

## Virtual Customers behind Avatars: The Relationship between Virtual Identity and Virtual Consumption in Second Life

Bernadett Koles<sup>1</sup> and Peter Nagy<sup>2</sup>

Central European University, Business School, Budapest, Hungary, <sup>1</sup> kolesb@ceubusiness.org,  
<sup>2</sup> adj\_nagyp@ceubusiness.org

Received 14 November 2011; received in revised form 9 May 2012; accepted 15 May 2012

### Abstract

This paper examines the relationship between virtual identity and virtual consumption in Second Life. More specifically, we investigate the tendency to link the virtual world to reality through the concept of identity, and explore the role consumption and business endeavors play in this process. Information was obtained from comments posted on four Second Life forums, focusing on the general themes of virtual avatars, aspects of business activities, and their mutual impact on each other. Qualitative narrative research analysis was employed. From our results, three distinct categories emerged on the basis of residents' immersion to Second Life; 1) purely virtual, 2) mixed, and 3) realist. We highlight particular characteristics associated with each of these clusters, with suggestions aiming to capture the various demands and preferences of each corresponding group. In terms of business activities, residents appeared quite demanding, identifying high quality products and professional services as the basis for business success in virtual settings. The business approaches most likely identified to lead to success or failure associated with certain businesses confirm that online environments differ substantially from physical and real world markets, with trust being a particularly sensitive issue in these anonym and fully disembodied contexts. Further implications for organizations and scholars are discussed.

**Keywords:** Second life, Virtual identity, Virtual worlds, Virtual consumption, Online consumer behavior

## 1 Introduction

Recent Web-based innovations and technological applications provide consumers with a variety of novel ways to express their preferences, continuously challenging marketers to re-think and adapt their approach [12], [85]. On the one hand, Internet-based innovative technologies, such as Facebook, YouTube or Twitter, changed the traditional relationship between individual users and computer mediated contents [13], with mass customization and one-to-one marketing opening new doors for self-expression [10]. On the other hand, the continuous increase in Internet penetration trends around the Globe makes the already critical influence inherent in these applications even more prevalent. According to a recent report, the number of Worldwide Internet users reached nearly 2.3 billion by the end of 2011 [28]. Should individuals' reasons for their Internet presence be associated with entertainment, research, and / or social encounters, online environments offer organizations with new opportunities to understand their consumers [63], reaching beyond the more traditional theories based on marketing and economics, which alone may no longer be sufficient to predict consumer behavior in online environments [39], [81].

Among the numerous Internet applications, online virtual worlds, such as Second Life or World of Warcraft, have managed to build up a substantial client base over recent years, with current estimates placing the total number of registered virtual world accounts at 1.4 billion as of 2011 [36]. By the same time, the virtual goods market was anticipated to reach 2.1 billion USD [62]. These relatively novel environments with such robust economic potential are particularly interesting for marketers, given their massive user pool, and their associated ability to offer new insights into consumer identities and characteristics [30]. Furthermore, they present organizations with fertile grounds to experiment with and evaluate innovative tools aimed to enhance their marketing and sales efforts [31], [60], in turn shedding light on online consumption. Various businesses have already established their presence in existing virtual worlds [47]; yet to date, not many studies address the intriguing particularities of these virtual realities, and their implications for organizations. The purpose of the current paper is to examine aspects of virtual consumer identity - the tendency to link the virtual world to reality through the concept of self -, and explore potential connections to business endeavors in Second Life. After a brief overview of virtual worlds, we provide a review of virtual consumer identity and behavior. Finally, joining these two segments, we explore tendencies and best practices in the virtual world of Second Life.

## 2 Literature Review

An important distinction should be made early on between socially-oriented virtual worlds and other online social applications, including game-oriented virtual worlds. Given the unique attributes of Second Life, it makes sense to examine the concept of virtual identity within such an environment, and explore potential associations with virtual consumption. The aim of this review stage is to provide a sufficient background concerning the most relevant constructs, and correspondingly set the stage for the study itself.

### 2.1 Overview of Virtual Worlds

Virtual worlds, referring to environments where thousands of individuals can simultaneously interact within a simulated three-dimensional space represent a frontier in social computing [16]. Participants enter into these virtual worlds through their avatars, which are graphical representations of themselves; are constructed and controlled exclusively by them, and are considered to be part of their virtual identity [5], [29]. Through their avatars, members of these virtual worlds can engage in versatile interactions with one another; they can exchange messages, have conversations, run, dance, and even express their own feelings in several different ways. Virtual worlds are becoming increasingly complex environments, relying on and reinforcing Internet usage and further technological developments [47].

Virtual worlds consist of two major categories; namely game-oriented virtual worlds, such as World of Warcraft or Everquest, and socially oriented virtual worlds, such as Second Life [51]. The primary difference between the two types lays in the fact that game-oriented virtual worlds expose users to strict rules, while socially-oriented ones provide more freedom and flexibility, with substantially fewer constraints enforced. In addition, virtual social worlds provide many options for their users to engage in a variety of economic activities; a concept of great interest from the perspective of companies, yet one that tends to be more restrictive in virtual game worlds.

Within the generic social media, socially-oriented virtual worlds have several important features that distinguish them from other popular applications, such as YouTube or Facebook. First, participants in virtual worlds can interact with one another in real time. Second, virtual world residents can fully customize themselves in very flexible ways, using their avatars as their own virtual self-presentations. Third, the primary aim of general network communities tends to focus on content sharing, whereas virtual worlds tend to be used for a complex set of purposes. And fourth, virtual worlds are three dimensional, as opposed to the other forms of social network communities which are only two dimensional. This latter point is important, as previous research suggests that 3D environments have a significant advantage over virtual communities based on 2D technology, in that they are able to induce a stronger sensation of presence [50] as well as immersion [23]. Of the currently available virtual worlds, Second Life is one of the best

known and most widely accessible to Internet users worldwide. In the following section, we provide a general overview of the most relevant features of Second Life.

## 2.2 Second Life

Second Life (SL) was founded in 2003 by the San Francisco-based company Linden Research, Inc. Since its launch, it has generated considerable interest from various scholars, institutions and organizations [30]. The program is available free of charge for anyone to download from the main website (Site 1). In recent years, Second Life has grown at an exponential rate, with 10 million accounts by the end of 2007, and with an average of 40,000 simultaneous connections [52]. To date, it continues to be one of the most popular virtual social worlds, especially amongst American nationals, with approximately 14 to 18 thousand new registrations per day in 2011 [59]. Interestingly, despite earlier expectations, gender and overall technological affinity have not emerged as important antecedents to determine Second Life participation [3]. In terms of representativeness of user characteristics to the general public, meaningful insights can be taken from a recent study [8], in which the authors explore well being and general life satisfaction of Second Life residents. On the one hand, they compare the *virtual* or *second* life of participating members to their *real* or *first* life. On the other hand, they compare the participant data to the real life satisfaction results derived from the much broader World Values Survey. According to their findings, the basic demographic attributes of Second Life users are quite consistent with those of the general public, with lower average age, and slightly poorer health. These findings counter the general perception that the vast majority of inhabitants are young males. Perhaps even more interestingly, the real life satisfaction scores of Second Life residents were significantly higher than those of the World Values Survey participants, while also lower than the virtual life satisfaction scores of the same residents. In other words, although Second Life users appeared similar in fundamental characteristics to the general public, aspects of their sense of wellbeing seemed more positive and satisfactory in general terms, as well as in terms of their *online* as opposed to *offline* existence.

Exchange has a particularly important role for Second Life residents. Linden Lab established an economic model on the basis of charging Second Life inhabitants for the use of virtual goods and services, including virtual land [31]. Participants can own objects of all sorts, buildings of all architectural designs, clothing and furniture representing all fashion styles ranging from classic to modern, and vehicles of all makes. In sum, users are able to create material assets only limited by their desires and imagination [47]. This virtual world has a well-established and functional marketplace, designated to carry out various virtual economic activities within the online community. Products sold here are created by the residents themselves, and can be purchased using Linden Dollars (L\$). This virtual currency can be exchanged to real world U.S. dollars at a variable rate [60].

Given that most objects and materials are established on the basis of exchange and consumption patterns, it may be particularly insightful for organizations and academics to understand relevant trends, examine underlying patterns of behavior, and in turn explore new ways of reaching consumers [32]. An obvious starting point to gain a better understanding over business endeavors and fundamental consumption trends in virtual environments would be to explore the residents of this world, along with their behavioral patterns, actions, and traits. In the following section, we review the literature associated with virtual identity, followed by aspects of virtual consumption and relevant linkages.

## 2.3 Virtual Identity

In order to enable and facilitate interactions in computer mediated environments, a *virtual identity* has to be constructed to assume a specific online presence. In the world of Second Life, similarly to other virtual social environments, people use parameters to create their virtual avatars, through which to present themselves to others in their communities [7]. In addition to the physical attributes characterizing the avatars, virtual identities encompass another important element; namely a profile, incorporating further textual and graphical information pertaining to the individuals. These tend to provide additional in-world as well as real life information regarding residents, and thus enable users to extend and integrate their virtual presence beyond their avatars [43]. Considering the complexity of the process underlying avatar and corresponding profile creation, with numerous choices to be made along the way, identity construction and self-presentation in these virtual settings may reveal interesting and insightful tendencies regarding virtual consumer identity [52].

