Chapter 4
Advertising in Virtual Worlds:
Facilitating a Hierarchy of Engagement

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ABSTRACT

This chapter describes how virtual worlds can be used for advertising and other communications to consumers. To help conceptualize how virtual worlds enable enhanced forms of communications to consumers, the authors introduce a conceptual framework which they call a hierarchy of engagement in advertising communications. They argue that virtual worlds facilitate deeper levels of engagement in this hierarchy. The authors then describe, from a practical standpoint, how to manage the traditional elements of advertising campaigns—message, media, timing, intensity, and budget—in the context of virtual worlds to help achieve deeper levels of engagement, which they argue lead to greater brand recall and loyalty. To put these points in context, they begin with a short history of gaming and social computing. To assist with selection of virtual worlds in which to conduct communication campaigns, the authors present a typology of virtual worlds and provide a description of some extant virtual worlds using this typology. The chapter concludes with a description of needed future work to harness virtual worlds for customer engagement.

INTRODUCTION

Virtual worlds constitute an increasingly prominent communications and entertainment medium in the lives of many adults, teens, and children. As such, virtual worlds constitute an important new vehicle for advertising and customer communications. According to one estimate, 20 to 30 million people regularly participated in virtual worlds in 2006, spending an average of almost twenty-two hours per week within these spaces (Balkin & Noveck, 2006). For those who participate in them, the names of these worlds are household words, including adult worlds, such as Second Life, World of Warcraft, Kaneva, and Entropia Universe; children's worlds, such as Webkinz, Neopets,

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Club Penguin, Habbo, Whyville, TyGirlz, and RuneScape; community-specific worlds, such as Cyworld and HiPiHi; media-focused worlds, such as vSide; and educational worlds, such as ActiveWorlds, there.com, and Forterra Systems. The challenge for businesses and other organizations is to learn to harness this new communications medium.

A key distinguishing feature of virtual worlds is that people interact with each other through digital 3D anthropomorphic characters called avatars. In any given virtual world, thousands of people can interact simultaneously within the same three-dimensional environment. Through their avatars, people can play, explore, communicate, join group activities, design objects, write code to animate objects, trade things, make money, and take classes. Indeed, virtual worlds are believed to have implications that go beyond how we play, to also include how we buy, work, and learn (Bartle, 2006; Balkin & Noveck, 2006). According to a research firm Gartner, Inc., "by the end of 2011, 80 percent of active Internet users (and Fortune 500 enterprises) will have a 'second life'" (i.e., an avatar or presence in a virtual community like Second Life; Gartner, 2007). And generally, since participation is inherently characterized by rich, multifaceted interaction (through avatars) with other people and organizations, virtual worlds afford the possibility of communicating with consumers by interacting with them. Consumers can learn about a company and its products through a process of learning-by-doing and relationship building, rather than through mere exposure to traditional advertising messages in non-interactive media.

Sensing the emergence of a new interactive medium, companies have started to harness virtual worlds for various marketing activities including running in-world virtual stores, promoting virtual and real products, and fostering customer communities. Examples of the early corporate entrants in virtual worlds include Honda, Coca-Cola, Starwood Hotels, and the NBA. In fact, some authors even suggest that virtual worlds and the 3D Internet will become as important to companies in five years as the Web is now (Driver et al., 2008).

Purpose of this Chapter

Given the rapid development and significant potential of virtual worlds as a venue for targeted, interactive marketing communications, companies need to learn to avail themselves of the new communication opportunities that virtual worlds offer. Yet, because of their newness, the study and application of the medium of virtual worlds for advertising and communications is still in its infancy. The purpose of this chapter is to inform media professionals and scholars of the potentialities of virtual worlds to disseminate communications to a target audience, to glean consumer feedback, to enhance audience engagement, and to create consumer value and experiences. In particular, we discuss how companies can use virtual worlds to better achieve the following communications objectives:

- Advertising–pertaining to disseminating traditional communications to customer segments about products or services.
- Customer feedback–pertaining to receiving communications from customers (this includes formal market research).
- Customer engagement with a company's services–pertaining to consumers utilizing a company's products or services in-world (typically on an on-going basis).
- Creation of customer communities–pertaining to fostering rich interactions among groups of customers around particular leisure, learning, or work activities through avatar interaction.

Along these lines, this chapter contains two intended contributions.

First, at a strategic conceptual level, this chapter helps media professionals and academics to better understand and realize the potential of virtual worlds to expand the scope of communications. In particular, we argue that there are various stages of engagement of consumers associated with a communication campaign. Successively greater levels of engagement include consumers (1) receiving company communications, (2) receiving and sending communications, (3) participating with a company in service co-creation, and (4) interacting with a community of consumers to enhance service co-creation. Unlike traditional mass media, which are most suited to one-way communications, the Internet constituted an improved vehicle for consumer engagement. The thesis of this chapter is that 3D virtual worlds go a step further by promoting a synchronous avatar-based social computing context for deeper consumer engagement. That is, virtual worlds constitute a space in which a company can further interact with consumers at all four levels of the proposed "hierarchy of engagement."

Second, at a tactical implementation level, we describe how to manage the traditional elements of a communication campaign—message, media, timing, intensity, and budget—and how these are aligned with key features of virtual worlds. To do this, we first introduce a five-element typology that describes key features of virtual worlds; these elements consist of purpose, population, platform, place, and profit model. We then discuss how the traditional elements of a communication campaign are influenced by considerations associated with these five typology elements.

The remainder of this chapter is organized in five main parts. First, we trace the history of virtual worlds back to its antecedents in electronic gaming and on-line social networking. Second, we describe a typology of worlds with implications for advertising and communications (we will later discuss this typology in relation to traditional elements of a communication campaign in the section "Tactical Considerations: Communication Campaign Elements"). Third, we describe the proposed hierarchy of engagement and how companies can use virtual worlds to facilitate each level of engagement described in the hierarchy. Fourth, we describe new considerations brought into play when managing communications in the realm of virtual worlds. Finally, we conclude and suggest open questions for future consideration.

HISTORICAL PROGRESSION OF VIRTUAL WORLDS

Open or unstructured virtual worlds represent a blending of the elements of immersive 3D gaming environments, developed in the gaming industry over the last 25 years, together with elements of online social networking. This conclusion can be seen by tracing the development of electronic gaming since the 1970s. (For a historical treatment including periods prior to the 1970s, see Castronova, 2002.)

Arcade Games

The video game industry is widely believed to have been launched when *Pong* was released by Atari Interactive in November 29, 1972 (Wiki/pong, 2008). While not the first entrant into this emerging market, it became the first highly successful coin-operated arcade video games (Herman et al., 2008), and was soon followed by *Tank*, *Indy 500*, *Space Invaders*, and *Pac-Man* (Winter, 2008). These games added the element of real-time video interactivity, which enhanced reflexes and provided the excitement of real activity, to the key elements of earlier games which involved (a) strategic and tactical objective-oriented problem-solving (e.g., chess, go, bridge, and poker; see Castronova, 2002, Figure 1) or (b) thematic and fantasy role-playing (e.g., Parker Brothers Co.'s *Monopoly*), or some combination of these (e.g., historic battle simulations, including *D-Day*, *Midway*, *Bismarck*, *Stalingrad*, and sports

simulations, including *Stratomatic Baseball* and *Football*). Many of the earliest video games were single-player games played against the computer.

Console Systems

In 1986, the Nintendo Entertainment System was released across the U.S. (previously released as Famicom in Japan), featuring popular characters like Mario, Donkey Kong, Zelda, and Popeye (Herman et al., 2008). Many of these games were initially for a single player, but subsequent generations of games permitted players to compete against each other. Sporting games had been a major success with users of the early console systems; popular fighting games subsequently elevated home console gaming to a new level with such releases as *Street Fighter II* and *Mortal Kombat*. Some modern forms of console systems, such as the Nintendo Wii system, include dynamic user interfaces for various physical games and electronic sports.

LAN Games

LAN (Local Area Network) parties provided yet another venue for experiencing social interaction through gaming. The games in these events were computer-based instead of console-based. LANs required everyone present to load the same software, but then allowed for an essentially unlimited number of participants. Most of the games used in these sessions were first-person shooter (FPS) games, where the objective was to simply, and often (electronically) barehanded, wreak havoc (Jansz & Martens, 2005).

Internet Connectivity

In the mid-1990s, Nintendo, Sega, and Sony introduced more powerful consoles that used compact discs and 32- and 64-bit systems (Herman et al., 2008). With time, Sega would drop out of the console race and focus solely on software development for the different gaming platforms. The next stage of modern gaming consoles took shape with the start of a new millennium. As Personal Computer (PC) and Internet technology grew at a rapid pace, so too did the video game consoles' capabilities. Releases of the PlayStation 2 and Microsoft Xbox offered gamers the ability to connect to the Internet and play against and talk with other gamers. This completely redefined what types of games would be popular in the home. With a network of users able to join in on a game, the landscape of video games became much more expansive, not only geographically, but also in terms of the nature of the social interaction they enabled.

Unstructured Games

Subsequent game forms permitted freedom for the player to roam around a large world, rather than proceed along preset paths only. One particular genre of "god games" afforded the player an omnipotent role. Some games also introduced shared player contributions through the Internet. "Sandbox," "open," or "unstructured" games introduced freedom into gaming that did not previously exist. The *Grand Theft Auto* series, though controversial, serves as an excellent example. These expansive settings and freedom of movement coupled with injections of realism into the surroundings—such as progression of daily time in a 1 second to 1 minute ratio—creates an immersive environment unlike structured gaming (Murray, 2005).

