The fairyland of Second Life: Virtual social worlds and how to use them

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Abstract Virtual social worlds, such as the Internet site *Second Life*, have acquired a high degree of popularity in the popular and business press. In this article we address the increasing importance of virtual social worlds, and discuss how companies can make use of their potential. We first present how virtual social worlds evolved historically, how they fit into the postmodern paradigm of our time, and how they differ from other social media, such as content communities (e.g., YouTube), social networking sites and blogs (e.g., Facebook), collaborative projects (e.g., Wikipedia), and virtual game worlds (e.g., World of Warcraft). We subsequently present how firms can make use of virtual social worlds in the areas of advertising/communication, virtual product sales (v-Commerce), marketing research, human resources, and internal process management. We also highlight the points companies should pay particular attention to in their activities, the 5Cs of success in virtual social worlds, and the future evolutions that we expect to shape this sector over the next 5—10 years: a trend toward standardization and interoperability, improvements in software usability, increasing interconnection between reality and virtual worlds, establishment of law and order, and the transformation of virtual social worlds to business hubs of the future.
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1. A snow crash in the Metaverse

Roughly 15 years ago, in 1992, United States author Neal Stephenson published a novel titled *Snow Crash*. In this book Stephenson tells the story of a protagonist named Hiroaki Protagonist, who physically lives in Los Angeles during the early 21st century but who mentally spends most of his time in a three-dimensional virtual world called the *Metaverse*. He, as well as other people, access this Metaverse using personal computer terminals that project pictures of a virtual urban environment situated on a virtual artificial planet onto goggles. Within the Metaverse, everyone appears in the form of personalized avatars; that is, pieces of software that are the audiovisual bodies that people use to represent themselves and communicate with other people in the Metaverse. These avatars, which may

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have any appearance the user desires (except for limitations of height "to prevent people from walking around a mile high"), can perform any activities familiar from their real life, such as visiting night clubs, making friends, or consuming virtual drugs, like the pseudo-narcotic snow crash. In the 21st century the Metaverse is so popular and attractive that some people even decide to remain continuously connected to it by spending their real life in storage units, surrounded only by the technical equipment necessary to enter the virtual world.

When the novel was published the Metaverse was considered pure fiction, and few readers of *Snow Crash* would have believed that a world like the one described in the book could indeed ever become reality. Nevertheless, the underlying idea of virtual worlds fascinated a lot of people, including United States programmer Ron Britvich, who used it as an inspiration for the creation of *Alpha World* in 1995 (later renamed *Active Worlds*), the first widely used virtual world which allows users—or, more precisely, their avatars—to create their own virtual content, such as houses, streets, and gardens using prefabricated objects. Since then many other firms have entered the market using the same principles and garnering increasing popularity. Examples include the Finnish *Habbo*, founded in 2000, which offers virtual hotel rooms to teenagers that can be customized using virtual furniture, and then used for chatting and content sharing among avatars. In September 2008 *Habbo* counted 9.5 million unique visitors, aged between 13 and 18, per month.

The massively multiplayer online role-playing game *World of Warcraft* (MMORPG) can also be counted among this group of applications. *World of Warcraft* has approximately 8.5 million subscribers who pay up to $15 per month after an initial trial period to explore the virtual planet of Azeroth while assuming the form of humans, dwarves, orcs, or night elves, and to fight monsters or search for treasures.

Among current trends in the industry is the entry of major companies into the market of virtual worlds. In July 2008 Google introduced its *Google Lively* product, a Web-based virtual environment similar to *Habbo* that runs on Microsoft's Internet Explorer. Virtual reality helmets, similar to the goggles described in the *Snow Crash* novel, are already available in the marketplace, offered by consumer electronic companies including Canon and Sony.

2. Postmodernism and the concept of hyperrealities

The success of virtual worlds can be explained by the fact that they fit well in the philosophical foundation of our time, which is often referred to as the postmodern paradigm; see, for example, Cova (1996) for an introduction. According to philosophers such as Jean Baudrillard, Michel Foucault, and Umberto Eco, the late 1960s and early 1970s represented a turning point in modern philosophy (Firat, Sherry, & Venkatesh, 1994; Venkatesh, Sherry, & Firat, 1993). Previously, from the eighteenth century onward, the concerted effort of all scientific domains was targeted toward the search for universal laws and absolute truths. This period, which is best reflected in the philosophy of the rationalist Bertrand Russell or the management principles of the engineer Frederick Taylor, is often referred to as *modernism*. In the late 1960s, however, more and more people began to question the foundations of this movement. Evolutions such as nuclear weapons and environmental pollution led to a revolt against the authority reflected in the rules of the establishment, and ultimately marked the beginning of postmodernism.