A greater understanding of virtual presence and identity is also important, as online encounters and interactions through virtual spaces are becoming integral elements of society and everyday life [73], [78]. In fact, it has been suggested that individuals develop unique relations with technology; ones that help them cultivate their sense of self, and allow them to connect with other users in a variety of ways [49], [67], [68]. Since the early works on identity development beginning in the 1950s, various technological and environmental factors modified the ways in which we think about personality as a whole, or present ourselves to others [9], [44]. Through the spread and increasing popularity of virtual environments, novel identity experiences surfaced, changing the traditionally established and assumed conditions underlying identity construction and development [76]. According to Turkle [70], one of the pioneering scholars exploring online identity, experiences with computer-mediated environments have the potential to redefine and reconstruct the classical notion of identity, providing users with new forms of existence, an ability to

express unexplored aspects of their self [71], and in turn even achieve a complete or partial transformation of their identity [6].

In cyberspace, identity is formulated through a complex and dynamic sequence of personal decisions, and evolves through continuously incorporating the social feedback elicited by one's online self-representation [43], [53], [69]. By definition, virtual identity refers to the development of one's integrated self in online environments; a construct that may differ from real life identity [73]. Although the currently available literature directly comparing virtual and real life identities remains quite scarce and inconclusive, there are certain particularities worth mentioning in reference to virtual identities. For example, a specifically revolutionary notion concerns the complete detachment of the physical body in virtual social encounters, making it possible for individuals to interact with each other in a fully disembodied and anonym environmental mode; one that reveals nothing about their actual physical and personal features, or other attributes that would be immediately available in physical settings [75]. In this sense, cyberspace offers unique opportunities for users to communicate with others and to form relationships in the complete absence of real physical characteristics [49].

Given that every online registration and *virtual incarnation* is a free and voluntary decision on behalf of the user, this combination of disembodiment and anonymity creates a technologically mediated environment in which a new form of identity construction becomes feasible [2]. These situations provide individuals with a fresh starting point for constructing their online identities using novel and flexible strategies, and to shape and continuously modify them as a function of current motivations, opportunities and situational conditions [20]. Virtual identities can be changed as rapidly and frequently as desired [64], allowing participants to experiment with various options and roles, even ones that may not be considered conventional [57]. For example, virtual identities are often constructed to be more intelligent or more attractive, and may possess further desirable attributes, when compared with characteristics of real-life selves [20]. Scholars highlighted certain particularly positive influences inherent in online endeavors, some even concluding that this form of virtual role-play may provide a source of empowerment [71].

Based on this above review, it is clear that Second Life residents have an immense amount of flexibility and choice in terms of establishing their virtual existence. They may choose to create their virtual selves to be as similar to or as different from their real life selves as they wish in a variety of physical and other attributes, and thus may experiment with certain hidden, unexplored, or idealized aspects of their selves throughout this endeavor [2], [56]. Certain behavioral and linguistic tendencies may serve as particularly useful cues to understand users' personalities and emotions [74]. Given the extent of individuals' freedom in constructing their virtual identities, it becomes particularly interesting to consider some of the underlying mechanisms that may influence this process, highlighting the importance of various motivational factors [16], [18], [22]. Generally speaking, individuals tend to play online games to gratify their achievement needs (e.g. competition or advancement), social needs (e.g. socializing, relationship building, or teamwork), or immersive needs (e.g. discovery, role-playing, or customization) [72]. In contrast to online games, virtual worlds present more sophisticated settings, and thus the primary motivational drivers for Second Life users tend to include the seeking of pleasure, arousal, and individuation [3]. A slightly different approach also emerged in the literature, emphasizing the functional aspects of online experiences, including education, shopping, creation and money generation; the experiential aspects, including play, entertainment, and an escape from real life; and finally the social aspects, including the act of socialization with others, visiting clubs, and engaging in romantic relationships [77]. Given the complexity and multi-faceted nature of virtual identity, it is likely that a combination of these drivers will play a role in influencing the development of identity in virtual settings.

Building on previous work in this area [75], virtual identity can be viewed as a complex, dynamic, and flexible conceptual entity; one that may be related to or remain completely different from one's real life identity; and is likely to be driven by a combination of different motivators. On the one hand, digital or virtual identity incorporates certain structural elements, including the graphical and textual components representing one's avatar and associated profile. On the other hand, it captures certain presentational elements, like the act of presenting oneself to other members of a virtual group, and is continuously shaped by the social feedback that is elicited through the process of interacting with others, as well as by individuals' self-reflections concerning their avatars and associated online identities. In the following section, before discussing specific details of the current study, we briefly review relevant points arising from the literature regarding virtual consumption.

## 2.4 Virtual Consumption

During recent years, creators of computer-mediated social environments increasingly began to provide tangible virtual goods and objects that could be exchanged among participants for real money [40]. In general terms, virtual goods refer to objects - characters or items - that exist within online games and virtual worlds [24]. A growing body of work examining the roles of virtual goods in online social contexts conclude that virtual world participants consume virtual goods for reasons that are similar to those associated with consuming material goods in real life [41], [79]; namely to establish social status, to mark or confirm membership in various peer groups, to develop and express one's identity, and to cope with conflicts or problems.

The above findings led to the conceptual emergence of *virtual consumption*, referring to the phenomenon of exchange of real world money to virtual goods [41]. Despite the similarities in terms of the underlying reasons between real life and virtual consumption, there are certain important differences as well. While traditional views of

consumption behaviors tend to emphasize the rational, need-based and utilitarian aspects, an increasing number of scholars suggest that people's decision to shop online and conclude their online transactions tends to be influenced more by emotions than by reason, and tends to entail more hedonistic elements when compared to shopping in more traditional settings [46]. This line of thinking and these trends highlight a shift towards a more experience-based and postmodern consumption [52].

It is important to note that given its relatively novel, fast emerging and dynamic nature, the concept of virtual consumption and our current understanding is far from comprehensive, necessitating further research in this area. The primary barriers leading to our general lack of understanding virtual consumption trends and behaviors originate from two main sources. On the one hand, the notion of online consumer behavior is a complex phenomenon, simultaneously incorporating sociological and technological factors, and various aspects from the disciplines of psychology, marketing, economics, as well as information systems, with these constructs interacting and exerting a mutual and combined impact on consumption behaviors [39]. On the other hand, online consumer behavior is extremely dynamic, and continues to be shaped as additional technological advancements and further information become available, and as the social environment continues to adapt to current rapid changes [17], [66], [78]. For example, in addition to more rational or economic motivators, psychological drivers have been suggested to play a crucial role in influencing online consumer behavior, by acting upon consumers' interactions with the online environment, and in turn influencing transaction outcomes [34].

The emergence of virtual consumption has been of great relevance to organizations, providing them with access to a massive and continuously increasing market. However, in order to learn how to approach online customers effectively, and ensure successful transactions, organizations and their executives need to understand certain particularities associated with their consumers' identities [7], [27], [65]. The symbolic consumption theory [82] posits that consumption is a significant source of symbolic meanings with which individuals can sustain and nourish their identities. In a way, products and brands can serve as *facilitating artifacts* for consumers, captivating and emphasizing certain aspects of their identities [35]. Therefore, given that features of an individual's identity tend to be reflected in his or her material possessions [37], [84], virtual worlds provide ample grounds for marketers aiming to explore and better understand virtual identity and its relations to virtual consumption [5], [17], [52].

In the current study, we explore virtual identity and virtual consumption in Second Life, in an attempt to begin to disentangle this rather complex relationship. Based on the established links between products or brands and consumer identity [19], [48], exploring relevant experiences and stories of Second Life users may reveal useful patterns to begin this journey. In line with the framework developed by McAdams's [45] for studying persons, we employed a structural analysis of narratives, proving to be a well suited tool for studying processes associated with self-creation [4]. Building on the review of the current literature, the following research questions were used to guide our analyses and further work.

RQ1: What are the fundamental and recurrent elements associated with virtual identity and consumption in Second Life, and are there linkages between the two constructs?

RQ2: Can virtual identity and virtual consumption patterns be linked to business activities occurring in Second Life, and if so, in what way?

### 3 Methodology

Data for the current study was obtained within the virtual social network of Second Life. Given the objectives of this paper, two major themes were identified for in-depth exploration, and used as selection criteria for consideration; the first one focusing on the creation and management of residents' avatars and corresponding profiles, serving as reflections of identity; and the second one focusing on experiences associated with the establishment and management of Second Life business ventures, including shops and clubs. With respect to avatars and profiles, the two identity markers, we were interested in examining ways in which they were constructed in the first place, and evolved over time. Through this analysis, we aimed to identify patterns on the basis of residents' involvement with their own and others' virtual identities, with particular attention to the relevance of the boundary between real life and virtual existence. With respect to business activities, our primary aim was to explore the kinds of impact certain business endeavors, such as shopping or visiting clubs, may have on the avatars themselves.