Games with Player Generation of Content

Some games took this trend one step further and presented the gamer with near-total freedom within the game environment, if not always total control over its behaviors. Peter Molyneux introduced the "god game" in 1989, where the player is quite literally near-omnipotent (Au, 2001). The massively successful *The Sims,* its sequels *The Sims*

Online, The Sims 2, and the upcoming *Spore,* provided the player a certain amount of control of their environment and the ability to generate their own content (Kelly, 1994), including "skins" for the avatars, new types of decor for the homes, and new pieces of furniture. Indeed, Electronic Arts (the producer of *Sims* games) claims that over 80% of the game's content is made by users (Ondrejka, 2006). (This alone was not new; in 1996, *Quake* became the first multiplayer, free-form game that provided open standards which allowed for user contributions; Hinton, 2006). Nevertheless, despite the user-generated content, in these environments players are still playing a game with online components; they do not exist in a virtual world. New entrants changed this and took the potential of such Internet frameworks beyond the entertainment realm.

Worlds with Designer-Provided Objectives

In worlds such as *World of Warcraft, Everquest*, *Lord of the Rings Online*, *City of Heroes/Villains*, and *Age of Conan,* avatars can wander where they wish, but also gain certain skills and strengths by earning experience points (Lastowka & Hunter, 2006). Some of these worlds are beautifully rendered, and players' avatar identities are maintained and develop over time, responding, in part, to significant interaction with other people's avatars. These massively multiplayer on-line role-playing games (MMORPGs) offer small "quests," or designer-provided objectives that serve as games within the larger game (Song & Lee, 2007). Some of the worlds have become very large in their scope and number of participants; *World of Warcraft*, for example, has over 10 million subscribers (Blizzard, 2008). Nevertheless, these MMORPGs reflect the designer-intended gaming tradition which also influenced earlier electronic games.

Social Networking Sites

Although not gaming, *per se*, social networking sites influenced the development of virtual worlds. These environments support members pursuing their own objectives of socializing and sharing of textual and pictorial content (and, increasingly, audio and video content). The first instance of a social networking platform was SixDegrees.com, launched in 1997 (according to Boyd & Ellison, 2007). These platforms allow members to (a) easily create "profiles" with information about themselves, and (b) support the differentiation of public vs. private information on members' profiles, with authorized access to the private aspects of the members' profiles only to their "trusted" circle of friends. Other common features include communication media such as blogging, instant messaging and chat, notifications when the profiles of one's friends have been updated, introductions to friends of friends, reviewing of content and tagging with general comments, and content recommendations based on the members' comments and reviews. The sites can be *geographically-based* assuming a particular language and cultural etiquette (e.g., Cyworld was initially launched in South Korea in 1999), *demographically-based* (e.g., neopets.com is for children, nexopia.com is for teens, and Facebook was originally for Harvard students), or *activity-based* (e.g., LinkedIn for professional introductions, YouTube for video sharing; Dogster and Catster to exchange pet information; hisholyspace.com for faith-based exchange). These environments bring together most elements that have come to be considered under the heading of "web 2.0" technologies in simple, highly usable ways for people who have little to no technical expertise. (For a thoughtful survey of the various social networking sites, together with a historical overview, see Boyd & Ellison, 2007).

Open Virtual Worlds

The distinctive feature of open virtual worlds is the social interaction among people and their avatars that occurs in a 3D immersive shared environment with user-chosen objectives, user-generated content, and social networking tools. In these worlds, people can form relationships as friends, romantic partners, virtual family members, business partners, team members, group members, and online community members. They can also create things, and save, give, or sell what they created to other people. And, as the objects that are created might be desired by others, they suddenly have value in the real-world economy (Lederman, 2007; Lastowka & Hunter, 2006). These various features make virtual worlds as desirable virtual spaces for collaborative play, learning, and work. According to Bartle (2006, page 31), "[f]rom their humble beginnings, virtual worlds have evolved to become major hubs of entertainment, education, and community." And further, according to Balkin & Noveck (2006) "[a]lthough the development of these virtual worlds has been driven by the game industry, by now these worlds are used for far more than play, and soon they will be widely adopted as spaces for research, education, politics, and work."

Overall, purely as a popular form of entertainment, gaming has grown to compete in size with the movie industry. By 2007, the computer and video game industry alone was able to generate $18.85 billion dollars in global sales, including $9.5 billion in game sales and $9.35 billion in console sales (Bangeman, 2008). And, if the predictions for future growth within the industry are correct, this number should more than double by 2010 (Kolodny, 2006).

But beyond entertainment, much activity in virtual worlds is growing in the realms of business, education, and culture. Concerning advertising and promotions, Barnes (2007) provides a list of 126 prominent real life brands in the prominent virtual world Second Life as of August 31, 2007. Concerning retailing and service businesses, in February 2007, there were 25,365 business owners in Second Life (DMD, 2007), most of whom owned stores, rented real estate, or managed clubs. Concerning education, well over 150 universities have a presence in Second Life, and some of them actually conduct classes and other educational activities (Graves, 2008). Business, public organizations, and cultural groups are using the environment for conferencing, public meetings, delivering informational services, and performances or exhibits. As activity grows in virtual worlds, such as Second Life, it is increasingly important for us to understand the implications of these worlds for advertising and customer communications.

TYPOLOGY OF VIRTUAL WORLDS

Turning to the current state of virtual worlds, we provide a compact overview of some of the popular virtual worlds in Table 1 using a five-element typology. This typology also shows the relationship of virtual worlds to electronic gaming and social network sites. We adopt this typology from C. Porter's (2004) analysis of virtual communities (see Messinger et al., 2008).

The typology consists of five elements: purpose (content of interaction), population (participants in interaction), platform (design of interaction), place (location of interaction), and profit model (return on interaction). This is a new "5 P's"–describing virtual communities and virtual worlds. *Purpose* varies according to whether the objective of the activity is strategic, thematic, self-determined (open), educational, media sharing, age focused, or other content focused. *Population* describes the size of the group (two players, a few players, or many players) and distinguishing characteristics of the target user market. *Platform* (or technology platform) describes whether interaction is asynchronous or synchronous, avatar-mediated, and occurs through the Internet, a LAN, a con-

*Table 1. Typology applied to selected games, online social networking sites, and virtual worlds**

	Purpose	Population	Platform	Place	Profit Model
Games					
Chess	Strategic Objective	Two Player	Board Game	Collocated	Fixed Fee
Monopoly	Thematic Objective	2–6 Players	Board Game	Collocated	Fixed Fee
FPS - Console	Tactical Objective	1–4 Players	Console Systems	Collocated	Fixed Fee + Extras
FPS–LAN	Tactical Objective	1–1,000+ Players	LANs	Collocated	Fixed Fee + Extras
Internet Scrabble	Strategic Objective	2–6 Players	Synchronous	Dispersed	Variable Fee
The Sims Online	Thematic Objective	Mass Market	Synchronous	Dispersed	Free + Extras
World of Warcraft	Tactical/Thematic Objective	Mass Market	Avatar Mediated Sync.	Dispersed	Fixed Fee + Subs + Extras + Ads
Online Social Networking Sites					
LinkedIn	Themed Network	Businesspeople	Asynchronous	Dispersed	Free+Ads+Extras
Hisholyspace.com	Themed Network	Religiously Affil.	Asynchronous	Dispersed	Free+Ads+Extras
Dogster, Catster	Themed Network	Children	Asynchronous	Dispersed	Free+Ads+Extras
Flixter	Themed Network	Interest Group	Asynchronous	Dispersed	Free+Ads+Extras
YouTube	Themed Network	Interested in Video	Asynchronous	Dispersed	Free+Ads+Extras
MySpace	Open Network	Young Adults–Creative	Asynchronous	Dispersed	Free+Ads+Extras
Facebook	Open Network	Young Adults	Asynchronous	Dispersed	Free+Ads+Extras
Virtual Worlds					
ActiveWorlds	Education	Mass Market	Avatar Mediated Sync.	Dispersed	Subs+Extras+Ads
Forterra Systems	Education	Mass Market	Avatar Mediated Sync.	Dispersed	Subs+Extras+Ads
HiPiHi	Self-Determined	Chinese	Avatar Mediated Sync.	Dispersed	Subs+Extras+Ads
Sony PlaySt. Home	Teen Play	Plays &.Owners	Avatar Mediated Sync.	Hybrid	Subs+Extras+Ads
Vside	Media Sharing	Young People	Avatar Mediated Sync.	Dispersed	Subs+Extras+Ads
Webkinz	Child's Play	Children	Avatar Mediated Sync.	Hybrid	Ancillaries +Extras
Second Life	Self-Determined	Mass Market	Avatar Mediated Sync.	Dispersed	Subs+Extras+Ads

*We apply C. Porter's (2004) typology of virtual communities to games, online social networking sites, and virtual worlds, using our own descriptors for each of the five typology elements.

FPS = First Person Shooter Game Subs–Subscriptions

Ads–Advertising Hybrid–Both Collocated and Dispersed Sync–Synchronous

sole system, phone-based, or face-to-face. *Place* describes whether participants are collocated or geographically dispersed; whether they engage in the world from home, work, their automobiles, or their cell-phones; and whether the interaction is completely or only partially virtual. *Profit model* describes whether the business model associated with the platform is based on a fixed user-fee, subscriptions, fee per use, advertising from sponsors, virtual extras sold to users, or real-world ancillaries.