Postmodernism is characterized by hostility toward generalizations and a celebration of skepticism. In science it has been reflected in developments such as chaos theory and fractal geometry; in the arts it can be seen in street art and the "happenings" of Christo; and in management it has resulted in the introduction of flexible work practices and matrix organizations.

Today, the basic conditions of postmodernism correspond to the new view many managers have of their companies, which puts tangible resources, service delivery, and customer-company value co-creation on top of their agenda (Firat & Venkatesh, 1993; Vargo & Lusch, 2004). Hence, it is not surprising that postmodern ideas have increasingly spread into the business world. One example is the rising use of hyperrealities, i.e. artificially created settings that appear real to the individuals involved in them, as strategic tools to improve the service experience. Hyperrealities are based on "the idea that reality is constructed, and therefore it is possible to construct things that are more real than real" (Venkatesh et al., 1993, p. 221). They are a key reflection of the postmodern philosophy because they do not assume that everyone shares the same reality, but instead simulate alternative realities in which users can perform activities they would be unable or unwilling to do in real life. Places such as Disneyland or Las Vegas were among the first to build seemingly real environments that induce a dream-like state where consumers tend to spend money more generously. Today, the idea has been extended to other tourist attractions (Grayson & Martinec, 2004), reality television shows (Rose & Wood, 2005), and retail settings.

3. A brief story of Second Life

The most well known hyperreality is probably the three-dimensional virtual world *Second Life* (SL). *Second Life* was founded and managed by the San Francisco-based company Linden Research, Inc., and has generated a substantial amount of press coverage; consider, for example, articles in business publications by Enright (2007) and Hemp (2006). Similar to other virtual worlds, *Second Life* users—called "residents"—can enter the virtual environment through a downloadable client program in the form of personalized avatars.

Avatars are not a new concept, and they have previously been discussed in academic literature, such as Holzwarth, Janiszewski, and Neumann (2006) and Wang, Baker, Wagner, and Wakefield (2007). However, until now the focus of these analyses has mainly been on their function as sales agents in business-to-consumer relationships. While avatars may also fulfill such a role within *Second Life* (e.g., when avatars work as sales clerks in virtual stores), their purpose here is to provide a form of self-presentation within the virtual environment, similar to that which has been discussed in the context of users' motivations to create personal websites (Schau & Gilly, 2003). In line with consumer culture theory (Arnould & Thompson, 2005), *Second Life* provides users with the possibility of constructing an alternative identity that can either be a replication of their real life self, an enhanced version with improvements along certain attributes, or a completely different self. Compared to other virtual worlds, users in *Second Life* face no restrictions regarding the type of self-presentation that can be created, which leads to the situation where avatars can appear in any possible form and surround themselves by any objects of their liking; the sky is the limit.

Communication between avatars is most often conducted in written format, either through chat or instant messaging, although a voice-chat option was introduced in August 2007. To move from one location within *Second Life* to another, avatars can walk, fly, teleport, or ride vehicles such as cars, submarines, or hot-air balloons. Residents also have the option to purchase real estate within the virtual world, ranging from small lots (512 m^2) to whole regions and private islands, where they can build houses for their avatar to live in that can subsequently be equipped with items of furniture and appliances. Avatar interaction within *Second Life* is largely driven by sub-cultures that mirror either real life settings, such as shopping malls and nightclubs, or fictional or historical situations, like ancient Rome.

The main difference between *Second Life* and other virtual worlds is that residents hold the copyright on all the content they create and are allowed to sell this content to other users in exchange for virtual money known as Linden Dollars (L$). In order to obtain such money, avatars can either exchange real life currencies for Linden Dollars via the *Second Life* Exchange at a floating exchange rate that is approximately stable at L$260 per U.S.$1, or derive virtual income by managing businesses, working in stores, or providing entertainment services. Money that has been earned in such a way can either be kept in one of *Second Life*'s banks (and earn interest payments), or re-exchanged into real life currency. For some users income earned within *Second Life* even complements their real life salary.