#### 3.1 Settings and Participants

Data was collected over a three months period, encompassing October through December of 2010. Based on the overall objectives of this current paper, four relevant forum topics of Second Life blogs were examined and followed during this period, focusing on matters associated with avatars, as well as subjects concerning business endeavors (See Appendix A for further information). The following criteria were used for selection purposes: (a) all of the four forum topics had to contain comments posted by the same users, (b) a minimum of one comment per day had to be posted during the entire three months, and (c) the theme of the forum topics had to specifically refer to avatars and/or business activities. Applying these criteria, 197 users (N=197) were identified, having posted a total of 788 comments in the two relevant forums for avatars, and another 671 comments in the two relevant forums for business activities.



### 3.2 Data Analysis

Qualitative content analysis was used to analyze the data [26], [54]. In line with the two major themes of the current study, the data obtained from the four above mentioned forums were used to explore the relationship between avatars and business activities, via establishing codes capturing the primary trends and tendencies. Given that the collected data contained over 130 pages of double-column text, the coding was carried out using the qualitative analysis software Atlas.ti (version 6.19), in order to reveal the implicit structure of the corpus. Based on the schema of directed content analysis method [83], codes were established prior to the commencement of the data analysis process, by the primary investigators and two additional research assistants, all of whom were familiar with the entire corpus. As a result, five codes were constructed in order to guide the researchers in their further work. All codes were independent from each other, and were mutually exclusive and exhaustive.

The first code, *VIRTUAL IDENTITY*, was identified by capturing the conceptual nature of one's virtual existence, and emerged on the basis of Second Life residents' descriptions as well as thoughts associated with their virtual character. This label incorporated two subcategories; namely *physical appearance*, referring to physical characteristics of the avatars themselves [65], and *profile management*, referring to the extent of users' willingness to share information about their virtual self with others [64]. The second code, *VIRTUAL COMMUNITY*, encompassed any feelings or thoughts expressed by residents towards their fellow virtual community members [15]. The third code, *CONSUMPTION* referred to the purchase of virtual objects [40], and to the act of virtual consumption [17]. The fourth code, *VIRTUAL BUSINESS* was formulated to capture the major types of business activities and endeavors that occurred inside this virtual world. Given prior references concerning the sophisticated nature of economical transactions and business conduct in Second Life [47], [55], [60], this code included marketing, sales and rentals, as well as the general act of work. Finally, the fifth code, *REAL LIFE IDENTITY*, materialized to include comments concerning any reference to residents' real lives [58]. The aim of this last code was to incorporate comments and expressions corresponding to residents' lives outside of their virtual social network.

After having established these five codes, all analyses were conducted simultaneously and independently by all participating researchers, in order to avoid misinterpretations and potential miscoding of appropriate content [11]. In addition, research analysts have recoded the same entire dataset on two separate occasions, with one week elapsing between the two coding sessions, in order to further ensure and verify the coherence and consistency of the codes. The reliability was measured using Cohen's Kappa [25]. Our results indicated a value of 0.76, which was greater than the generally accepted 0.61 guideline [83].

## 4 Results

The codes presented above provided us with assistance to establish further categorizations, through which to identify trends corresponding to our two research questions; on the one hand concerning residents' attitudes, approaches and patterns associated with their and others' virtual identities and virtual consumption, and on the other hand concerning business endeavors in Second Life. In the following section, we summarize our results, separately for each of the two research questions.

### 4.1 What are the Fundamental Recurrent Elements Associated with Virtual Identity and Consumption in Second Life, and are there Linkages between the Two Constructs?

Based on the analysis of the narratives, the following sub-categories were identified as emerging commonalities amongst residents' postings, as presented in Table 1 (further details can be found in Appendix B).

Table 1: Emerging subcategories along the four primary codes; virtual identity, virtual community, consumption and real life identity

Codes	Elements		
Virtual Identity	Evaluation of self and others	View of own avatar	Virtual profile
Virtual Community	Virtual friends	Virtual groups	Deep relationships
Consumption	Clothing	Entertainment	Virtual property
Real life identity	Boundary	Sharing	Relevance

#### 4.1.1 Virtual Identity

Virtual identity in Second Life did not appear to be a static entity, but rather was one that was frequently changed and updated by the users in order to maintain a positive sense of themselves in their virtual settings. Due to the easily malleable nature of virtual identities, particularly in comparison to identity development in the real world, most residents referred positively to the overall process of identity modification. The comments indicated a strong desire on behalf of users to change their identities in order to further enhance the positive feelings and levels of satisfaction with themselves. Furthermore, residents appeared to create their avatars in an attempt to present themselves as attractive individuals, with a strong aspiration to connect with others (*Evaluation of self*), and sometimes even modified their avatars to suit circumstantial needs and demands. The following quote provides an illustration for these notions:

*"I am a famous party goer. Since my 'first steps' IN (In Second Life) I changed my appearance quite a lot. Usually, I look like a muscular man wearing black suits [...] but when hanging out with my friends, who are big anime fans, I choose to be a furry (animal-like creature). Frankly, you can be anyone in Second Life, which is great."*

In addition, the feelings and thoughts towards one's own virtual identity appeared to characterize the ways in which other residents were perceived (*Evaluation of others*). For example, those identifying themselves primarily through the physical attributes of their avatars tended to form opinions about other residents based on visual characteristics as well (e.g. what they looked like or how they behaved), while others appeared to place more emphasis on real-life or Second Life profiles. Below is a quote by a female resident:

*"I often meet strange residents who ask stupid question, but come on! If they are robots or naked I don't pay attention at all! I like humans not strange creatures! Of course, I know that others don't agree with me, but [...] I am a real gothic chick who only speaks to other gothics."*

Comments also revealed a difference in terms of the extent of intimacy towards residents' own avatars (*View of own avatar*). The results varied from complete intimacy, where the avatar became an essential element of one's personality, to partial intimacy, where the avatar was not as integrally important. These findings were also consistent with the construction of virtual profiles (*Virtual profile*); the elements that further elaborated on residents' feelings and thoughts towards their virtual identities. Our results indicated that the more intimate the relationship to one's avatar, the more detailed and sophisticated the virtual profiles were. In other words, the extent to which users wished to share information about themselves in Second Life revealed something about their degree of virtual connection. For instance, one resident stated the following:

*"I know that this sounds strange, but I am 'me' IN. My avatar's appearance and everything else too express what I think [...] although I look differently than in RL (real life), it is still me! And always will be! If you want to know me, have a look at my profile. It contains every moment of my life."*

These comments clearly emphasize the immense flexibility and choice given to SL residents throughout the process of constructing their virtual identities, of which users tend to take advantage to a large extent. Both of the two primary building blocks of virtual identities, the avatars and the associated profiles, tend to be important for residents, and are used in order to present themselves to others, as well as gauge and evaluate other members. The apparent linkages between the extent of intimacy towards avatars and the level of detail and sophistication in the corresponding virtual profiles were particularly interesting, and will be revisited in later sections of this paper.

#### 4.1.2 Virtual Community

For residents, social encounters appeared to constitute a substantial element of their virtual existence. More specifically, being part of virtual groups (*Virtual groups*), or forming friendships (*Virtual friends*) seemed helpful in terms of their achieving complete detachment from the real world. Still, many users raised deep concerns about the potential for being blindfolded and deceived by others, as a result of the overwhelming anonymity characterizing this virtual community. Several inhabitants made specific references to negative experiences, leading them to be generally suspicious about others. The concept of trust was a recurrent theme among the comments, and many residents appeared displeased about the general inability to trust others. As a result, some residents chose not to approach virtual groups, and instead longed for *deep* and *mutually satisfying* relationships to those who were similar to them (*Deep relationships*). The following quotation illustrates these points:

*"I don't know why so many people become members of those crazy groups! In the past I had many friends from various places but now I rather spend my time with my close friends. I got tired of chatting with so many residents. [...] If I am IN, I don't like it when strangers send me stupid messages. [...] I saw many weird stuff IN which made me think that you shouldn't place trust in others. I am not saying that you have to be paranoid [...] but being cautious is a good thing in Second Life."*

In contrast, other users did not choose to immerse themselves in such deep and intimate relationships, due to their general unwillingness towards commitment. Instead, they preferred to engage in various superficial social

engagements in Second Life. These comments echo some of the above mentioned references concerning the different types of motivators that may drive individuals' decisions to actively participate in Second Life and in other virtual worlds. It is clear that social factors are important, but there are also apparent variations in terms of the type and extent of desired social exchange. Interestingly, while – as illustrated above – the flexibility and options inherent in such user generated virtual settings were welcomed and widely utilized throughout the process of identity construction, the ultimately anonym environment did raise levels of discomfort to many residents, elevating concerns over the ability to trust others.