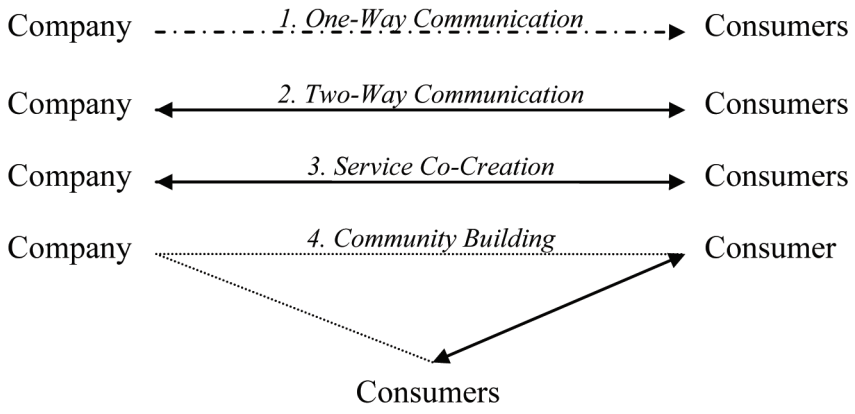
At this point in the chapter, we include this table as a current "snapshot" of some virtual worlds. The table also describes how some virtual worlds differ from each other, and how they can be seen as related conceptually and historically to the electronic-game industry and to social network sites. Later, we will use the typology as an organizing principle for consideration of tactical issues involving message, media, timing, intensity, and budget. Now, we turn to development of the "hierarchy of engagement."

STRATEGIC CONSIDERATIONS: HIERARCHY OF ENGAGEMENT

From a strategic perspective, we propose that there are four levels of engagement with consumers, as described in Figure 1. While we believe that these four levels of customer engagement apply generally to the "real world," we argue in this section that virtual worlds are particularly suited to engagement with consumers at all four levels of this hierarchy.

In particular, the proposed hierarchy of engagement works progressively as follows. First, a company can send one-way communications. Such communications characterize advertisements in traditional media that expose consumers to particular messages. Second, a company can engage consumers in two-way communications. Such communications can include feedback being sought by the company, possibly as formal market research or less formal measures of customer satisfaction (to which the company may respond over time by enhancing its product or service offering). Alternatively, the consumer may seek assistance in utilizing or benefiting from the company's products or services, and the company may respond with advice. Third, the company and consumer can work together toward service co-creation. This takes two-way communication beyond just dialog to a process of joint activity whereby a collaborative relationship is established that provides customized service-value for the consumer, and both the company and the consumer help to co-create this value. Fourth, the company can foster an environment that supports the emergence of consumer communities revolving around the company's products and services. In these customer communities, individual can share information about how to make best use of the service and they may even interact socially or professionally in related activities that add social value to the company's services. We hypothesize that deeper levels of engagement in this hierarchy result in greater brand recall, purchase incidence, and loyalty to the firm. We leave it to future research to verify this hypothesis.

Figure 1. Hierarchy of engagement



To put our hierarchy in context, we first compare it with the well-known "hierarchy of effects" models proposed by practitioners and researchers. Consumer psychologists would describe hierarchy of effects models as a three-stage process underlying consumer purchase behavior: cognition–affect–behavior (or "C-A-C" for "cognitive-affective-conative"). This is occasionally described more evocatively as "think-feel-do." The most influential formulations of the hierarchy of effects models include (1) St. Elmo Lewis's sales funnel (1898; see ProvenModels), and Strong's related AIDA model (1925), both of which describe a four-step strategy for selling: ensure attention - arouse interest - create desire - get action; (2) Daniel Starch's proposition regarding advertising in 1923: "To be effective, an advertisement must be. .. seen - read - believed - remembered - acted upon"; (3) Lavidge and Steiner's expanded model: ignorance - awareness - knowledge - liking - preference - conviction–action (1961); and (4) Colley's DAGMAR (i.e., acronym for Defining Advertising Goals for Measured Advertising Results) model designed for measurement: unawareness - awareness - comprehension - conviction - action (1961).[1] All of these treatments involve stages of consumer reactions to marketing stimuli from product unawareness to actual purchase.

Unlike the hierarchy of effects models that focus on the internal psychological processes of consumers, the framework described in this chapter identifies different forms of social engagement that potentially influence the consumer. This includes (a) one-way communication, (b) two-way communication, (c) value co-creation around a product or service, and (d) collaborative community building surrounding an activity. Traditional advertising is limited to the first of these and personal selling generally involves elements of the second as well. The proposed hierarchy of engagement, by contrast, puts these two in context and notes two deeper forms of engagement arising from a range of interaction with the service provider and with the surrounding social context in which the consumer is embedded. Thus, the hierarchy of engagement helps one identify (and potentially make use of) different forms of social interaction and influence in virtual worlds communications.

We should acknowledge past work on engagement, but this work has also tended to come from the perspective of the internal psychological processes of consumers, rather than considering different forms of social interaction and influence. Thus, engagement has been considered in terms of (a) enhancing the effectiveness of advertising processing (Wang, 2006; Green, 2007), (b) storage of the message in memory (White, 2007), and (c) measures of attentiveness to brand messages (Plummer et al., 2006; Plummer et al., 2007).

We also should acknowledge work categorizing social computing behaviors, including (a) inactives, (b) spectators (read blogs; watch video from other users; listen to podcasts; read online forums; read customer ratings/reviews), (c) joiners (maintain profile on a social networking site; visit social networking sites), (d) collectors (use RSS web feeds; add "tags" to web pages or photos; "vote" for Web sites online), (e) critics (post ratings/reviews of products/services; comment on someone else's blog; contribute to online forums; contribute to/edit articles in a wiki), and (f) creators (publish a blog; publish your own Web pages; upload video you created; upload audio/music you created; write articles or stories and post them). This categorization, termed the "Social Technographics™" by Forrester Research, is based on surveys of 4,475 US adults in December 2006 and 4,556 youth in October 2006 to learn about their use of social computing technology adoption (Li et al, 2007). This categorization works at the individual consumer and market segment level, unlike our hierarchy of engagement which works at the level of the type of engagement (one-way, two-way, value co-creation, and community value reinforcement).[2]

Having placed the hierarchy of engagement in the context of related past work, we now discuss how virtual worlds facilitate the four levels of engagement of the proposed hierarchy.

One-Way Communication

The simplest use of virtual worlds is to target consumer populations with commercial messages and other activities to build brand loyalty, just as is done with traditional advertising and public relations. This can be done in several ways, including (1) simple brand presence in the form of a named store or island; (2) selling or giving free samples through vending machines or some other means; (3) using in-world 3D hyperlinked objects that open up a pop-up window to a company's 2D Internet website upon being touched by a user's avatar (a process called "tunneling"); (4) banner ads on virtual billboards (containing virtual landmarks); (5) in-world advertising can be disseminated via instant messaging capabilities; (6) sponsorship of in-world cultural events, such as plays, fashion shows, races, parties; (7) product placement in thematic games such as Grand Theft Auto, and (8) advertising in in-world newspapers, newsletters, radio, or video shows. For example, Figure 2 provides screenshots of three companies with presence in Second Life (Dell Island, the Nissan car trial facility, and the offices of PA [management] Consulting services). Figure 3 shows examples of retail presence in Second Life. Figure 4 lists prominent real life brands with a virtual presence in Second Life as of August 31, 2007.

Figure 2. Examples of corporate presence in Second Life

Figure 3. Examples of retail presence in Second Life

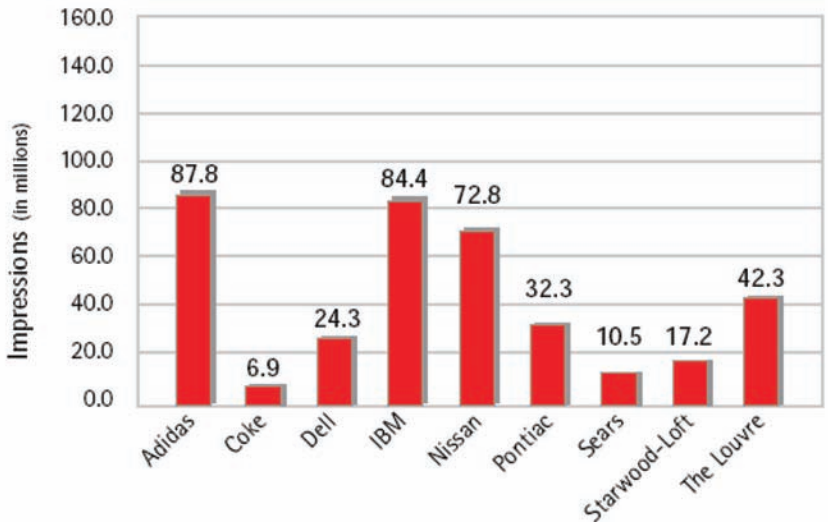
Figure 4. Prominent brands in Second Life (Barnes, 2007)

Adidas, Amazon, AMD, AOL, Bain & Company, Banton Dell Books, BBC Radio 2, Best Buy Co. Inc, BMD, Calvin Klein, Circuit City, Cisco, CNET, Coca-Cola, Coldwell Banker, Comcast, Crayon, Daily Telegraph, Dell, Fiat, H&R Block, Heineken, IBM, ING, Intel, Leo Burnett, Major League Baseball, Mazda Europe, Mercedes Benz, Microsoft, MTV, NBA, NBC, Nissan, Phillips, Playboy, Pontiac/GM, Random House/Bantam, Reebok, Renault, Reuters, Sears, Sony, Sprint, Starwood-Loft Hotels, Sun Microsystems, Talis, Thompson NETg, Toyota, Visa Europe, Warner Bros Music, Wired Magazine, Xerox, and Yankee Stadium

Firms are still experimenting to learn which forms of mass communication and merchandising work best. "We are there for a learning experience," said Doug Meacham, Circuit City's manager of infrastructure services, during an interview with Direct magazine. "In the near future this is going to be a fairly seamless extension of the web that you deal with today." (DMD, 2007). In addition, virtual activities have occasionally been picked up by traditional press, creating a crossover effect whereby a company's virtual presence can lead to news stories and public relations impressions in traditional medial (see Figure 5).