The increasing popularity and economic importance of *Second Life*—in April 2008 a total of U.S.$8.7 million was exchanged into L$2.3 billion—has also motivated many real life companies to start activities within *Second Life*. Consumer corporations, including Telecom Italia, Circuit City, and Toyota, maintain *Second Life* flagship stores to sell virtual (digital) equivalents of their Real Life products (e.g., communication services, consumer electronics, cars) that can be used for avatar enhancement. Others, such as Endemol or Dell, organize virtual reality shows or sponsor events of public interest within *Second Life*.

4. Virtual social worlds in comparison to other social media

Second Life, or virtual worlds in general, are part of a larger group of Internet-based applications known as *social media*. This term is used to describe Internet-based applications that help consumers share opinions, insights, experiences, and perspectives. Social media can take many forms, including content communities (e.g., YouTube), social networking sites or blogs (e.g., Facebook), and collaborative projects (e.g., Wikipedia). All these applications have content that is created, updated, and maintained through them by individual Internet users and provided to other users, often free of charge in an altruistic manner. This makes social media different from traditional web pages, such as www.amazon.com or www.google.com, which are often run and managed by companies, frequently with a commercial purpose in mind.

Within social media, virtual worlds have three characteristics that differentiate them from other applications. First, virtual worlds allow users to interact with others in real time. While content on pages like YouTube, Facebook, or Wikipedia is usually

posted and then consumed by others with a time delay, a conversation within *Second Life* is identical to one in real life, with the exception that it is not conducted in a face-to-face format. Second, virtual worlds allow users to create fully customized virtual self-presentations in the form of avatars. Although a YouTube user may be able to create some form of an image within the community by carefully choosing the types of video messages posted, avatar customization within virtual worlds tends to be far more flexible. If desired, a *Second Life* resident can, for example, create an avatar that very closely resembles the real appearance of the associated user, or of a very different person. Finally, while content communities, blogs, and collaborative sites are two-dimensional (i.e., focused on content sharing), avatars within virtual worlds have the possibility of exploring their virtual environment in three dimensions. In many virtual worlds, the basic rules of physics continue to hold, which makes navigation within them very similar to what one is used to in the real world.

Within the group of virtual worlds, it is again necessary to differentiate between two different forms, namely virtual game worlds and virtual social worlds. In virtual game worlds users are usually required to follow strict rules that govern their behavior. In Sony's *EverQuest* world, for example, one needs to be a wizard to perform magic or a cleric to heal others. No matter how hard the user may try, a wizard avatar will always be a terrible fighter compared to a warrior avatar, for instance. Additionally, virtual game worlds often do not allow one to engage in economic activities with other users within the world, including the sale and purchase of content. Instead, such activities are conducted using means from outside the world, such as the online auction house eBay. Nevertheless, virtual game worlds have also reached the interest of academics; for example, in medical research where they have been used to analyze the spread of diseases (Lofgren & Fefferman, 2007).

Virtual social worlds such as *Second Life*, on the other hand, do not pose any restrictions on the way avatars can behave or interact. This flexibility, and especially the resulting ability to conduct business with other users, makes virtual social worlds different from other social media and particularly interesting for corporate use.

5. Corporate opportunities within virtual social worlds

Based on our research in the area of virtual social worlds in general and *Second Life* in particular,

we see five different ways in which companies can make use of this special form of social media. These are advertising/communication, virtual product sales (v-Commerce), marketing research, human resource management, and internal process management. We will now discuss each of these applications in more detail.

5.1. Advertising/Communication

Communication is probably the most widely applied business use of virtual social worlds, and there are four different ways in which companies can leverage the advertising potential of applications like *Second Life*. First, they can set up virtual flagship stores (similar to real life flagship stores; see Kozinets et al., 2002) to present digital equivalents of their real life products. The Japanese automotive company Toyota, for example, runs a store in *Second Life* in which it shows virtual editions of the Scion xB model.