#### 4.1.3 Consumption

Consumption in Second Life appeared to be mostly connected with entertainment and with avatars' appearance. In this respect, virtual objects, including clothing and accessories (*Clothing*) could help residents express their feelings and thoughts about their idealized selves, as well as reflect upon certain specific topics, such as politics, music, or social desires. The following quote captures these points:

*"If I am happy IN I usually wear pink clothes, but when I am angry or tired I dress up as a melancholic girl. When I log in I know what I'm gonna wear or buy IN. In the real world, people think you are psycho if you have tattoos or weird clothes, but in Second Life I can be the person which I can't be in RL. Oh God I spent so much money on my avatar. [...] It is ridiculous but that is the person who I am in Second Life. OK, yes, I like buying clothes and I am totally an addict..."*

Engagement in various activities (*Entertainment*), such as participating in programs held by clubs or virtual organizations, also played an important role in forming and maintaining chosen virtual identities. For example:

*"I visited so many clubs, but the best place IN is the Soho. There are many fancy parties held there, they are usually free but sometimes you have to pay for them. If there is no interesting program in Second Life, I don't log out immediately because I am a party freak!!!! [...] Once, I visited the Coca-Cola island but I didn't like it, it was so boring even if I got paid I wouldn't spend too much time there."*

Through the attainment of certain goods, residents could shape the appearance of their avatars relatively quickly and as frequently as desired. By occupying or renting virtual land and property (*Virtual property*), residents could represent their thoughts reflecting upon who they were in Second Life, and were able to possess desired property potentially unattainable in the real world.

*"Me and my friends have a small island IN which is just ours and we don't have to share it with others. We created so many good things but bought some stuff as well. I feel that this environment shows who we are in Second Life. It is so funny!"*

In sum, consumption seems to play a significant role in constructing Second Life residents' distinguished virtual identity and community membership. On the one hand, by attaining unique virtual goods, one can emphasize particular differences that make them stand out from the crowd. On the other hand, through the attainment of those goods that are more common and tend to be associated with particular groups, one can achieve recognition as a member of a given community. Furthermore, residents seemed more likely and willing to experiment with certain goods that may not be as well-received by real-world societies. The extent of choice and flexibility appeared to serve as an advantage, allowing users to experiment with different options whenever they wished, and even more importantly, enabling them to reveal their emotions through their clothes and other material means almost instantaneously. Material possessions have been shown to reflect upon one's identity and personality in real life [35], [82], and similar patterns have been identified based on our results as well. However, as a more novel and unique contribution, the extent and speed of potential experimentation associated with virtual goods as reflections of immediate emotional and psychological states are special features of virtual environments, with clear potential implications for the development and modification of virtual identity.

#### 4.1.4 Real-Life Identity

Residents varied in the extent to which they separated their real life identities from their virtual identities assumed in Second Life (*Boundary*). On one end of the spectrum, some individuals completely separated their real and virtual identities, and basically engaged in virtual role-play.

*"In Second Life, I can be whoever I want to be. In the real world I work in a bank, but I am a completely different guy IN. My profile does not contain any information about my real life. When I log in I forget my life and start a new one..."*

On the other end, some residents seemed to mix some real and virtual elements of their selves, and thus tended to behave in Second Life similarly to their behaviors in the real world. This continuum seemed to be so prevalent in our data, that we were able to identify and differentiate between three separate groups, with consistently variable characteristics. The first category included the *purely virtual* users, referring to residents who fully aligned themselves with their virtual selves. These individuals took full advantage of the offerings from Second Life, and tended to assume a clear immersive existence. The second category, the *mixed or analytical* group, encompassed



residents who remained on the boundary between virtual and real worlds. They achieved some extent of immersion, but were also interested in linking the real world to the virtual, wanted to know others on the basis of their profile information in addition to their visual appearance, and were interested in participating in a variety of activities. The third and final group consisted of the *realist* residents, referring to those who maintained closest proximity to their real existence, even while in Second Life. These three levels will be further elaborated upon in the discussion section below, with the aim of developing a representative typology associated with each category, documenting the variations amongst the five codes and their respective sub-components.

With respect to revealing personally relevant and real life information to other residents (*Sharing*), users followed different strategies. Those completely separating their real and virtual lives tended to hide their real identities entirely, while others considered it important to present their real life identities via their profiles. Users also differed in the extent to which they focused on their own or others' personal background (*Relevance*). For residents with similar real and virtual identities, information regarding real life was essential to form opinions and construct a complete picture of others, while for users engaged in virtual role-play, personal data were not as interesting and relevant.

*"I am a real profile pervert and always check others' profile. If somebody is hiding his or her personal background that is very suspicious for me. I like showing who I am in RL but I blocked my private things from strangers because they are not for everyone just for my friends. I guess it is a good thing to know who you are talking to IN. [...] Like in real life, you have to know better someone to share with him or her your private experiences. Although there are many fake profiles in Second Life..."*

An noteworthy pattern emerged regarding the link between the real and virtual existence beyond the generally positive comments and experiences. More specifically, some users voiced certain negative emotions in relation to aspects regarding their real lives, expressing a certain fear of existence in a boring real world. For these individuals, assuming certain virtual identities in Second Life appeared to serve as a buffer to compensate them for potential inadequacies in their real lives, offering numerous exciting possibilities for escape and for having a good time.

In sum, residents in our sample varied in the degree of their virtual connection, as well as the extent to which they shared and required personally relevant information regarding their identities. Overall, the general sense of satisfaction with oneself appeared to have an impact on consumption patterns, with residents often pursuing products to achieve differentiation, uniqueness, a sense of belonging, and greater degrees of experimentation, when compared with their real lives. Importantly, clear linkages could be identified between virtual consumption and virtual identity based on residents' comments. What is particularly relevant to mention here is that the cycle originating from the consumption of a particular virtual good, the element of experimentation, the social feedback, and the ultimate perceived reflection upon one's identity can result in a significantly more expedite and immediate process when compared with real life environments; a notion holding particularly relevant takeaways for organizations. In the next section, we review the potential role business activities and conduct may have in the development of virtual identity and consumption patterns.

## 4.2 Can Virtual Identity and Virtual Consumption Patterns be Linked to Business Activities Occurring in Second Life?

Business activities in online settings are important, given their relevance to companies interested in engaging in virtual markets, and the general benefits derived from better understanding the business choices people make in user generated and flexible virtual environments. Overall, the majority of economic transactions appeared to take place in two Second Life environments; in shops and in clubs, and as anticipated, the most common products subjected to virtual exchange consisted of clothing, accessories (i.e. tattoos, cars, pets, etc.) and virtual property. As virtual world residents do not have physical needs – such as thirst or hunger – to be satisfied, no restaurants or food related products are necessary, and correspondingly these industries have not evolved. Our analysis revealed three categories within the *virtual business* dimension; namely *sales*; *work*; and *marketing* (further details can be found in Appendix B). Similarly to the real world, the primary purpose of shops was to exchange (i.e. buy and sell) certain products and commodities (*Sales*). However, virtual exchange was often referenced by its added potential to gain recognition among other users. For example, virtual objects created by well-known and more popular residents tended to have higher price tags attached to them. Also, the advertisement and sales of self-generated virtual goods appeared to enable residents to place themselves at certain points along the social class continuum. Residents tended to emphasize the importance of becoming more successful via the act of virtual exchange, seeing this as an opportunity to achieve a happier and more satisfied existence. References were found throughout commenting on the relevance of virtual goods in serving as readily available *mirrors* through which to reveal, present and communicate to others certain feelings, thoughts, and other personally relevant emotional and psychological states.

The concept of trust surfaced throughout comments concerning business endeavors as well, similarly to their relevance to the virtual community. When wishing to engage in virtual exchange, more popular and more well-known residents were the favored choice for business partners; partially given the associated recognition, but also the heightened sense of trust. Residents noted that they preferred to engage in shopping activities that were guided by shopkeepers and other avatars, as they seemed to have more faith in these sorts of encounters [33]. This notion supports the findings of previous research, suggesting that relatively young and developing societies tend to

approach and treat the concept of trust differently from more established and settled ones [21]. Furthermore, differences have been identified between trusting and trustworthy behaviors in Second Life, again reflecting on the relatively young and evolving nature of this particular virtual community, which may explain the extent of caution and suspicion on behalf of current participants towards certain groups and in general, towards virtual exchange 0.

In contrast to real life practices, clubs in Second Life do not gain profit due to the above mentioned lack of demand for foods or beverages, and thus their primary purpose tends to evolve around providing a setting for social activities. Interestingly, despite the common sense based expectations concerning the interrelatedness and benefits of cooperation between clubs and shops, our results painted a more complex picture. While the majority of the comments indicated that shops located in the close vicinity of clubs tended to be more profitable, many residents considered these two business activities as completely independent from one another; stated that clubs did not have any actual effect on purchase; and even claimed that it was not worthwhile to run any shops. Nevertheless, clubs presented avatars with a variety of additional opportunities to promote their virtual goods, through applying different marketing strategies to increase their visibility and ultimate success (*marketing*), which then could be tied back to their social status. In addition, given the heavily social orientation of clubs, business owners often rely on *word-of-mouth* marketing to create or enhance people's image of their shops or products; implying that much of economic knowledge appears to be quite transmissible. Finally, while some residents restrict their marketing activities primarily to within Second Life (in-world), others expand to channels outside of Second Life, including external blogs or forums.