Overall, the effectiveness of virtual worlds in one-way communications is reflected in the following quote: "Just as the web replaces and extends the capabilities of traditional print media, Second Life is extending the capabilities

Figure 5. Media impressions after appearing in Second Life (* Mentions of Second Life in relation to the company name multiplied by total impressions for that medium (includes online, print, and broadcast), January--May 2007. Source: DMD, 2007)*



of broadcast media and chat. Second Life now surpasses the intensity of broadcast advertising at an even more favorable price point than print" (Source: *MediaPost*).

Two-way Communication

The next level of consumer engagement involves also attending to informal customer feedback and formal market research. Informal customer feedback can be elicited in several ways, including (1) instant messages or emails to the company (prompted when an avatar touches an in-world 3D hyperlink), (2) in world comment logs (using various platforms in-world and with pop-up Internet windows), and (3) in-world conversations between service avatar staff and customers. Formal market research techniques that harness virtual worlds for customer feedback are summarized in Table 2. For each technique, the table indicates practices before the Internet, how the Internet changed them, and how application of technologies in synthetic worlds will likely lead to further changes in the future.

As indicated in the table, with the advent of the Internet, focus groups began to be carried out using chat forums, online conferencing, and learning systems. Now with virtual worlds, avatars can sit in a virtual room (possibly inspecting virtual prototype products), or they can participate in a virtual field trip to, for example, examine a new retail concept or a proposed real estate development. In addition, both Internet methods and virtual worlds can show panels of head shots of the avatars, or the participants themselves, in conjunction with the other views. Such focus group services are already available in Second life (Terdiman, 2007),[3] and some managers state that "Second Life is great to get very honest feedback, more honest than in any focus group, because in a focus group, you sort of know what's expected from you. Second Life residents are more extroverted and honest about their feelings" (according to a statement in a conference in Second Life from Achim Muellers, head of brand relations and co-operations at BMW).

Concerning survey collection, the Internet has greatly facilitated computer mediated data collection, using adaptable webforms that input information directly into a database. In virtual worlds, the survey can be taken in an immersive field setting, possibly with the support of field avatars acting as lab assistants, or in the process of touring a building or natural site. These sur-

Table 2. Market research techniques: changes associated with virtual worlds

Market Research		Standard Methods	2-D Internet	Virtual Worlds
Data Type	Focus Groups & Depth Interviews	conference rooms; living rooms; & field meetings	chat forums; online conferencing; learning systems	room view (of avatars); virtual field trips; head-shots; hybrids
	Surveys	mail; phone; mall-intercept; hybrid	Adaptable webforms input to a database; email or web panels	immersive field setting; avatar support; in-world panels
	Test Markets	very expensive	online stores; chat forums and blog discussion	in-world roll-out of virtual products
	Observation	human observation	webpage clicks; email openings; in-store sensors	usage patterns of personal objects & specially-oriented structures; in-store kiosks
	Ethnographic Consumer Research	social context of consumption	netnography: social context of virtual communities	moves netnography from analysis of text to a range of virtual interactions

(See Messinger and Ge, 2009 for further background on market research and virtual worlds.)

veys can be taken in-world through scripts that provide the questions through a sequence of chat lines or instant messages, or by having one's avatar touch an in-world hyperlink (that is part of a survey ATM) that calls a pop-up menu with a website containing various webforms. In Second Life, there is even an island devoted to offering such survey-taking opportunities to residents for (generally small amounts of) Linden Dollars. Two large survey websites that can be accessed in this way are www.gameATM.com, a privately run site, and www.MyLindens.com, an official site of Linden Lab promoted on Money Island in Second Life. To help with ongoing collection of data on Second Life, there is even a "First Opinions Panel in Second Life," consisting of a sample of consumers being tracked periodically by a market research firm to monitor common behaviors and attitudes of residents.

Concerning test markets, the Internet made possible online product distribution and facilitated online reviews and word-of-mouth on chat forums and blog discussions. In virtual worlds this can be expanded to roll-out of virtual products to ascertain the satisfaction of users and the adoption rates, and possibly evidence of carry-over as indicators or influencers of success in the real world. Starwood Hotel, the international lodging chain, has used Second Life to enable collaboration with potential customers to test their ideas involving large investments. In this way, the Aloft brand of Starwood Hotels and Resorts was released in Second Life just before it was launched in the real world (Wasserman, 2007). Mazda has also ventured into designing an experiential marketing vehicle, and the car's designers even appear in virtual form to launch the new model. Nissan also sells cars from an eight-story vending machine as a form of test market. Toyota also sells customizable virtual Scions and offers "how-to" classes for residents wishing to make customizations. Adidas even allows customers to design their own sneaker in Second Life, helping Adidas to design more remarkable "first life" sneakers.

Concerning direct observation, with the advent of the Internet, methods have moved from examination of human activities to webpage clicks, email openings and in-store sensors. With virtual worlds, this has expanded to examination of in-world usage patterns, including utilization of in-store kiosks. Ethnography also moved first to the Internet in the form of "netnography" to study the social context of virtual communities (Kozinets, 2002). With virtual worlds, netnography can also involve a range of virtual interactions in virtual worlds, including avatar-to-avatar interviews, focus groups, analysis of virtual artefacts, and more participative methods of data collection that utilize the range of methods from ethnography. These methods can go far beyond the earlier methods of netnography that mostly used textual processing and analysis from chat room and discussion boards.

Overall, attentiveness to customer feedback and market research serve a dual function. In the first instance, these activities generate valuable data useful for modifying the design of products and services. In addition, these activities engage the consumer more deeply with the firm. Consumers become a part of an extended "design team" and may feel greater identification with a firm's products and services.

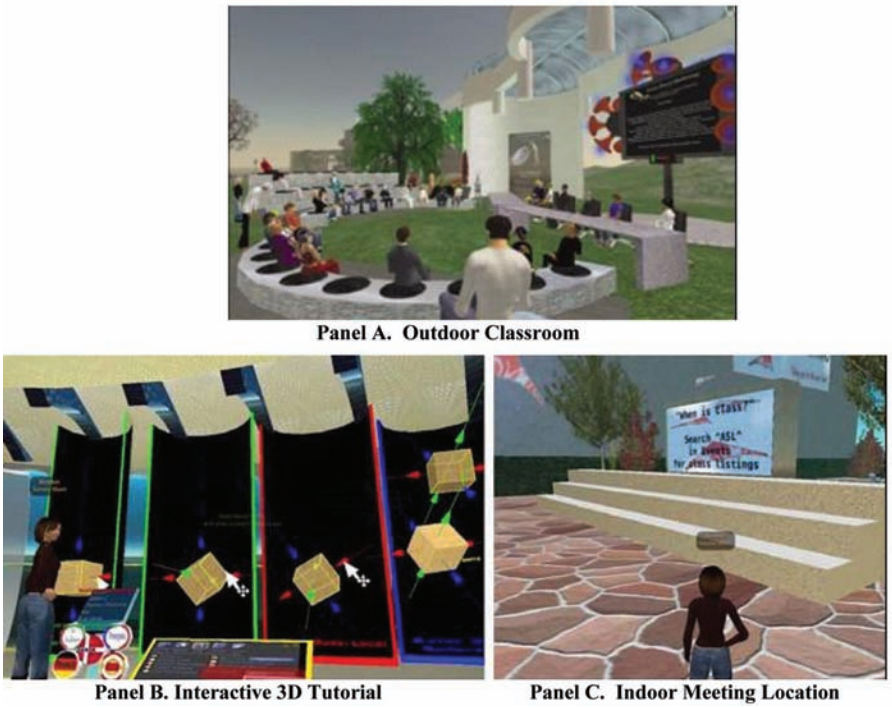
Service Co-Creation

The third step of customer engagement involves co-creating service with the firm. The key to offering such service is to build a combined service delivery platform with multiple points of contact that include (1) in-world service interface, (2) Internet service, information, and e-commerce connectivity, and (3) real human service delivery, all of which connect to a (4) centralized database that keeps track of (a) customers' consumption history and patterns, (b) inventory, and (c) resource management used to create inventory. This, presumably, is a deeper form of interaction than the previous two steps. (For background on dealing with these issues, see Messinger et al., 2009a).

Several firms are actively offering in-world service delivery: As noted in a report about Second Life, "Brands that score most highly on the [brand impact] metric tend to go beyond showing their products, provoking virtual versions and web links. They provide opportunities for deeper engagement by making a brand-relevant contribution to the community and creating opportunities for interaction such as co-creation and customization of products" (DMD, 2007).

Appendix 3 provides an extensive lists of services offered on Second Life (together with the location therein), including consumer services, media services, government services, tourism services, public relations and marketing services, educational services, and training activities. Service delivery can involve customizing and downloading digital content, education and training, remotely accessing government or business office services, or ordering real-world physical products. For example, Thomson's NetG corporate training division, which provides custom training solutions for corporate clients on Microsoft and Cisco products, reportedly makes $10,000 a month by providing training, mentoring, and customized podcasts for their corporate clients in Second Life. Similarly, the University of California, Davis, has created a virtual hallucination simulator to give psychiatry residents a better understanding of what schizophrenic patients actually experience. And universities like Harvard Law School use Second Life to host virtual classes and conferences complete with video, sound, and PowerPoint presentations. (As examples, Figure 6 shows a typical outdoor classroom environment, an interactive 3D tutorial, and an indoor meeting location.) Other services involve customization. For instance, Sears, in partnership with IBM, is working on allowing customers to create a virtual version of a kitchen, complete with exact dimensions and layout.