Second, communication can be conducted by buying advertising space in virtual malls or radio stations (comparable to online banners; see Manchanda, Dube, Goh, & Chintagunta, 2006). Companies such as MetaAdverse, the advertising network on *Second Life*, rent out virtual billboards to firms and then track who views those billboards to provide information to advertisers, similar to the data obtained in the context of traditional TV or online advertising. Canada's IMAX Corporation used this approach by advertising the fifth part of the Harry Potter saga, *Harry Potter and the Order of the Phoenix*, within *Second Life* and managed to contact 15,000 unique visitors. Besides being effective, such virtual communication is substantially cheaper than more traditional means of online advertising. A billboard with 200,000 impressions can, for example, be set up for about 8,000 Linden Dollars (roughly U.S.$30), which translates into cost-per-thousand of U.S.$.15, compared to cost between $1 and $8 per thousand clicks on Google's Ad Words, depending on the type of keyword used.

A third way of advertising is the sponsoring of events in virtual worlds, as done by the British Guardian newspaper together with the semiconductor producer Intel when they supported the *Second Fest*, a virtual music festival. Finally, companies should not forget the positive impact their activities within virtual social worlds can have on real life press coverage. Conducting any form of activity within *Second Life* may be the best way to get positive coverage in the business press these days.

Nevertheless, and despite these possibilities, companies should also not forget that advertising in virtual social worlds is not without limits.

Since February 2008, Linden Research, for example, has prohibited any advertising that impairs a neighbor's view. Why? To avoid *Second Life* residents encountering a loss in the real estate value of their virtual property, of course.

5.2. Virtual product sales (v-Commerce)

Besides advertising, virtual social worlds also offer the possibility of e-Commerce; or, in this virtual channel, *v-Commerce*. One common way of doing so is to sell digital versions of existing real life products and services. Telecom Italia, who launched four different islands in *Second Life* in July 2007, for example offers a product called the "First Life Communicator," which enables avatars to call each other and to exchange text messages. Similarly, the Dutch media company Endemol expanded its *Big Brother* reality show into *Second Life* by inviting 15 residents to spend one month in a glass-walled virtual house.

Another approach is to propose services that bridge the virtual and the real world. The world's largest logistics company, Deutsche Post World Net, offers virtual cards to *Second Life* residents, which are subsequently delivered as real postcards all around the world. An alternative approach taken by the United States consumer electronics retailer Circuit City consists of using its *Second Life* flagship store to sell real life items that are subsequently shipped to the user's home. Here, the possibility of virtually experiencing products prior to purchase is likely to lead to more favorable attitudes and higher purchase intentions due to higher object interactivity (Schlosser, 2003, 2006). This specific form of v-Commerce could therefore overcome some of the disadvantages associated with traditional e-Commerce, such as lack of appropriate product presentation, especially for fashion and design items (Keeney, 1999), or insufficient social interaction (Wang et al., 2007).

Using *Second Life* for such a purpose obviously requires setting up an official corporate presence within the virtual world. Several cost items must be considered in that context. First, the company needs to hold a Premium Membership (about U.S.$70/year), as free accounts are not allowed to own land within the world. Second, it needs to purchase an island to set up its presence. A private region of 65,536 m2 is currently priced at U.S.$1,000 plus a $295 monthly maintenance fee. Third, it needs to build its actual flagship store. The cost for this task, which is comparable to the programming of a traditional webpage, heavily depends on the type of layout desired. It can be as low as several hundred dollars for a very simple presence,

and increase up to $200,000 for a highly professional and interactive island.

Firms should be aware that these investments are unlikely to be recovered by actual sales made through v-Commerce, at least in the short-term. Although several hundred thousand visitors may visit stores, the actual conversion rate of visitors into buyers is only around 5%, and the mean transaction volume is still reasonably low. Based on our analyses, about a third of all residents spent less than 100 Linden Dollars per week (about U.S.$.40), and only 20% have regular weekly consumption in excess of 1,000 Linden Dollars. Besides these monetary aspects, companies also need to be careful when conducting v-Commerce not to artificially raise expectations regarding their real life products that subsequently may be impossible to fulfill. Offering virtual shoes, for example, in 1,000 different colors might make consumers believe that the same choice also exists in the firm's real life outlets. If this is not the case, this could also induce feelings of dissatisfaction, disappointment, or even anger. In addition, initial expectations about sales that can be achieved through this channel should be reasonably low because the low price levels within *Second Life* (e.g., approximately L$287 or U.S.$1 for a digital suit) make it unlikely that substantial money can be earned within virtual worlds, at least in the short run.