Many economic trends and business interactions in virtual worlds mirror those applied in real world settings. What becomes particularly interesting and insightful, however, are those modifications and adaptations that are employed to more successfully meet the specific needs of the virtual community. For example, the lack of direct profit generated from food and beverage consumption in clubs makes it quite hard to provide a regular salary for employees, yet club owners clearly need to maintain a set of avatars on their staff for entertainment purposes. As a quite ingenious solution, many club owners have developed innovative and adaptive approaches to ensure consistency and reduce employee turnover. For instance, as a way of rewarding their workers, club owners often decided to tip their employees, including DJs, dancers, and other entertainment staff (*Work*), and encouraged their guests in creative ways to do the same. What appeared to happen in return was particularly intriguing. This complimentary behavior on behalf of club owners appeared to equip their employees with a sense of empowerment, and initiated an interesting cycle. In appreciation of their tips and other rewards, these employees appeared to become more active and engaged, and began to voluntarily initiate new activities, and even furnish their avatars with relevant and desired skills and competencies in order to maximize their benefits. As a final *twist* to this perpetual process, business owners became more demanding over time with respect to their employees' physical and other attributes, and preferred to employ avatars who were more attractive in relevant characteristics to their target clientele, as well as shared similar values with their preferred customers.

This section highlighted that clearly, business endeavors constitute an important part of virtual societies, as evidenced by the sophisticated virtual economy of Second Life in particular. While many business-related activities that take place in online environments tend to mirror those in real life settings, certain adaptations have also emerged to fit the particularities and demands of virtual communities. In relation to our research question, we identified that business activities can in fact be linked directly to virtual consumption patterns, and furthermore, perhaps more indirectly, to aspects of virtual identity. In our above mentioned example, business owners assumed an indirect impact on the virtual identity of their current and potential employees, both at the initial stage of rewarding them for their performance and behavior, and at the later stage of imposing more specific and fine-tuned demands via choosing to employ certain residents as opposed to others. Hence, beyond the more clearly evident roles of virtual consumption and exchange on virtual identity, certain social and professional feedback systems may exert further effects.

## 5 Discussion and Conclusions

The purpose of the current paper was to explore virtual consumer identity, by examining patterns of virtual identity, virtual consumption, their associations, as well as potential linkages to relevant business endeavors in Second Life. Based on the set of forum comments and posts, it appeared that the conceptual structural elements of virtual identity, composed of the avatars and associated profiles, were important for Second Life residents. However, the extent of emphasis placed on one or the other depended on certain motivators, preferences, and the overall level of intimacy and immersion. From the perspective of identity development, this study confirmed that residents had overwhelmingly positive views about their virtual selves. Virtual identities appeared to be quite dynamic, with the frequency of modifications implying users' desire to experiment with different identities, continuously incorporating social feedback. On the other hand, some residents voiced a preference for more consistency in their avatars' appearance and profiles, at least in terms of the fundamental and defining features. This latter group tended to devote great care, sophistication, and elaborate attention to the development and maintenance of their profiles, and reported quite intimate connections to their avatars.

Perhaps due to the completely anonym and disembodied environment, repeated references were made to the effect of socializing with others *similar to oneself*. This point provides a particularly interesting insight concerning the boundary between the real and the virtual. More specifically, even in a completely novel and entirely user generated

environment, where users have practically unlimited options and freedom in constructing their appearance and equip themselves with chosen attributes, the comfort of the *known* and the *familiar* appears to still prevail, at least in the case of some members of the virtual community. The inherent flexibility and anonymity appeared to carry mixed implications, with positive connotations when considering identity construction, yet more negative ones when considering social encounters and the overall ability of trust.

In fact, the overwhelming sense of suspicion and lack of trust permeated throughout the comments. Apparently, the complete lack of physical or otherwise identifiable attributes appeared to raise sensations of uneasiness and general suspicion towards other community members and businesses. This point is particularly relevant for organizations wishing to increase their online presence. As a practical example, we found that residents did not mind interacting with shopkeepers and other avatars, given that they identified certain additional benefits deriving from the interaction; a point that confirms previous findings [27], [33]. Even more importantly, however, our results indicated that with all things being equal, consumers preferred this sort of interaction to completely self-directed shopping, as having an avatar as an online guide increased their sense of trust in the overall transaction. This point is of particular importance to organizations, as it highlights the delicate nature of consumer preferences in virtual markets, and the need to pay close attention to the introduction and management of agents and promoted products or services.

The most fundamental elements of consumption were fairly consistent with expectations derived from the literature based on real life settings, with clothing, entertainment, and virtual property being the dominant categories. Furthermore, an interesting duality related to virtual goods emerged; on the one hand, certain products and virtual items were popular in that they served the purpose of being a differentiator, assisting individuals to stand out from the crowd. On the other hand, certain other goods and virtual items were important in that they were necessary to gain access to or confirm membership in a group. Perhaps even more importantly, certain particular consumption characteristics emerged that were specific to virtual environments. First, due to a lessened sense of pressure to conform, residents seemed more open and ready to explore various options in virtual online environments, when compared to real life settings. The generally positive overall image associated with avatars, with often enhanced abilities and potential in comparison to real life selves, may also encourage users to further explore and experiment with various aspects of their appearance and digital identities, in the hope of additional discovery and gratification. Second, given the increased flexibility and ease of identity modification in cyberspace, both in terms of physical and socio-emotional aspects, the perceived risk of potential failure or rejection may be lower. On a related point, social stigmas associated with certain choices appeared to be less of a concern in virtual settings, suggesting a more open and accepting community base. Finally, numerous comments alluded to the existence of clear linkages between virtual consumption and virtual identity, emphasizing the role of experimentation, social feedback, and self-reflection, in a more expedite and immediate sense than would be possible in real world settings. In other words, the ability for instantaneous application of certain material goods and customized products as a means to reflect immediate personal, emotional and psychological states was quite unique, and also quite specific to virtual environments.

The emergence of direct and indirect impact of virtual business endeavors on aspects of virtual consumption and identity provided further important contributions. On the surface, business owners used a variety of conventional as well as more novel and adaptive strategies to promote their virtual products and businesses, and to ultimately enhance their overall success. Throughout this process, however, they appeared to experiment with a variety of innovative methods and techniques; including encounters with other avatars as employees or consumers; incorporating social feedback; and at the end, starting the cycle of searching for even better and more adaptive strategies over again. Within this cycle, there are ample opportunities to shape the expectations of a virtual community, and even encourage the modifications of certain characteristics of avatars and aspects of virtual identities. Furthermore, given the relative speed with which these cycles can proceed, the feedback loop incorporating the *experimenter* (such as the club owner) and the *subject* (such as the audience or the employees) can become a lot more concrete and immediate when compared to real life settings.

The three typological levels of virtual immersion, emerging on the basis of the *boundary* between real life and virtual existence, and the corresponding variation in users' willingness and desires to seek and share personally identifiable information, have profound research as well as practical implications for scholars and organizations alike. Furthermore, they help us fulfill the aims of the current paper, by connecting the examined building blocks of virtual identity, virtual consumption, and business endeavors, as a function of the extent of virtual immersion. Similarly to the differential expectations based on customer attitudes, information processing abilities, and need for cognition [61] noted in a variety of more global scale studies, it appears beneficial to approach these three groups in ways that are tailored to their specific needs and preferences. Table 2 presents each of the five established codes throughout this study, along with their sub-components, separated by the three degrees of virtual existence. For example, considering that for those individuals purely immersed in their virtual identities, physical characteristics and more superficial experiences were cited to be most relevant, businesses can focus more on visual and readily available attributes or impulses, such as attractive design and external product features, in order to achieve the attention of this group. Realists, on the other hand, as they are more likely to be reading stories and narratives, may require more detailed and in depth information about goods, commodities or services, as well as identification of their potential links to the real world. Finally, users categorized as *mixed/analytical*, demand information about virtual objects or services inside as well as outside of Second Life. It is important to note that these levels may also have further implications to the different motivational antecedents of Second Life usage.

Table 2: Characteristics and actions of residents in each of the five dimensions as a function of the extent of virtual immersion

Dimensions	Sub-categories	Purely Virtual	Mixed/Analytical	Realist
<b>Virtual Identity</b>	<i>Evaluation of self and others primarily on the basis of...</i>	Virtual physical appearance.	Visible attributes, combined with shared user information.	Shared user information.
	<i>Depth of relationship to one's own avatar</i>	Intimate connection.	Intimate connection.	Connection not at all intimate. Avatars viewed as mere tools.
	<i>Virtual profile</i>	Detailed and relevant.	Detailed and relevant.	Not relevant.
<b>Virtual Community</b>	<i>Making virtual friends...</i>	Important and entertaining.	Not important.	Can be dangerous.
	<i>Belonging to virtual groups...</i>	Offers opportunities to have good time	Makes residents informed and in touch with Second Life.	Somewhat important, depending largely on topic.
	<i>Forming deep relationships</i>	Not important. Interested mostly in superficial / sexual encounters.	Somewhat important.	Very important.
<b>Consumption</b>	<i>Buying clothes...</i>	Important and can enhance the appearance of one's avatar.	May enhance one's avatar.	May enhance one's avatar.
	<i>Entertainment</i>	Clubs and parties.	Festivals, exhibitions and clubs.	Being in the company of close friends.
	<i>Buying or renting virtual property...</i>	Means being attractive or popular among other residents.	Not important.	Means being in safe places.
<b>Real Life Identity</b>	<i>Boundary between real and virtual life</i>	Purely immersed. Complete separation.	Somewhat immersed.	Superficial immersion Clear separation.
	<i>Sharing real life information</i>	Not at all interested; not important.	Somewhat interested.	Most important link to real life. Share a lot about own real identity.
	<i>Relevance of real-life self</i>	Not at all important.	Somewhat relevant, should be considered	Most relevant.
<b>Virtual Business</b>	<i>Selling virtual objects...</i>	Gaining money and popularity.	Gaining money and popularity.	Not at all interested.
	<i>Act of work</i>	Not at all interested.	Gaining money and popularity.	Not at all interested.
	<i>Conducting marketing activities...</i>	Mainly in-world.	In-world and on various blogs and forums.	Not at all interested.