Figure 6. Examples of educational and training service facilities in Second Life



Panel A. Outdoor Classroom

Panel B. Interactive 3D Tutorial

Panel C. Indoor Meeting Location

Challenges to offering such services involve thoughtful adaptation of a company's "real-world" services to virtual worlds recognizing the special characteristics and limitations of the medium. In particular, we note the following: (1) It is helpful to make stores and products relevant to the virtual lives of people in-world; (2) it is important to educate "newbies" and to make the interface as user-friendly as possible; (3) it is essential, even after creating a sim (i.e., a simulated environment or real estate development), store, or product, to promote it to residents; and finally, (4) one must recognize the technological constraints of the new medium. In particular, locations often have capacity limitations, so that no more than forty to sixty residents can be engaged at a time in retail environments or sponsored events, such as fashion shows. In addition to generating avatar traffic, it is necessary for virtual businesses to use the same tactics that e-commerce sites use to generate web traffic. These tactics include in-world promotions, appealing to the in-world search engine, listing firms' special offerings and activities on event boards, word-of-mouth, offering "freebies" (one of the biggest draws for people to virtual stores in Second Life), and locating stores in high trafficked areas such as virtual malls.

Overall, offering services in virtual worlds involves kinesthetic (dynamic) participative creative collaboration of customers with a firm. This is deeper engagement with customer than sending messages and listening to customer feedback and market research. This engagement may also carry over to greater loyalty to a firm's non-virtual services.[4]

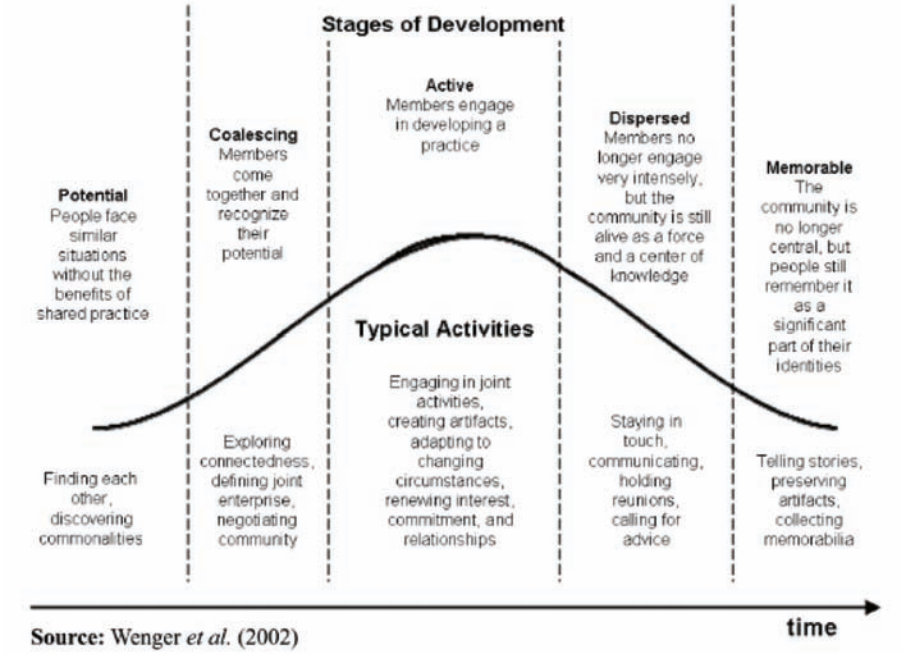
Community Building

The deepest level of engagement goes beyond a customer interacting with the product or service provider, to also interact with other enthusiasts by participating with a community of like-minded individuals using a product or service. This is a deeper level of engagement because interacting with a firm, in the first place, to get the products or services is a prerequisite to interacting with other customers in user communities. Firms can facilitate such user communities by creating community enablers in virtual worlds of various types.

A virtual community depends on combining communication and content to foster exchange of information. By its nature, the information exchange allows people to learn about each other as they learn more about the focal topics of the community. The commercial application is to have people engage in an activity revolving around a company's products or services. This can happen for sports (running, soccer, ice skating, parachuting), dance-sport, matchmaking, music, drama, and various other activities. Hagel and Armstrong (1997) identify various motivations for consumers joining online communities, including (1) shared interest, (2) relationship building, and (3) transaction. Building on these thoughts, Rothearmel and Sugiyama (2001) describe several types of associated communities, including (a) communities of interest (composed of individuals who share a common interest, hobby or skill set), (b) communities of relationship (composed of individuals who share some intense life experience, such as a disease diagnosis), (c) communities of exchange (composed of individuals who share information to facilitate economic exchange–such as, a group of boat owners), and (d) communities of practice (composed of individuals who work, learn, and innovate together). Perhaps the community of interest and community of practice models seem to offer the greatest commercial potential.

These communities have been argued (Wegner et al., 2002) to develop, as described by Figure 7, with people of shared interests finding each other in Stage 1, coming together to participate in online forums beginning in Stage 2, and becoming increasingly active in Stage 3. The communities then become more dispersed in Stage 4 and are still remembered by participants in Stage 5. To play a formative role, the key thing for a sponsoring organization to do is to see that the people come together in online forums in Stage 2.

Figure 7. Stages of development of communities of practice (Level of activity is shown on the vertical axis)



Source: Wenger *et al.* (2002)

A community of practice revolves around a shared domain of interest, shared membership (where members form relationships to engage in joint activities, help each other, and share information), and shared practice (consisting of repertoires of resources: experiences, stories, tools, and ways of addressing recurring problems). Some communities of practice are quite small; some are very large, often with a core group and many peripheral members. Some are local, and some cover the globe. Some meet mainly face-to-face, and some mostly online. Some are within an organization, and some include members from various organizations. Some are formally recognized, often supported with a budget; and some are completely informal and even invisible. Communities develop their practices through a variety of activities, including problem solving, gathering of information, seeking experience, reusing assets, coordinating synergistic activities, discussing developments, documentation of projects, mapping knowledge, and identifying gaps. The concept of community of practice has found a number of practical applications in business, organizational design, government, education, professional associations, development projects, and civic life (Wenger et al., 2002; Wenger & Snyder, 2000; Wenger, 2004, 2001, and 20042004).

To facilitate a community of users, the firm can (1) host discussion boards, (2) organize expert or consumer reviews and recommendations, (3) organize user events, including practices, competitions, user exhibitions, and social outings, (4) provide expert advice and a wiki knowledge system for shared information, and (5) create a second-hand market or auction site for products and for sharing resources inexpensively. Each activity is different and requires a slightly different bundle of supporting activities.

In virtual worlds, there already are numerous examples of communities of interest, relationship, exchange, and practice users. One interesting aspect of virtual worlds is that the community can go beyond sharing ideas to also sharing virtual experiences. For example, individuals in the premier virtual world, Second Life, share virtual

interactions, as evidenced by comments such as virtual friends saying, "We met at Reuters" or "We boogied at Pontiac" or even "we dined on Chicken Kiev at Sublime." An example of a periodically organized activity is that every two weeks a local resident hosts a "girls' night out" inside Second Life with a group of avatars who congregate at the iVillage loft. Other group activities include virtual champagne parties and participation in a fashion show, as well as mingling with celebrities like Arianna Huffington (DMD, 2007). Other activities include dating clubs for residents of each U.S. state; people acting out Shakespeare plays; groups associated with particular virtual locations such as Venice (consisting of renters and frequent visitors to that virtual location); organization for gay and lesbian people, and numerous others. Indeed, there is a separate search facility in Second Life for groups, with thousands to choose from. Similar groups exist in Kaneva and other virtual worlds, as well as on Facebook and other social computing websites.

In all of these cases, virtual worlds go beyond facilitating one-way communications, collecting market research information, and delivering services, to foster ongoing social activity around shared interests, experiences, set of relationships, or work practices. While the computer mediated environments involve virtual interaction, the people who interact with each other are real–and so are their shared experiences. If an organization can stimulate such social engagement around its services or products, this goes far beyond sending messages by traditional media.

TACTICAL CONSIDERATIONS: COMMUNICATION CAMPAIGN ELEMENTS

We now turn to the tactics of managing the traditional elements of a communication campaign–the objective, message, media, timing, intensity, and budget—for virtual worlds. Following Table 3, these match up with the five typology elements of virtual worlds: purpose, population, platform, place, and profit model.

Message

When choosing worlds as a vehicle for one-way communication (as well as deeper levels of engagement), a desirable criterion for world selection, building on a general principle of traditional media selection, is to match the communication message with the purpose of the world in question. That is, it is desirable to achieve a "message-world fit." Obvious examples are advertising toys, school supplies, and Sega DS systems on children's worlds, or advertising software and books on education-focused worlds.

As enumerated in Appendix 1, there are numerous different types of virtual worlds, including (1) self-determined virtual worlds (e.g.,

Table 3. Advertising and customer communications in virtual worlds

Communications Elements	*Virtual World Elements*	*Principle*
Message	Purpose	Message-World Fit
Media	Population	Demographic & Psychographic Targeting
Timing	Platform	Synchronous or Asynchronous Communication Company or Consumer Initiated Mediated by Avatar, Web Page, Audio, or Video
Intensity	Place	At Home, Work, Auto, or Cell
Budget	Profit Model	Up-Front or "Pay as You Go"

Second Life, Kaneva, Entropia Universe), (2) education-focused worlds (e.g., Forterra systems, ActiveWorlds), (3) community self-determined worlds (e.g., Cyworld, HiPiHi), (4) media-focused (e.g., vSide), and (4) children-focused worlds (e.g., Webkinz, Whyville, Habbo, Club Penguin, RuneScape). One can promote products in self-determined worlds by linking the advertising message with particular themes or groups active within particular virtual worlds.