5.3. Marketing research

Another interesting opportunity is to use virtual social worlds for marketing research purposes. One way of doing so is to rely on *Second Life* as a tool to conduct standard marketing research projects at a lower cost. According to the French market research firm Repères, one of the leading providers within this domain, the cost for a virtual qualitative focus group are about 33% lower, and quantitative surveys can be conducted at half the cost of a comparable real life project.

Another way is to leverage the higher degree of interactivity and impressiveness that such mediums offer, which leads to possibilities that go far beyond those known from more traditional approaches of online research as, for example, netnography; i.e. the systematic analysis of online communities (Kozinets, 2002). Whenever firms make decisions about new product introductions, for example, they also face the choice between running a lengthy and expensive test market analysis and introducing the product right away with an increased risk of failure. Test marketing within virtual social worlds might be a way to solve this dilemma. When the hospitality company Starwood Hotels & Resorts considered launching a new range of design hotels under the

brand name "Aloft," it decided to first build the hotel virtually within *Second Life* to obtain a better understanding of which features might be important for users. According to Brian McGuinness, a Starwood VP, this led to several design changes, including the decision to build radios in the guest rooms' showers.

Other companies take advantage of the opportunity to directly leverage the creative potential of virtual world residents by involving them in the design and customization process of their products from the start, similar to the use of lead users in traditional new product development projects (Urban & Von Hippel, 1988; Von Hippel, 1978). The citizens of Paris, for example, recently participated through *Second Life* in the creation of a new park to be constructed on top of the Les Halles shopping mall in 2012; the blueprint proposed by the architect charged with project implementation originally resulted in protests from residents. Note, however, that tastes and preferences in virtual worlds may not be the same as in a real setting. Avatars in the form of dangerous dragons, beautiful elves, or creative hippies may like some designs that the reticent bank clerk who stands behind them in real life would never consider buying. Therefore, each new idea generated within virtual worlds needs to be subject to a thorough reality test before actually being implemented.

5.4. Human resource management

Besides the aforementioned marketing purposes, virtual social worlds can also be used in the context of HR management and recruiting. Service providers such as the United States-based TMP Worldwide Advertising & Communications regularly organize recruiting events for their clients within *Second Life*. On average, 750 job seekers request interviews at each event, 200 of which are actually scheduled and 150 finally conducted. For some firms, such as T-Mobile, eBay, or Verizon, recruiting in such media ensures access to particularly creative and technologically advanced candidates. Others, such as L'Oreal or Bain & Company, might decide to be present in the hope that this leads to a positive image and increased attractiveness among potential recruits.

Yet in some settings virtual recruiting may not be so beneficial for the company after all. Potential applicants with high potential who may not necessarily be technology freaks, for example, might prefer a company that offers more traditional ways of getting in touch with them because using virtual worlds could be perceived as too complicated. Firms can also never be sure who actually stands behind an avatar. Virtual recruiting can, therefore, only be seen as a complement to existing activities, and not as a

replacement for such. But even if recruiting continues to be conducted in a traditional way, virtual social worlds can help to create awareness for offline events. The French retailer Auchan, for example, used advertising space in *Second Life* to promote its "Rencontres de Talents" program of recruiting visits to 30 towns and cities across France in 2007.

5.5. Internal process management

Finally, corporations can also make use of virtual social worlds by using them as a platform for organizing internal meetings and knowledge exchange. Cisco offers its employees custom avatar creation tools and maintains two corporate islands for internal use, and has established a virtual "code of conduct." Similarly IBM, one of the biggest landowners within *Second Life* with 24 islands, uses the world extensively for internal purposes. The Crowne Plaza hotel chain, owned by the InterContinental Hotels Group, even allows companies to book virtual meeting rooms in its *Second Life* Crowne Plaza in the very same way as they can rent space in Crowne Plaza outlets in the United States, Great Britain, or Switzerland.

For years companies have hoped to save money and time by making more extensive use of video- and phone-conferencing systems, but the extremely limited ways of interaction offered by such media have been significant obstacles to their broad use. However, today it seems that physical meetings might soon become obsolete. Why travel 12 hours across the globe if you can meet your business partner from the comfort of your living room within *Second Life*?