In general, when referencing business activities, residents identified high quality products and professional services as a necessity, and appeared particularly demanding in this respect. In addition, while emotions seemed to play an important role in the construction, management, as well as everyday encounters of one's avatar, it seems that they may also be important for the purposes of virtual consumption patterns and behaviors. Within virtual worlds, where individuals have the option to review various virtual products simultaneously, companies need to be able to attract their consumers in novel and innovative ways, and need to conclude the business transactions more on the participants' terms. Beyond the more traditional need-based commercial encounters and the associated rational and economic theories, the impact of emotions needs to be recognized and further emphasized in online interactions. As apparent in the variations among the different participant groups, along with the changing nature and terms associated with identity development as facilitated by online environments, organizations need to align and modify



their marketing and sales strategies, in order to fit the demands of a dynamically changing consumer base. The speed of action and evaluation available in online settings may have further important implications.

Second Life and virtual settings are relevant for organizations, given their potential for experimentation, as well as for providing inferences to a variety of online markets. The currently identified links between virtual identities and virtual consumption, and the variations in terms of preferences across the three categories as a function of immersion, highlight the need for companies to invest in understanding the characteristics of their target consumer pool, and align their respective strategies accordingly. The three established categories provide a particularly useful first approximation in terms of identity types. For example, should an organization wish to assess the potential success of a new product, targeting these three quite distinct groups may reveal a need for differential input; one that can be transferred back to real life settings. Furthermore, as some groups, especially those that report to be extensively immersed, were found more open to exploration and ideas, they may in turn be more suitable to assess and judge more innovative goods and services.

Virtual identity is a relatively novel concept, with a continuously evolving set of components and characteristics. With its obvious roots in identity theory in real life setting, a growing body of research extends beyond the traditional notions to incorporate elements that are specific to virtual settings. The current study provided a variety of insights with respect to virtual identity development. First, the conceptual nature of this entity was supported, with varying levels of emphasis placed on avatars and / or profiles, as a function of user preferences and motivational drivers. Second, the apparent use of virtual goods to achieve social means and reflect upon one's avatar and associated profile demonstrated the role of virtual consumption on the development and continuous modification of virtual identity. Third, the relatively new and thus evolving community of Second Life, from a societal as well as an economical standpoint, may provide its users with even more opportunities to shape and adjust their identities, in response to the community based changes. Fourth, in contribution to the growing literature on user motivation [74], virtual identity – in conjunction with virtual consumption – may have a combined impact on need satisfaction. In other words, users' notion on their virtual self-representations, together with their consumer behavior activities, may jointly create new opportunities for satisfying needs that arise in relation to their virtual existence in Second Life. Finally, certain differentiations amongst different types of residents may be helpful in order to better disentangle the complex notion of virtual identity. The proposed typology developed on the basis of the degree of integration between real life and virtual selves may be used to establish more complex models of virtual identity, incorporating psychological and sociological elements, as well as preferential and motivational drivers.

## 6 Implications

The current study holds a number of relevant implications for academics as well as businesses, many of which have been referenced throughout the paper. Particularly noteworthy is its intended contribution to the evolving definition of virtual identity, taking into account the role of virtual consumption, and the cyclical incorporation of feedback from social and business endeavors. Furthermore, the various motivations previously proposed [77] to serve as antecedents to Second Life existence need to incorporate the importance of virtual identity construction and modifications, accounting for the flexible and dynamic inherent processes. Finally, perhaps the most relevant and profound contribution to both scholars and practitioners comes from the typological differentiation of residents along with their attributes, preferences, and actions as a function of the extent of their virtual immersion, in that it may have the potential to help with better understanding and approaching particular target consumer groups in the most efficient manner.

## 7 Limitations and Directions for Future Work

With respect to methodological considerations, this qualitative study was based on cross-sectional data obtained from bloggers' comments, making no reference to demographic information. In other words, our respondents were completely anonym, and any information associated with their real or virtual identities were based on comments and self-reports, consistent with the notion that blog post format tends to induce lengthy narratives [14], [80]. While several previous studies indicated that online self-presentations on blogs tend to be consonant with one's real self [42], such results are scarce and tend to be inconclusive, necessitating additional data to further investigate this link. Similarly to other instances where voluntary and open opinions are solicited and used as the basis of analysis, actual practical reality cannot be fully ensured. Furthermore, while it would have been useful to establish additional relevant dimensions in relation to aspects of virtual identity, including those related to psychology and personality, we were limited by the occurrence of those aspects that emerged from the comments. Nevertheless, as highlighted by Laurent [38], established qualitative methods "should be done before modeling to identify the appropriate variables and relationships" (pp. 181). In line with this reasoning, our research aimed to present a *proto-modeling* technique that needs to be confirmed by quantitative methodology. Given the relative scarcity associated with the topics addressed in this current paper [32], [47], [52], it was important to identify certain tendencies in order to engage in further explorations and research. Future work should use larger samples, and should encompass data from residents participating in Second Life, in comparison to interviews and surveys targeting certain real life attributes. In addition, certain recurrent themes, such as the concept and evolution of trust, along with other psychological and

sociological constructs, would be interesting to explore further in a more systematic fashion. Finally, future projects could use and build on the current typological model to elaborate on the concept of virtual consumer identity.

## Websites List

Site 1: Second Life  
<http://secondlife.com/>

## References

- [1] S. Atlas and L. Putterman, Trust among the avatars: A virtual world experiment, with and without textual and visual cues, *Southern Economic Journal*, vol. 78, no. 1, pp. 63-86, 2011.
- [2] J. A. Bargh, K. Y. A. McKenna, and G. M. Fitzsimons, Can you see the real me? Activation and expression of the "True Self" on the internet, *Journal of Social Issues*, vol. 58, no. 1, pp. 33-48, 2002.
- [3] S. J. Barnes and A. D. Pressey, Who needs cyberspace? Examining drivers of needs in second life, *Internet Research*, vol. 21, no. 3, pp. 236-254, 2011.
- [4] H. Baumgartner, Toward a personology of the consumer, *Journal of Consumer Research*, vol. 29, no. 2, pp. 286-292, 2002.
- [5] J. F. Bélisle and H. O. Bodur, Avatars as information: Perception of consumers based on their Avatars in virtual worlds, *Psychology and Marketing*, vol. 28, no. 7, pp. 741-765, 2010.
- [6] P. Berthon, L. Pitt, M. E. Halvorson, and V. L. Crittenden, Advocating avatars: The salesperson in second life, *Journal of Personal Selling and Sales Management*, vol. 30, no. 3, pp. 195-208, 2010.
- [7] E. Castronova, *Synthetic Worlds: The Business and Culture of Online Games*. Chicago: University of Chicago Press, 2005.
- [8] E. Castronova and G. G. Wagner, Virtual life satisfaction, *Kyklos*, vol. 64, no. 3, pp. 313-328, 2011.
- [9] K. A. Cerulo, Identity construction: New issues, new directions, *Annual Review of Sociology*, vol. 23, no. 1, pp. 385-409, 1997.
- [10] A. Chernev, R. Hamilton, and D. Gal, Competing for consumer identity: Limits to self-expression and the perils of lifestyle branding, *Journal of Marketing*, vol. 75, no. 3, pp. 66-82, 2011.
- [11] J. Cohen, A coefficient of agreement for nominal scales, *Educational and Psychology Measurement*, vol. 20, no. 1, pp. 37-46, 1960.
- [12] M. N. Cortimiglia, A. Ghezzi, and F. Renga, Social applications: Revenue models, delivery channels, and critical success factors - An exploratory study and evidence from the spanish-speaking market, *Journal of Theoretical and Applied Electronic Commerce Research*, vol. 6, no. 2, pp. 108-122, 2011.
- [13] R. Decker and M. Trusov, Estimating aggregate consumer preferences from online product reviews, *International Journal of Research in Marketing*, vol. 27, no. 4, pp. 293-307, 2010.
- [14] Y. Delgadillo and J. E. Escalas, Narrative word-of-mouth communication: Exploring memory and attitude effects of consumer storytelling, *Advances in Consumer Research*, vol. 31, no. 1, pp. 186-192, 2004.
- [15] U. M. Dholakia, R. P. Bagozzi, and L. K. Pearo, A social influence model of consumer participation in network- and small-group-based virtual communities, *International Journal of Research in Marketing*, vol. 21, no. 3, pp. 241-263, 2004.
- [16] T. Dodge, S. Barab, and B. Stuckey, Children's sense of self: Learning and meaning in the digital age, *Journal of Interactive Learning Research*, vol. 19, no. 2, pp. 225-249, 2008.
- [17] P. Drennan and D. A. Keffe, Virtual consumption: Using player types to explore virtual consumer behavior, *Journal of Lecture Notes in Computer Sciences*, vol. 4740, no. 64, pp. 466-469, 2007.
- [18] M. Eisenbeiss, B. Blechsmidt, K. Backhaus, and P. A. Freund, The (real) world is not enough: The motivational drivers and user behavior in virtual worlds, *Journal of Interactive Marketing*, vol. 26, no. 1, pp. 4-20, 2012.
- [19] J. E. Escalas and J. R. Bettman, Using narratives to discern self-identity related consumer goals and motivation, in *The Why of Consumption: Contemporary Perspectives on Consumer Motives, Goals and Desires* (S. Ratneshwar, D. G. Mick, and D. G. Huffman, Eds.). London: Routledge, 2000, pp. 237-258.
- [20] S. Evans, The self and second life: A case study exploring the emergence of virtual selves, in *Reinventing Ourselves: Contemporary Concepts of Identity in Virtual Worlds* (A. Peachey and M. Childs, Eds.). London: Springer-Verlag, 2011, pp. 33-57.
- [21] S. Füllbrunn, K. Richwien, and A. Sadrieh, Trust and trustworthiness in anonymous virtual worlds, *Journal of Media Economics*, vol. 24, no. 1, pp. 48-63, 2011.
- [22] L. Goel, N. A. Johnson, I. Junglas, and B. Ives, From space to place: Predicting users' intentions to return to virtual worlds, *MIS Quarterly*, vol. 35, no. 3, pp. 749-771, 2011.
- [23] A. Gorini, C. S. Capideville, G. De Leo, F. Mantovani, and G. Riva, The role of immersion and narrative in mediated presence: The virtual hospital experience, *Cyberpsychology and Behavior*, vol. 14, no. 3, pp. 99-105, 2011.
- [24] J. Hamari and V. Lehdonvirta, Game design as marketing: How game mechanics create demand for virtual goods, *International Journal of Business Science and Applied Management*, vol. 5, no. 1, pp. 15-29, 2010.
- [25] W. Haney, M. Russel, C. Guleck, and E. Fierros, Drawing on education: Using student drawings to promote middle school improvement, *Schools in the Middle*, vol. 7, no. 3, pp. 38-43, 1998.