Media

Media selection should generally be done to target suitable demographic and psychographic segments. As relates to most virtual worlds, the international composition of participants is both a blessing and a curse. The reach is potentially global, but, for many worlds, geographic targeting is much less possible than in such media as newspapers, radio, local television, or even Facebook. Thematic targeting to consumers of particular lifestyles, however, is quite feasible, by focusing on particular themed virtual worlds and electronic games.

Appendix 2 provides a cross-section of various current virtual worlds varying in several dimensions. A basic challenge for advertising agencies concerning target market selection will be to become acquainted with the demographic, psychographic, and geographic characteristics, as well as the membership sizes and participation levels, of the various extant virtual worlds and electronic games for media placement. Manuals, electronic guides, and other services that provide this kind of information are likely to grow to assist with future in-world advertising.

As an example, Second Life, the premier self-determined world, has grown in residents from 1 in 2001 to 8.3 million by August 2007, 2 million of which had been active in the last 60 days, and during the same time period, around 20,000-35,000+ users were in-world at any given time (Messinger et al., 2009b). In April 2010, 488,694 customers spent money in-world (Second Life, 2010). The average age of the adult SL world is 33 and the average age of the teen SL world is 15, with 41.1% of all residents female. There is global participation including residents from the U.S. (31.2%); France (12.7%); Germany (10.5%); U.K. (8.1%); the Netherlands (6.6%); Spain (3.8%); Brazil (3.8%); Canada (3.3%); Belgium (2.6%); Italy (1.9%); Australia (1.5%); Switzerland (1.3%); Japan (1.3%); Sweden (1.0%), and many other countries (Second Life Economic Statistics, 2008). In our own survey of 197 SL residents, we found that nearly 75 percent of participants made less than $60,000 annually, while only two percent earned over $100,000. Most participants had completed high school, completed their undergraduate degree, or at least spent some time in university or college (87%), while only five percent had graduated with their Masters or PhD degree.

The segment size of children's worlds is also large and growing. According to *The NY Times* (October 28, 2007), the number of unique monthly visitors to Club Penguin more than doubled in the previous year, to 4.7 million from 1.9 million, while the traffic on Webkinz.com grew to 6 million visitors from less than 1 million, citing as a source Media Metrix, an online-usage tracking company.

Some worlds, especially fantasy ones (such as World of Warcraft), offer virtual environments quite separate from the real world in which people can *immerse*. Other worlds, for example the ones focusing on education and training, offer opportunities for people to *augment* their real-world activities and social networks with their virtual world activities and online social networks.

Timing

As compared to traditional communications, communications timing in virtual worlds differs in a fundamental way when customer interaction takes the multifaceted engagement forms shown in the hierarchy of Figure 1. For traditional com-

munications, timing is asynchronous, planned, and initiated by the firm. For virtual worlds, however, timing is often synchronous, more spontaneous, and initiated by consumers. In addition, communication with customers is frequently mediated by avatar representatives.

To illustrate this point, Figure 8 shows the schedule of timing and intensity of a traditional advertising campaign. This schedule shows the media categories used, the exact communications vehicle (e.g., newspaper name or television or radio station), the cost per appearance of an ad, the general scheduling of the ad appearances over a 12 period (month) time-frame, the total number of ad appearances in each communications vehicle, the cost for each communications vehicle, and the total cost.

For one-way communications carried out in virtual worlds (see Figure 1), this same type of schedule should be constructed. The only difference is that the media categories would include chosen virtual worlds (e.g., from among those listed in Appendices 1 and 2) as well as types of communications vehicles in each virtual world.

For two-way communications, the firm or its customers may initiate the process. For market research, for instance, timing is still similar to traditional advertising campaigns, often done asynchronously and initiated by the firm. When surveys are used, contact is typically initiated in-world using instant messages and emails; possibly coupled with virtual advertisements. Test markets are also planned in advance and initiated by the firm, often in conjunction with an elaborate traditional advertising campaign. Focus groups, by contrast, are carried out synchronously and mediated by field avatars. In this context, it is important to manage the style of interaction and the impression created by field avatars (analogous to management of interaction with moderators in real focus groups). Direct observation and ethnographic observation are also carried out synchronously, and ethnographic observation, in particular, also requires management of field avatars. More informal feedback may be initiated by the consumer or, after a service encounter, initiated by the firm.

Figure 8. Traditional advertising campaign schedule

	Cost	1	2	3	4	5	6	7	8	9	10	11	12	#	$
General Publications															
Wall Street Journal	27,972	2	1	2	1					2	3	1	2	13	391,608
Business Week	11,920	1	1	1	1					1	1	1	1	8	95,360
Sports Illustrated	20,290	1		1	1					1			1	5	101,450
Vertical Publications															
Advertising Age	5,200	1	1		1					1	1	1		6	31,200
Journal of Marketing	520	1			1					1			1	4	2,080
Insurance Magazine	725	1			1					1			1	4	2,900
The Secretary	950	1			1					1			1	4	3,800
Television—Prime Time															
Dallas	2,200	2	1	2	2					1	2	1	1	12	26,400
New York	6,850	2	2	1	1					2	2		2	12	16,500
Boston	1,500	2	2	2	2					2		2	1	13	19,500
Television—Late															
Dallas	550	2	1	1	1					2	1	1	2	11	6,050
New York	1,500	1	1	2	2					1	1	2	1	11	16,500
Boston	750	1	2	1	1					1	2	1	2	11	8,250
Newspapers															
San Francisco	8,211	2	2	2	2					2	3	1	3	17	139,587
Los Angeles	9,840	2	2	2	2					3	1	2	2	16	157,440
Chicago	10,769	2	2	2	2					2	2	3	1	16	172,304
Totals		24	18	19	22					24	19	16	22	164	1,247,029

Source: Messinger (1995)

For service co-creation, communication and engagement is quite a bit different. For a multimodal service delivery system including human, automated, and hybrid points of contact, the communications are typically synchronous. The firm can use automation for certain points of contact, with planning of an automated response, but typically it is necessary to have a human backup response in the form of a telephone/skype/audio conversation or an email/instant message response. Some firms make a point of responding to emails within 24 hours, which is good, but other firms have instantaneous response through a chat system or a call centre. Managing the queue is an important consideration, of course, to avoid customer frustration with the process. Often, customer delivery may be mediated by an avatar, as it is in in-world

E-Commerce Settings

In this case, attending to impression and exception management and working out scripts of communication messages for various contingencies is very important. Here the service delivery system is part of the communications package. One should engage in service blueprinting to work out the likely paths that consumers take through the process and the resources devoted to the various stages. Things are really quite different in so many ways from a traditional advertising campaign, because customers may have contact with many different people within an organization. The organization becomes the communication delivery vehicle, but the consumer is typically the initiator of the process. And along with any messages intended by the company is a subtext to the effect "this employee/organization is/is not efficient and caring." Since the customer must co-create the process, it is critical for the customer to be educated about his or her role in overall service delivery. This takes us into the service management literature, applying the principles to virtual worlds.

Related to community building, communications occur between customers in various forms of word-of-mouth. Timing for this level of engagement differs most from the timing of traditional advertising because engagement occurs synchronously, is initiated mostly by the customers, and may well occur between field avatars or other forms of computer mediated communications, like Facebook or YouTube sites. The firm can influence communications by advertising in a virtual world like Second Life, or on social network sites like Facebook, but typically that is not enough. The firm must go considerably further by organizing events, hosting or sponsoring chat networks. Everyone knows that the firm has an economic interest in sponsoring or helping to mediate these activities, but the firm should make an effort to appear to be objective. Formal dispute resolution protocols are desirable to avoid the appearance of any firm bias in the process. At the same time, the firm must have a business model which involves being paid for some form of supporting service or ancillary products. Managing the process is similar to service delivery since the process may require process blueprinting and managing points of contact. At the same time, the firm is the facilitator, and the interaction may not involve the firm directly at all, which requires a more subtle hands-off management approach, in setting up social resources for the community and the virtual ecosystem as a whole. At the same time, a quick response from the firm may be needed when it is asked for. This is an art–to some extent, each industry has different technological features, structure, and historical patterns of behavior. Commonalities and convergent best practices should be learned across industries, but some improvisation and customization of the interaction and role within the virtual community is typically required, and perhaps quite profitable.

Intensity and Budge

Concerning message intensity, traditional communications can be received at various points of contact–at home, work, and on the road, and in

particular geographical localities on a cell-phone. The same can be said for virtual communications. One difference is that the consumer must go to and open up the virtual world on his or her machine. Traditional advertisements often interrupt consumers from their other planned activities; it is not yet known whether most consumers feel equally interrupted by promotional messages in virtual worlds. In Second Life, people have more latitude of choosing where they wish to visit, whether it be environments where scripts and promotions are not permitted, or environments where promotions are encouraged.

As for budget, a difference is that most traditional communication must be budgeted before beginning the campaign. Common methods of setting the advertising budget are (1) setting the advertising/sales ratio, (2) matching the competitors' absolute spending or spending ratio, and (3) using an objective and task method. The last involves setting specific measurable objectives, such as a percent aided and unaided brand and advertising recall, or trial and repeat rates, at a particular instant in time, and then determining the timing, sequence, and number of tasks needed to attain these objectives. While the last approach is the most conceptually appealing, the first approach is easiest to carry out since a traditional income statement already contains the needed information. For virtual worlds, the budget is typically more "pay as you go," the cost may be based on the number of clicks or on a percentage of some measurable outcome. While the same three approaches are relevant to setting a virtual world budget, one should adjust the budgeting approach to ratio forms (similar to the first approach above) in order to allow for more communication automatically if sufficient revenues are being generated. To "cap" or limit communications spending in a period, when sales and profits continue to be generated would be a mistake in such a case.