But it must not be forgotten that there are also challenges involved when moving from real to virtual. Some of these are of a legal nature. As highlighted by Hewlett Packard's Chief Seer Philip McKinney, for example, it is far from obvious who owns a product that has been developed in virtual collaboration within someone in another country. Other problems revolve around the issues of trust and user friendliness. Do you really want your CEO to negotiate the merger of your company with a potential partner in another country using virtual worlds? In addition, when do you think your assistant will be capable of navigating and setting up meetings in *Second Life* with the same ease as using the phone?

6. The 5Cs of success in virtual social worlds

In one of our first projects in the area of virtual social worlds (Kaplan & Haenlein, 2009) we

conducted a series of in-depth interviews with *Second Life* residents to better understand the benefits consumers obtain from using such media. The results show that there are basically four key motivations for spending time in-world: the desire to build personal relationships, the wish to earn money, the search for diversion, and the need to learn. Additionally, our respondents highlighted that for them *Second Life* is not merely a computer game, but an extension of their real life, and that they expect companies to understand that and to take them and their *Second Life* activities seriously. This translates into five points that companies should pay particular attention to, which we call the 5Cs of success in virtual social worlds.

6.1. Catch traffic

For many users *Second Life* is not an individualistic experience, but instead a place to get to know people and meet friends. Companies therefore need to ensure a sufficient amount of traffic on their islands to avoid feeling empty and deserted. Today, the majority of corporate presences within *Second Life* seem to suffer from a lack of interest, but there are several strategies that companies can use to solve this problem. One is to give away freebies; i.e. free virtual products and services. Usually freebies are small items like clothing or scripts that add certain features to your avatar. But companies such as GM's Pontiac division gave away free land on their Motorati island. Another solution is to create a permanent social atmosphere, as done by the TV show *The L Word* that maintains ''The L Word Dance Club,'' or to organize games and contests. At the foot of the Intel tower *Second Life* residents have, for example, the opportunity to plant virtual sunflowers, and for each sunflower Intel donates U.S.$1 to the Conservation International Foundation.

6.2. Compensate presence

Unfortunately, even a second life does not come for free and, as in real life, one needs money in order to have fun in a virtual social world. Therefore, the wish to earn sufficient funds is at the top of many avatars' list of priorities, and companies should try to satisfy this desire. One popular way of doing so is to pay *Second Life* residents for ''camping'' on your island. Set up some virtual benches, offer to pay L$2-3 (U.S.$.10) for 10 minutes of sitting on these benches, and see how avatars queue up to be present on your island. This may also help to solve the issue of limited traffic on your corporate presence.

Another solution is to compensate residents for their participation in marketing research projects.

Market research companies specialized in *Second Life*, such as the French Repères, pay L$250-10,000 (U.S.$1-40) per completed survey. For some avatars, such activities become so lucrative they can use them to complement their real life income. According to Mark D. Kingdon, CEO of Linden Research, there are about 17,000 *Second Life* residents who generate a positive cash flow from their in-world activities, and 500 who earn more than U.S.$1,000 per month.

6.3. Consider innovativeness

A key motivation for spending time in *Second Life* is to have fun. Therefore companies need to propose new and exciting opportunities every day to keep the interest of avatars because boring and uninventive presences risk being severely punished. The Italian fashion label Armani, for example, nearly faced a boycott within *Second Life* because its virtual flagship store, which was essentially a duplicate of a real outlet in Milan, was perceived as lacking interactivity and as not adapted to the virtual world. This is consistent with findings generated in the context of traditional webpage design where it has been shown that perceived interactivity drives attitude toward the site and usage (Song & Zinkhan, 2008).

Because *Second Life* is a hyperreal virtual world, avatars expect firms to do things that go beyond reality. Take Coca-Cola, for instance. In August 2007 the soft drink giant invited 100 selected *Second Life* residents, including one avatar representing the rock star Avril Lavigne, to its virtual Coke cinema for the premiere of *Happiness Factory — The Movie*, a virtual complement to the launch of Coke's new ''Happiness Factor'' advertising campaign in real life. Given that few *Second Life* users would ever have the chance to participate in a similar event in real life, activities like this are likely to be the most successful.

