in Second Life.

As a result, virtual purchasing behavior is determined by factors intrinsic to the virtual world. Since there are a large number of other users present in SVWs, virtual consumption is also about building identity, experiences and status that resemble real-life consumption habits. Hence consumption patterns are affected by factors known to influence consumer behavior in general, such as motivation and social influence (cf. Sheth, Newman, & Gross, 1991). In addition, the characteristics of the virtual environment have been found to play a role in predicting purchase decisions. Animesh et al. (2011) examined social presence, flow and telepresence stemming from the virtual environment as the key experiences determining the purchasing intention in Second Life.

Purchasing behavior represents the financial aspect of the overall engagement in the virtual world. In addition to money, the users invest time in in-world activities, but also in their customer relationship with the virtual world operator. In their empirical investigation of the topic, Mäntymäki and Salo (2011) found a strong relationship between continuous user engagement and purchasing behavior in the SVW context.

The literature has also paid attention to the interplay and spillover effects between virtual and real-world purchasing behavior. Nah et al. (2011) examined the relationship between engagement with a brand in the virtual world and intentions to engage with the brand offline. Their results demonstrate that pleasurable experiences with a brand in the virtual world translate into a willingness to engage with the brand also in the offline setting. Furthermore, Shelton (2010) found that motivations for using

Second Life correlated with the purchasing of both virtual and real-life products. Taken together, the literature offers evidence that virtual purchasing is influenced by factors intrinsic to the virtual world, the attributes of the virtual items as well consumers' offline behavior and preferences.

### 2.2. Extending UTAUT

The use context of the IT artifact is an important factor in understanding user behavior (Benbasat & Zmud, 2003). Thus, we adopt the approach by Venkatesh et al. (2003, 2012) and develop an integrative framework to accommodate the characteristics of SVWs targeted for young people.

UTAUT was developed as a synthesis of the accumulated body of knowledge on individual-level technology adoption. UTAUT takes into account the expected performance of the IT artifact, measured with effort expectancy, the expected effort required to use the system (effort expectancy) as well as social influence and facilitating conditions (Venkatesh et al., 2003). UTAUT offers a well-established theoretical foundation that has proven capable of adapting to a wide range of technologies, including virtual worlds (Guo & Barnes, 2011). Moreover, by combining several theoretical approaches, UTAUT is capable of encompassing the multitude of potential factors underlying purchasing behavior in SVWs, and thus serves as an overarching theoretical framework of the study. We further develop UTAUT by disaggregating performance expectancy into motivational factors, effort expectancy into interface-related factors, re-conceptualizing the social influence, and finally by disaggregating facilitating conditions into self-efficacy and availability.

In the original UTAUT, performance expectancy was used to capture the perceived performance gains derived from using the IT artifact. The use of SVWs, such as Habbo Hotel is however related to free time and leisure rather than work and productivity, which is likely to underscore the importance of intrinsic motivation (Hsu & Lu, 2007; van der Heijden, 2004), yet does not preclude the existence of utilitarian motives such as enhanced communication, social interaction and self-expression. Altogether it is plausible to assume that motivational factors predict purchasing behavior in SVWs, including Habbo Hotel. Hence, motivation theories (Calder & Staw, 1975; Deci, 1975) are used as the theoretical foundation for the motivation block in the research model.

In UTAUT, the social influence was measured with subjective norm that encompasses the social desirability of using the IT artifact (Venkatesh et al., 2003). In SVWs, as with other services for social interaction and communication, the presence of other users is the factor that provides usage with a purpose (Lin & Bhattacharjee, 2008). As possessing virtual items and the premium membership is a means to build identity and demonstrate status inside the virtual world, purchasing behavior is likely to be influenced by the social setting; specifically the perceived network effects (cf. Mäntymäki & Salo, 2011). As a result, the theory of network externalities (Katz & Shapiro, 1986), complemented with innovation diffusion theory (see Valente, 1995), is employed to scrutinize the role of social influence.

In the original UTAUT, effort expectancy was used to measure the perceived ease or difficulty associated with the usage of the system. Since SVWs include more features and functions with which to enjoy and explore the virtual environment than e.g. instant messengers or social network sites, the user interface and the virtual environment are of central importance in creating an engaging user experience and avoiding frustration. For example, SVWs facilitate virtual self-expression with dance moves, clothing, hairstyles and accessories. The availability of these social cues is likely to constitute social presence (Short, Williams, & Christie, 1976), which in turns creates an environment that encourages virtual spending. Hence, the features related to the user interface are also likely to

<sup>4</sup> Habbo Hotel – Check in to check it out, <http://www.sulake.com/habbo>.

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