In sum, this section has described how to adapt the tactics of a communications program to virtual worlds by considering the purpose of the targeted virtual worlds, the population of consumers reached, the virtual world platform, the place of reaching the customers, and the profit model. These considerations match the traditional considerations of advertising campaigns involving choice of the message, media, timing, intensity and budget (see Table 3).

CONCLUSION

Virtual worlds represent a 3D extension of the Internet combined with social computing functionality. As perhaps the most multifaceted of new media, virtual worlds engender both high potential and high learning cost for companies utilizing them.

This chapter describes a four-element hierarchy of progressively deeper levels of communication and engagement with consumers, involving one-way communication, two-way communication (including market research), service co-creation, and community building. This hierarchy, together with the point that the virtual worlds permit multifaceted communication across all four elements of the hierarchy, is offered as a conceptual academic contribution.

This chapter goes on to describe current effective practices by which companies achieve all four levels of engagement in the hierarchy. In particular, we discuss forms of one-way and two-way communications commonly used by companies in virtual worlds. We also discuss practices that firms have used to engage consumers in service-co-creation and to foster community building. Lastly, the chapter describes the tactics of carrying out communications campaigns in virtual worlds in terms of managing the message, media, timing, intensity, and budget. This discussion of effective practices, together with consideration of the tactics of managing campaign elements in virtual worlds, is offered as a more tangible contribution for practitioners.

We discuss the above topics after we first provide background on the recent history of electronic gaming and social networking that led to the evolution of virtual worlds. We also put the various worlds in perspective by summarizing a five-element typology of virtual worlds, whose elements–purpose, population, platform, place, and profit model–happen to also match up generally with the five elements of a communications campaign–message, media, timing, intensity, and budget.

Many issues remain for future consideration. These include (a) continued work developing applications of virtual worlds for advertising and communications; (b) enhancements of communication technologies; and (3) future research topics concerning advertising and communications utilizing the various new media, including virtual worlds.

Applications

Future applications of virtual worlds for advertising and communications include (1) improved integration of traditional advertising and public relations with communications that use the new media, including virtual worlds and social networking; (2) increased connectivity between different virtual worlds and forms of social computing; (3) exploration of new payment models, rather than a fixed fee, and (4) development of rating metrics and manuals to help firms choose in which worlds to promote, advertise, engage in other communications, or sponsor community-building activities. Because we are still in the "early days" of virtual worlds, we must continue to develop new best practices to utilize these worlds for each of the four elements of the proposed hierarchy of engagement.

Technology

Important issues involve identifying and developing future technologies that will continue to enhance communications and social computing in electronic gaming, online social networking, and virtual worlds. These new technologies should make the linkages more seamless between existing communications forms and between devices (including computers, telephones, cell-phones, televisions, car navigation systems, stereos, home alarm systems, other sensing devices, radios, cameras, camcorders, and musical instruments). Improvements in sensing devices and the non-verbal gesturing capabilities of avatars would also be desirable (and likely).

Research

A key research question that requires further examination will involve establishing the link between deeper levels of engagement according to our proposed hierarchy and such outcome variables as brand recall (aided and unaided), purchase intentions, product trial, and brand loyalty. A second area for future research will be to elaborate on ways to best manage each of the four engagement forms of the proposed hierarchy. This would describe which different communications media, technologies, social computing sites, and virtual worlds are most amenable to each of the four types of engagement. In addition, research should be done to learn (1) how to harness these new media generally, (2) what effects the new media have on consumer behavior, (3) the new roles of consumer communications in service delivery, and (4) the best way to design and manage field-research avatars and virtual-service representatives.

Figure 9. First author's Avatar

Communications managers and researchers are still learning how to talk to consumers in online environments. We are still learning how well-established advertising practices transfer to virtual worlds and electronic games. Recognition of the importance of this issue is shown by the theme "Virtual Social Identity and Consumer Behavior" of an advertising conference held in May 2008 (*27th Annual Advertising and Consumer Psychology Conference*). Our hope is that the hierarchy of engagement described in this chapter will aid in the future development and application of virtual worlds for advertising and customer engagement.

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ENDNOTES

[1] Related work is the association model (Preston and Thorson, 1984), adoption of innovations (Rogers, 1962) and information processing (McGuire, 1969). Some treatments emphasize what advertisements are designed to achieve while others emphasize the desired audience response. Also related are descriptions of extensive problem solving including five activities (arousal of need – information search – evaluation– purchase decision – repurchase decision) with an associated cognitive culmination for the decision maker of each of these five activities

(need awareness – knowledge – preference – trial – post-purchase evaluation).

[2] A related idea consists of Ross Mayfield's Power Law of Participation (2006) with levels of engagement including the following range of activities: read, favorite, tag, comment, subscribe, share, network, write, refactor, collaborate, moderate, and lead. Disproportionately fewer people contribute disproportionately more to higher levels of participation. http://ross.typepad.com/blog/2006/04/power_law_of_pa.html

[3] An early provider of such services, Market Truths, won a business plan competition sponsored in SL by Linden Lab.

[4] Along these lines, Edery (2006) suggests that an interesting commercial opportunity has gone relatively unnoticed: reverse placement or the commercial translation of fictional brands or products from virtual worlds into the real world.

APPENDIX 1

Table 4. Virtual World Types with Prominent Examples

Self-Determined
Second Life. The premier virtual world with beautiful rendering of avatars and the physical environment; navigation through walking, running, flying, teleporting; and vehicles; elaborate scripting language for movement of avatars and building; communication through digital chat and shout, voice communication (for members), instant messaging and distributing note cards; in-world content created by residents through a computer aided design system and uploading; objects and land are tradable with varied property rights; in-world monetary system exchangeable for U.S. dollars, and social networking facilitates that support the creation and maintenance of groups. Launched in 2001; currently more than 7 million residents. (**secondlife.com**)
Kaneva. With a name that stands for "canvas", this world supports creativity through a blend of virtual-worlds technology, 2D social networking, and a YouTube player through Kaneva TV sets wherein each registered member has an avatar, a profile (like in 2D social-networking sites), and a home (which they can decorate by importing content they may have in other sites); and groups are endowed with an open space to develop as they wish. Launched in 2004, with approximately 600,000 members currently. (www.kaneva.com)
Entropia Universe. Science-fiction world, set on a distant planet named Calypso, a cross between SL and World of Warcraft, with fantasy-like avatars, popular activities including hunting and mining, free membership, and a local currency PEDs (Project Entropia Dollars) to buy things, convertible back to real-world currencies through public auctions (Crews 2007). In March 2007, Entropia was the first western virtual world to expand into China, partnering with Cyber Recreation Development Corp. (CRD), an online entertainment company supported by the Beijing Municipal People's Government to create a cash-based virtual economy for China (VWN 2007a). Launched in 2003, with over 580,000 registered accounts. (www.kaneva.com)
Education Focused
Forterra Systems. There.com was founded in 1998 and went on to develop Forterra Systems and There, which was subsequently sold to Makena. The Forterra virtual worlds provide training-through-simulation for e-learning, military, healthcare, and entertainment industries based on the OLIVE (Online Interactive Virtual Environment) platform (Kusher 2008). (www.forterrainc.com)
ActiveWorlds. Released in 1995 by Worlds Inc and merged with Vanguard Enterprises, Inc in January 21, 1999, after which the company's name was changed to Activeworlds.com, Inc. and, later, Active Worlds, Inc. Several worlds dedicated to education in the main Active Worlds Universe; this company also launched the Active Worlds Educational Universe (AWEDU), which is targeted only to educational institutions; and, in addition, discounts are offered to educational institutions that want to conduct educational activities in the world. (www.activeworlds.com)
Community Self-determined
Cyworld. Cyworld is a 2D/3D social-networking site that was originally launched in 1999 in South Korea and was subsequently acquired in 2003 by SK Communications (SKU), Korea's largest wireless service provider, since substantially expanded with Chinese, Japanese, Taiwanese, and US versions. Similar to MySpace or Facebook, Cyworld members create their own home pages, with photos, documents, and other media, but Cyworld homepages are 3D and can be decorated with digital furniture, art, TVs and music. The service itself is free, but homepage customizations are paid for with the world's digital currency, called dotori (Korean for "acorns"), which cost 10 cents each. Cyworld is now reported to be larger than YouTube in terms of daily video uploads and second to iTunes with number of songs sold (Ewers 2006 and Ihlwan 2005). 18 million members, with 90% of all Koreans in their 20s having a Cyworld account (http://en.wikipedia.org/wiki/Cyworld). (www.nate.com)
HiPiHi. Recently-formed Chinese counterpart of SL, with a more "Eastern aesthetic," launched for private Beta testing in March 2007, including an English interface (http://www.hipihi.com/ news/trends_placard010e.html). Now partnering with Origami Frontiers and others to expand into mobile virtual-world services across Asia Pacific. Offer more prefabricated items than SL so that users can more rapidly customize their environment (and during Beta testing, users are offered a free 100m x100m tract of real estate). The founders say that subscriptions will be free and revenue will be generated by advertisements, similar to those the 2D web, and extras (products and services) for sale within the world, but no currency yet in existence.. 60% of the HiPiHi members are now female (Roger 2007). (www.hipihi.com)
Media Focused
vSide. Focused on media and entertainment, vSide members can go to virtual clubs, corresponding to over 40 different music channels, where they can socialize and enjoy their favorite music provided by vSide partners which include Interscope, Kitsons, Rocawear, StarStyle, eDoc Laundry, and Downtown Records. A rich variety of avatars may be created; avatars can earn "Respekt" by discovering interesting details hidden in the world's architecture, making friends or visiting stores. They can also buy "Creds" from in-world ATMs in order to buy clothes and other items. As a members' Respekt increases, they can have an apartment, where members can tune into his or her chosen channels without having to navigate and make selections in the channels area, as well as other special privileges (like buying specially restricted clothing for example) in the socially stratified vSide world. All content is provided by professional artists. Once a member has an apartment in the world. A streaming-video capability is planned for the near future (Doppelganger 2007 and Wilson 2007). Members spend 11 hours per month in the world, compared with an average of two hours per month for typical social networks. (www.vside.com)