6.4. Create a learning environment

But virtual social worlds are not only about having fun and diversion. For many users they are also a place to learn and have new experiences. The possibilities for companies who would like to provide such a learning environment are endless. Computer manufacturer Dell recreated a giant computer on its island, which avatars can enter to see how such a machine really works. The retail bank Wells Fargo built a place called Stagecoach Island, on which avatars can earn Linden Dollars by answering financial questions, thereby teaching them the basics of managing their real money. Business schools such as

Harvard, Stanford, or INSEAD even use *Second Life* to enhance interactivity in their distance learning programs. And if nothing else really comes to mind, just build a virtual Eiffel Tower and offer avatars the unique experience of parachuting from it right into your flagship store.

6.5. Care about avatars

Last but not least, firms need to understand that for its residents *Second Life* is more than a mere computer game—it is an extension of their real life. Our research clearly shows that with increasing usage frequency and consumption intensity, *Second Life* avatars show behavior similar to that shown by people in real life situations. Therefore, companies need to take the virtual world, and their activities within it, seriously in order to be taken seriously themselves. There are many companies that have failed in *Second Life* because they did not respect this simple rule. Firms such as AOL, Mercedes-Benz, American Apparel, and Sears, all of which are known for their marketing success in real life and were among the first to enter *Second Life*, have since left the virtual social world. Most likely they did not succeed because they were unable to manage and update their virtual presences at regular intervals. If you consider *Second Life* merely as a new temporal advertising outlet rather than as an integrated communication channel, avatars will soon realize and punish you accordingly.

7. Future evolutions on the horizon

Virtual worlds are a highly dynamic area, and it seems that every day another key player is announcing some kind of breakthrough industry-changing news. However, where the big lines of future development are concerned, we see five different directions that are likely to be particularly important in years to come, and which we will now discuss in more detail.

7.1. Evolution toward standardization and interoperability

Social media are all about user participation and involvement. Therefore, it is unlikely that virtual worlds will remain as they currently are: managed by a few companies using proprietary software and protocols. Instead, we expect a evolution similar to the one that transformed the Internet from a handful of interconnected military computers to the World Wide Web: a transition toward open source, standardization, and, ultimately, a connection between all single individual virtual worlds that transforms them into one big Metaverse.

Several developments going in this direction are already visible today. In January 2007 Linden Lab made the source code for the *Second Life* Viewer available to everyone, allowing each Internet user to modify and improve the main gateway to the virtual world. In July 2008, 18 months later, Linden Lab and IBM showed that avatars could be transferred from the *Second Life* grid to an OpenSim virtual world server. In the future, this will allow the traveling of avatars from one virtual world to another, and is likely lead to the fact that people will maintain and customize only one avatar, similar to the use of one main email account today.

7.2. Improvement in software usability

Do you remember how you checked email in the early 1990s? You had to have an acoustic coupler, a dial-in number from a university or government organization, a fairly powerful computer, and extensive technical knowledge to make everything work together. Until America OnLine entered the market with its user-friendly "connection manager," access to the Internet was limited to technology geeks or their friends. Today, such distant memories reappear when one tries to connect to *Second Life* for the first time. In-world navigation is difficult to learn, avatar customization can take hours, and the hardware requirements for an enjoyable game experience are substantial. Yet, as with all other technological innovations, we expect substantial and rapid improvements in this area over time. Ultimately, this will result in virtual worlds becoming an integral part of tomorrow's life, potentially similar to the importance of mobile phones in today's society, although an evolution envisioned in Stephenson's *Snow Crash* can hopefully be avoided. Given the huge potential of three-dimensional virtual worlds compared to the traditional two-dimensional World Wide Web, some experts even assume that corporate presences within applications like *Second Life* will take over the role of traditional Internet pages in 5—10 years' time.

7.3. Interconnection between reality and virtual worlds

We expect over the next few years that innovation and creativity will lead to virtual worlds that more and more resemble what we are used to seeing in reality. Today, the graphical capabilities of worlds like *Second Life* are still rather limited, and although avatars and virtual cities resemble real people and locations, they still look very different compared to their real life counterparts.

However, the boundaries between virtual and real are already getting more and more blurred, and this trend is likely to continue in future. The search engine giant Google is, for example, rumored to be planning to transform its Google Earth product into a virtual world which offers avatars the possibility of walking through a three-dimensional equivalent of San Francisco, Tokyo, or Paris. Combine this with the idea that avatars can closely resemble real life people, in the same way that characters in modern video games are only barely distinguishable from actors in Hollywood movies, and it becomes far from easy to define the difference between real and virtual. Or, to put it differently, if a user spends 12 hours per day working and meeting friends in a virtual social world, is it still possible to say what is virtual and what is real?