- [26] H. F. Hsieh and S. E. Shannon, Three approaches to qualitative content analysis, *Qualitative Health Research*, vol. 15, no. 9, pp. 1277-1288, 2005.
- [27] M. Holzwarth, C. Janiszewski, and M. M. Neumann, The influence of avatars on online consumer shopping behavior, *Journal of Marketing*, vol. 70, no. 4, pp. 19-36, 2006.
- [28] Internet World Stats. (2011, December) World internet usage and population statistics. Internet World Stats [Online]. Available: <http://www.internetworldstats.com/stats.htm>.
- [29] H. S. Kang and H. D. Yang, The visual characteristics of avatars in computer-mediated communication: Comparison of internet relay chat and instant messenger as of 2003, *International Journal of Human-Computer Studies*, vol. 64, no. 12, pp. 1173-1183, 2006.
- [30] A.M. Kaplan and M. Haenlein, The fairyland of second life: Virtual social worlds and how to use them, *Journal of Business Horizons*, vol. 52, no. 6, pp. 563-572, 2009.
- [31] A.M. Kaplan and M. Haenlein, Consumers, companies and virtual social worlds: A qualitative analysis of second life, *Journal of Advances in Consumer Research*, vol. 36, no. 1, p. 873, 2009.
- [32] A.M. Kaplan and M. Haenlein, Users of the world, unite! The challenges and opportunities of social media, *Journal of Business Horizons*, vol. 53, no. 1, pp. 59-68, 2010.
- [33] K. Keeling, P. McGoldrick, and S. Beatty, Avatars as salespeople: Communication style, trust, and intentions, *Journal of Business Research*, vol. 63, no. 8, pp. 793-800, 2009.
- [34] O. J. Khan, Understanding consumer transaction behavior in Web retailing: A synthesis of economic and psychologically immersive approaches, *International Journal of e-Business Management*, vol. 4, no. 2, pp. 17-36, 2010.
- [35] R. E. Kleine, S. S. Kleine, and J. B. Kernan, Mundane consumption and the self: A social-identity perspective, *Journal of Consumer Psychology*, vol. 2, no. 3, pp. 209-235, 1993.
- [36] KZero Report. (2011, July) Virtual worlds registered accounts Q2 2011. KZero Worldwide. [Online]. Available: <http://www.kzero.co.uk/blog/q2-2011-vw-cumulative-registered-accounts-reaches-1-4-billion/>.
- [37] M. Lamont and V. Molnár, How blacks use consumption to shape their collective identity: Evidence from marketing specialists, *Journal of Consumer Culture*, vol. 1, no. 1, pp. 31-45, 2001.
- [38] G. Laurent, Improving the external validity of marketing models: A plea for more qualitative input, *International Journal of Research in Marketing*, vol. 17, no. 2-3, pp. 177-182, 2000.
- [39] S. M. Lee and L. Chen, The impact of flow on online consumer behavior, *Journal of Computer Information Systems*, vol. 50, no. 4, pp. 1-10, 2010.
- [40] V. Lehdonvirta, Virtual item sales as a revenue model: Identifying attributes that drive purchase decisions, *Electronic Commerce Research*, vol. 9, no. 1, pp. 97-113, 2009.
- [41] V. Lehdonvirta, T. A. Wilska, and M. Johnson, Virtual consumerism: Case habbo hotel, *Information, Communication and Society*, vol. 12, no. 7, pp. 1059-1079, 2009.
- [42] J. Li and M. Chignell, Birds of feather: How personality influences blog writing and reading, *International Journal of Human-Computer Studies*, vol. 68, no. 9, pp. 589-602, 2010.
- [43] A.Y. Mahfouz, A. G. Philaretou, and A. Theocharous, Virtual social interactions: Evolutionary social psychological and technological perspectives, *Computers in Human Behavior*, vol. 24, no. 6, pp. 3014-3026, 2008.
- [44] G. M. Marakas, M. Y. Yi, and R. Johnson, The multilevel and multifaceted character of computer self-efficacy: Toward a clarification of the construct and an integrative framework for research, *Information Systems Research*, vol. 9, no. 2, pp. 126-163, 1998.
- [45] D. P. McAdams, Personality, modernity, and the storied self: A contemporary framework for studying persons, *Psychological Inquiry*, vol. 7, no. 4, pp. 295-321, 1996.
- [46] S. Menon and B. Kahn, Cross-category effects of induced arousal and pleasure on the internet shopping experience, *Journal of Retailing*, vol. 78, no. 1, pp. 31-40, 2002.
- [47] P. R. Messinger, E. Stroulia, K. Lyons, M. Bone, R. H. Niu, K. Smirnov, and S. Perelgut, Virtual worlds – past, present, and future: New directions in social computing, *Journal of Decision Support Systems*, vol. 47, no. 3, pp. 204-228, 2009.
- [48] D. G. Mick and C. Buhl, A meaning-based model of advertising experiences, *Journal of Consumer Research*, vol. 19, no. 3, pp. 317-338, 1992.
- [49] C. Nass and Y. Moon, Machines and mindlessness: Social responses to computers, *Journal of Social Issues*, vol. 56, no. 1, pp. 81-103, 2000.
- [50] Z. Pan, A. D. Cheok, H. Yang, J. Zhu, and J. Shi, Virtual reality and mixed reality for virtual learning environments, *Journal of Computers and Graphics*, vol. 30, no. 1, pp. 20-28, 2006.
- [51] S. Papagiannidis, M. Bourlakis, and F. Li, Making real money in virtual worlds: MMORPGs and emerging business opportunities, challenges and ethical implications in metaverses, *Journal of Technological Forecasting and Social Change*, vol. 75, no. 5, pp. 610-622, 2008.
- [52] G. Parmentier and S. Rolland, Consumers in virtual worlds: Identity building and consuming experiences in second life, *Recherche et Applications en Marketing (English Edition)*, vol. 24, no. 3, pp. 43-55, 2009.
- [53] R. Peris, M. A. Gimeno, D. Pinazo, G. Ortet, V. Carrero, M. Sanchiz, and I. Ibáñez, Online chat rooms: Virtual spaces of interaction for socially oriented people, *Cyberpsychology and Behavior*, vol. 5, no. 1, pp. 43-51, 2002.
- [54] B. D. Prasad, Content analysis: A method in social science research, in *Research Methods for Social Work* (D. K. Lal Das, and V. Bhaskaran, Eds.). New Delhi: Rawat, 2008, pp. 173-193.
- [55] R. Reynolds, Y. Ishikawa, and A. Macchiarella, Relationship between second life and the U.S. economy, in *Encyclopedia of E-Business Development and Management in the Global Economy* (I. Lee, Ed.). Hershey, NY: Business Science Reference, 2010, pp. 82-93.