7.4. Establishment of law and order in virtual worlds

The more important virtual worlds become in economic terms, the more likely it will be that people will see the need to have them governed by the same legal rules and ethical norms as their everyday life. The first steps in this direction are already visible today. In July 2007 Linden Lab, in reply to an FBI investigation, announced a ban on in-world gambling, and forbade all wagering on games of chance or games that rely on the outcome of real life organized sporting events when they provide a payout in either Linden Dollars or a real life currency. Among others, this ban resulted in the collapse of a major virtual bank called ''Ginko Financial,'' which led to severe liquidity problems for the rest of the virtual banks, and halved the size of *Second Life*'s economy.

As a consequence, Linden Lab started to regulate the virtual banking industry in January 2008, and prohibited the offering of interest or any direct return on investment by all companies who were unable to provide proof of an applicable government registration statement or financial institution charter. Apparently such legislation does not come without problems in an environment that operates outside any legal boundaries existing in the real world. But improvements in law and order will be a necessary step toward improving institutional trust, and toward transforming virtual worlds into a relevant economic channel for corporate use.

7.5. Transformation of virtual social worlds to business hubs of the future

All these changes combined will transform virtual social worlds from exotic forms of diversion into the business hubs of the future. Whether through v-Commerce, advertising, or other business functions, there is little doubt that the increasing growth of virtual asset trade within virtual worlds will evolve beyond its gaming roots toward being the main contact channels for companies. Of course, there are still plenty of steps in between before this might really happen. However, there are already several signs visible that indicate this direction. Linden Lab, for example, is dropping hints that they might allow enterprise programmers to connect their own virtual world servers to the official *Second Life* grid. This would imply that companies would be able to host and manage their own islands, but still be part of the *Second Life* environment. Technically, this is very similar to the way corporate Internet activities are managed nowadays.

8. Virtual kills the Internet star?

In 1979, the British New Wave group The Buggles released a song titled *Video Killed the Radio Star*, telling the story of a famous radio singer whose career is cut short by the increasing importance of television. This song reflected a major change in the media landscape at that time: the addition of visuals to audio signals. In the very same spirit, we think that virtual social worlds add another dimension to the Internet as we know it today. In particular, the future evolutions outlined above are likely to radically change the World Wide Web we are now familiar with. After all, it has long been shown that human beings are more efficient in processing and navigating three-dimensional spaces than two-dimensional representations. Why limit yourself and your company to a traditional webpage if you can maintain a virtual island within a three-dimensional virtual social world?

Obviously, there are also some factors that might slow down or even hinder such an evolution. Among the most important ones is the massive amount of energy consumed by applications like *Second Life*. The American writer and IT expert Nicholas Carr calculated, for example, that the average *Second Life* resident consumes roughly 1,800 kilowatt hours of energy per year. This is only 25% less than the 2,500 kilowatt hours the average human consumes annually in real life, and about 1.8 times as much as the 1,000 kilowatt hours consumed by citizens in developing countries. In light of rising energy costs and increasing awareness of ecological questions and environmental sustainability, this might substantially slow the evolution of virtual worlds in the future. Other problems that add to this issue are the tremendous legal problems involved in

regulating a completely new world and the lack of experience that firms have in this area, given that the requirements for a presence in virtual worlds might be quite different from those of traditional web pages.

In any case, and whatever the importance you yourself give to virtual social worlds, it is certainly a wise strategy to be prepared for the increasing importance of such applications in the future, and to be building sufficient expertise in your organization today in preparation for tomorrow. If not, your company may face the same issues as the newspaper industry today, which has been facing devastating declines in the number of readers and advertising revenue for several years in a row due to a lack of preparation for the upcoming importance of the Internet. According to author Philip Meyer, the ubiquitous availability of news on the World Wide Web will lead to the fact that in about 30 years' time (around 2040), the newspaper industry will disappear from the landscape.

In a worst-case scenario, virtual social worlds are just another form of media that your company can use in the short term to reach a segment of highly creative and technologically advanced users. But they may also be the start of a whole new area of retailing and dealing with your customers.

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