- [56] J. C. Riberio, The increase of the experience of the self through the practice of multiple virtual identities, *PsychoNology Journal*, vol. 7, no. 3, pp. 291-302, 2009.
- [57] A. Rosenmann and M. P. Safir, Forced online: Push factors of internet sexuality – A preliminary study of online paraphilic empowerment, *Journal of Homosexuality*, vol. 51, no. 3, pp. 71-92, 2006.
- [58] F. D. Schönbrodt and J. B. Asendorph, Virtual social environments as a tool for psychological assessment: Dynamics of interaction with a virtual spouse, *Psychological Assessment*, vol. 23, no. 1, pp. 7-17, 2011.
- [59] Second Life Economic Report. (2011, May) Q1 2011 Linden Dollar Economy Metrics up, Users and Usage Unchanged. Second Life Website. [Online]. Available: <http://community.secondlife.com/t5/Featured-News/Q1-2011-Linden-Dollar-Economy-Metrics-Up-Users-and-Usage/ba-p/856693>.
- [60] A. K. Shelton, Defining the lines between virtual and real worlds purchases: Second life sells, but who's buying?, *Computers in Human Behavior*, vol. 26, no. 6, pp. 1223-1227, 2010.
- [61] M. Sicilia and S. Ruiz, The effect of web-based information availability on consumers' processing and attitudes, *Journal of Interactive Marketing*, vol. 24, no. 1, pp. 31-41, 2010.
- [62] J. Smith and C. Hudson. (2011, December) Inside virtual goods - The US virtual goods market 2010–2011. US Virtual Good Market Report. [Online]. Available: <http://www.insidevirtualgoods.com/us-virtual-goods>.
- [63] V. Souitaris and M. Cohen, Internet-business or just business? Impact of 'internet- specific' strategies on venture performance, *European Management Journal*, vol. 21, no. 4, pp. 421-437, 2003.
- [64] J. R. Suler, Identity management in cyberspace, *Journal of Applied Psychoanalytic Studies*, vol. 4, no. 4, pp. 455-460, 2002.
- [65] C. I. Teng and S. K. Lo, Avatar theory, in *Encyclopedia of E-Business Development and Management in the Global Economy* (Lee, I, Ed.). Hershey, NY: Business Science Reference, 2010, pp. 75-81.
- [66] M. Trusov, A. V. Bodapati, and R. E. Bucklin, Determining influential users in Internet social networks, *Journal of Marketing Research*, vol. 47, no. 4, pp. 643-658, 2010.
- [67] S. Turkle, *The Second Self: Computers and the Human Spirit*. New York: Simon and Schuster, 1984.
- [68] S. Turkle, Constructions and reconstructions of self in virtual reality: Playing in the MUDs, *Mind, Culture, and Activity*, vol. 1, no. 3, pp. 158-167, 1994.
- [69] S. Turkle, *Life on the Screen: Identity in the Age of the Internet*. New York: Simon and Schuster, 1995.
- [70] S. Turkle, Multiple subjectivity and virtual community at the end of the Freudian century, *Sociological Inquiry*, vol. 67, no. 1, pp. 72-84, 1997.
- [71] S. Turkle, Looking toward cyberspace: Beyond grounded sociology, *Contemporary Sociology*, vol. 28, no. 6, pp. 643-648, 1999.
- [72] N. Yee, Motivations for play in online games, *Cyberpsychology and Behavior*, vol. 9, no. 6, pp. 772-775, 2006.
- [73] N. Yee and J. N. Bailenson, The Proteus effect: The effect of transformed self-representation on behavior, *Human Communication Research*, vol. 33, no. 3, pp. 271-290, 2007.
- [74] N. Yee, H. Harris, M. Jabon, and J. N. Bailenson, The expression of personality in virtual worlds, *Social Psychological and Personality Science*, vol. 2, no. 1, pp. 5-12, 2010.
- [75] S. Zhao, The digital self: Through the looking glass of telecopresent others, *Symbolic Interaction*, vol. 28, no. 3, pp. 387-405, 2005.
- [76] S. Zhao, S. Grasmuck, and J. Martin, Identity construction on facebook: Digital empowerment in anchored relationships, *Computers in Human Behavior*, vol. 24, no. 5, pp. 1816-1836, 2008.
- [77] Z. Zhou, X. L. Jin, D. R. Vogel, Y. Fang, and X. Chen, Individual motivations and demographic differences in social virtual world uses: An exploratory investigation in second life, *International Journal of Information Management*, vol. 31, no. 3, pp. 261-271, 2011.
- [78] D. Zwick and N. Dholakia, Consumer subjectivity in the age of internet: The radical concept of marketing control through customer relationship management, *Journal of Information and Organization*, vol. 14, no. 3, pp. 211-236, 2004.
- [79] D. Zwick and N. Dholakia, Bringing the market to life: Screen aesthetics and the epistemic consumption object, *Marketing Theory*, vol. 6, no. 1, pp. 41-62, 2006.
- [80] T. van Laer and K. de Ruyter, In stories we trust: How narrative apologies provide cover for competitive vulnerability after integrity-violating blog posts, *International Journal of Research in Marketing*, vol. 27, no. 2, pp. 164-174, 2010.
- [81] A. B. Ventura and N. Zagalo, Ecommerce in virtual worlds – a 'just do' approach?, *Journal of Theoretical and Applied Electronic Commerce Research*, vol. 5, no. 1, pp. 1-3, 2010.
- [82] K. Wattanasuvan, The self and symbolic consumption, *Journal of American Academy of Business*, vol. 6, no. 1, pp. 179-185, 2005.
- [83] R. P. Weber, *Basic Content Analysis*. CA: Newbury Park, 1990.
- [84] H. Woodruffe-Burton and R. Elliott, Compensatory consumption and narrative identity theory, *Advances in Consumer Research*, vol. 32, no. 1, pp. 461-465, 2005.
- [85] D. C. Wyld, A second life for organizations?: Managing in the new, virtual world, *Management Research Review*, vol. 33, no. 6, pp. 529-562, 2010.



## Appendix A: Details Concerning the Second Life Blogs Used for Data Collection Purposes, Including Forum Title and Theme, and Number of Users and Comments

<i>Title of forum</i>	<i>Theme of forum</i>	<i>Sum of selected users</i>	<i>Sum of selected comments</i>
"How do you create your avatar?"	Avatar creation, real life information, avatar development, consumption	197	495
"Selection of pictures for avatars"	Virtual profile, real life pictures, avatar pictures, virtual objects	197	293
"Business in Second Life"	Clubs, Shops, Selling virtual objects, Employees	197	409
"Marketing tips for residents"	Advertising, marketing strategy	197	262

## Appendix B: Detailed List of Emerging Subcategories Along the Primary Codes (Virtual Identity, Virtual Community, Consumption, Real Life Identity, and Virtual Business), Including Brief Definitions and Sample Quotes

Sub-categories	Code	Definition	Example
Evaluation of self and others	Virtual identity	Attitudes and beliefs associated with avatars as standards to value one's own avatar and other residents	"My avatar is very similar to my favorite anime character... it is a beautiful girl who is very popular among rock chicks." (self)  "I think that anime avatars are cool and much better than those perverts..." (others)
View of own avatar	Virtual identity	The level of intimacy associated with one's own avatar	"I don't think that avatars are that important as others think..."
Virtual profile	Virtual identity	The extent of elaboration in one's virtual profile	"My (virtual) profile shows who I am in Second Life, who reads it immediately knows me..."
Virtual friends	Virtual community	Attitudes and beliefs associated with virtual friendships	"My avatar has lots of friends because I am very friendly in SL (Second Life)."
Virtual groups	Virtual community	Attitudes and beliefs associated with joining various Second Life groups	"Currently, I am a member of 5-6 groups, but I don't even know their names"
Deep relationships	Virtual community	Attitudes and beliefs associated with being involved in intimate relationships with other residents	"I married to my husband several years ago... We love each other so much..."
Clothing	Consumption	Attitudes and beliefs associated with the consumption of clothes	"I follow the fashion trends IN (In Second Life) and buy lots of clothes..."
Entertainment	Consumption	Attitudes and beliefs associated with participation in entertaining events.	"I don't like parties in SL, so many weirdoes there who want to get my MSN name..."
Virtual property	Consumption	Attitudes and beliefs associated with possessing virtual spaces	"My friends and I own a small island where nobody come and can be alone..."
Boundary	Real life identity	The extent to which real and virtual identities are treated as separate from each other	"My avatar represents me in Second Life... I behave IN (In Second Life) as I do in the real world"
Sharing	Real life identity	Attitudes and beliefs associated with sharing real life information about oneself.	"I don't have any personal info in my profile... they are not important at all..."
Relevance	Real life identity	Attitudes and beliefs associated with the importance of real information about oneself or other residents	"I am a real profile pervert, always checking others' personal info... good to know who you are talking to at the moment..."

<i>Appendix B: continuation</i>			
Selling virtual objects	Virtual business	The extent of importance associated with virtual exchange	"In the past, I was a successful merchant, but nowadays I nobody buys anything which is really bad thing, I guess..."
Act of work	Virtual business	Attitudes and beliefs associated with employing avatars or being employed as an avatar	"Being an owner of a club, I learnt that choosing the right employees are extremely important to run successful business..."
Conducting marketing activities	Virtual business	The extent to which marketing activities are conducted regarding Second Life business	"Well, I advertise IN (In Second Life) and pay sometimes for avatars to tell others about my shop..."

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.