continued on following page

Table 4. continued

Children's Worlds
Webkinz. Targeted to children aged 4 -13 who, upon purchasing a Webkinz plush toy in real stores, receive a secret code which they use to log onto the virtual world of Webkinz and get (a) a matching virtual pet. After "adopting" the Webkinz virtual pet, (b) a free 2D+ room in which the virtual pet can live, (c) a free virtual "extra" consisting of some virtual item the virtual pet can use, and (d) two thousand units of Kinzcash, the Webkinz World virtual money. The virtual world also includes games, places to purchase extras for the pets with Kinzcash, and social networking features such as email to friends (for security purposes, the content is limited to just 16 predetermined messages, such as "my pet seems sick"), and, upon sharing a password with a friend in the real world, the ability to coexist and interact in the same virtual environment with a friend's pet avatar. Purchase of real accessories also provide a code for a similar virtual item for their virtual pet. The "buzz" among children at school and play includes Lil'Kinz in birthday party "lootbags." (www.webkinz.com)
Whyville. Children's world focuses on education along with fun, founded by Numedeon Inc. Membership is free. When children log on they get 200 "clams," the Whyville currency. Initially, children have to take a "chat license test" before they are allowed to chat with other members of the world. Children under 13 can take the test, only after their parent approves their membership with a fax. Whyville citizens can earn clams by engaging in activities such as restaurant clean up and educational plots, including tracing the origin of a "whypox" epidemic or participating in a WhyEat(Right) challenge, for example. All income-earning activities are recorded in the member's salary ledger. Recently, a Spanish bank, Bankinter, opened a virtual branch in this world–after a week, users had deposited 90 million clams into certificates of deposits and 21 million into interest bearing savings accounts. Whyville also introduces children to civic life and politics. Whyville citizens can participate (run for office and vote for a representative) in senate elections. The senate members are supposed to hear issues from citizens and try to resolve them or forward them to city workers (company employees). The Whyville avatars are simply faces; children make their face with parts made by other Whyville citizens who have part-designing licenses. Face parts cost clams although there are also free face parts in a special location, Grandma's house. Without a paid membership, face parts disappear after three months. population of over 3 million (VWN 2007b). (www.whyville.net)
Habbo. Launched in 2000 by Sulake, a Finnish company, and targeted to teens between 13 and 18 years old with 80 million accounts (50/50 male/female ratio), 100,000 concurrent users at any point in time, and 7.5 million unique active users per month. Membership is again free but to join special clubs and furnish their Habbo hotel rooms, members need to pay with "Habbo Coins" which they can buy through a phone land line or a text message from a mobile (http://www.crunchbase.com/company/habbohotel). In addition to memberships, another source of revenue for Habbo are advertisements, which come in two forms: web-style ad banners and branded furniture and clothes by providers such as Target and PepsiCo. According to the company, the in-world items had a total market value of around $550,000,000 in 2007, and the company reported $30 million in revenues in 2006 (Nutt 2007). (www.habbo.com)
***Club Penguin*.** Recently acquired by Disney Corporation and popular with children 6–14, players can choose several games and activities to participate in through their virtual penguin. There are free accounts that provide limited access, and monthly subscriptions, which allow players to purchase clothes for their penguin, items for their igloo, and offer additional choices through colors and backgrounds. Member players earn coins by playing games and use their coins to purchase items. Players are able to interact with other players' penguins in the games and through chat. With Club Penguin, parents choose if players can chat freely or only through a small selection of chat texts. If they choose free chat, monitors exist who watch for abuse and players can report inappropriate behavior with a click of their mouse (Narravo 2007). (www.clubpenguin.com)
RuneScape. This 3D MMORPG is operated by Jagex, Ltd. and targets a wider range of ages, including teems 13 years and older, teens, and even adults. It offers free accounts or monthly paid memberships, which provide access to additional features (new areas, quests, and items). Players customize their avatars and set their own goals. RuneScape has 158 "worlds" (each exactly the same) in order to manage the fact that there are millions of registered players and only two thousand players may be active in any one world at a time. Players interact with other players through chatting, trading items (produced using skills or by collecting raw materials), fighting each other or game monsters, and collaborating on quests. Quests are story lines that players can choose to complete. In addition to quests, players engage in activities to enhance their skill levels in a variety of ways. A player's skill level determines their chance of success in battles and other non-combat activities. Unlike Webkinz and other games for younger players, Runescape players have full freedom in the content of their chats, which are, by default, public. Players can have a list of "friends" with whom they engage in private chat. A player can also compile a list of "ignores": people who cannot engage in chat with that player. In Runescape's economy, players trade items earned through non-combat activities and sell them for "gold pieces" or "gp" or collect gold by killing other players, taking their possessions and selling them for gold, successfully completing quests, killing monsters, or finding gold pieces on the ground. Unlike other worlds described in this section, Runescape game items and gold cannot be sold or exchanged for real money (real-money trading is prohibited). Runescape also interjects random events to reduce the chance that players are using automated programs (macros) to complete repetitive tasks, which earn players skill level and / or gold pieces. (www.runescape.com)

APPENDIX 2.

Table 5. Comparative statistics for a sample of virtual worlds (Sources: Examination of each world, Virtual Worlds Management http://www.virtualworldsmanagement.com, and DMD, 2007)

World Name	Company	World Focus	Currency	User Gen Content	Target Audience	Ad Supported	Initial Cost	Virt Item Sales	3d/2d	URL
Entropia Universe	Mindark-2003	Public	PED	Yes	18 +	Yes	Free	yes	3d	http://www.entropiauniverse.com
	World of Warcraft	Public	WoW Gold		teens and adults					
	Forterra Systems-1998	Private			Enterprise	n/a	n/a	n/a	3d	http://www.forterrainc.com/
ProtoSphere	ProtonMedia	Private			Enterprise	n/a	n/a	n/a	3d	http://www.protonmedia.com/
Alphaworld	Activeworlds Inc.	Both		Yes	13 +	Unknown	n/a		3d	http://www.activeworlds.com/
Qwaq Forums	Qwaq	Private			Enterprise	n/a	n/a	n/a	3d	http://www.qwaq.com
Google Earth-2005	Google, Inc.	Public		Yes	everyone	n/a currently	Free	No	3d	http://earth.google.com/
Microsoft Virtual Earth-2006	Microsoft	Public		Yes	everyone	None	n/a			http://maps.live.com/
Imvu	Imvu-2004	Public		Yes	18 +	Credits	Free	yes	3d	http://www.imvu.com
Kaneva	Kaneva-2004	Public	Kaneva credits	Yes	Public	Yes	Free	not yet	3d	http://www.kaneva.com
Multiverse	Multiverse-2004	Both	defined by world		defined by world	defined by world	n/a			http://www.multiverse.net/
3B	3B International	Public		Yes		Yes	Free	No	3d	http://3b.net
vSide (Lounge)	Doppelganger, Inc.	Public	Reskpekt, Creds	No	older teenagers		Free		3d	http://www.themusicclounge.com/
Flowplay	Flowplay	Public	yes		older teenagers		planned 5.99		unknown	http://www.flowplay.com/
Second Life	Linden Lab	Both	Lindens	Yes	18 +	Yes	free, 5.99	yes	3d	http://secondlife.com/
HiPiHi	HiPiHi-2005	Public	?	Yes	Public	Unknown	free, in beta	not yet	3d	http://www.hipihi.com/
Cyworld	Cyworld, Inc.	Public	Acorns	Yes, limited	13 +	Yes	Free	yes		http://us.cyworld.com/
there.com	Makena Technologies, Inc.	Both	Therebucks	yes, limited	13 +	Yes	free, $9.95 once	yes	3d	http://www.there.com
3B International	3B	Public	none	Yes	Unknown	yes	-	No	3d	http://3b.net

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Table 5. continued

World Name	Company	World Focus	Currency	User Gen Content	Target Audience	Ad Supported	Initial Cost	Virt Item Sales	3d/2d	URL
TEENS and TWEENS										
Teen Second Life	Linden Lab	Public	Linden $	Yes	13 – 18	yes			3d	http://teen.secondlife.com/
Dubit	Dubit Ltd.	Public			13 – 18	yes	Free	No	2d+	http://www.dubitchat.com
Multiple worlds	MTV / Viacom	brand-ed	MTV$	Yes	tweens +teens	yes	Free	yes	3d	http://www.vlb.mtv.com/
Stardoll	Stardoll AB	Public	StarDollars	No	7 – 17	yes	Free	yes	2d	http://www.stardoll.com/en/
Habbo	Sulake Corporation	Public	Habbo Coins	no, limited coming	13 – 16	yes	Free	yes	2d	http://www.habbo.com/
CCMetro	Coke	brand-ed	Therebucks	No	13+	yes	Free	yes	3d	http://www.mycoke.com/
Gaia Online	Gaia Interactive, Inc.	Public	Gaia Gold	No	Public	yes	Free	yes		http://www.gaiaonline.com
Zwinktopia	IAC	Public	Zbucks	No	13+	yes	free and can purchase Zbucks	yes	2d + 3d	http://www.Zwinky.com
Runescape	Jagex Limited	Public	Gold Pieces	No	13+	no	free or $5/month	yes	3d	http://www.runescape.com/
CHILDREN										
Ty Inc	Ty Girlz	brand-ed	TyDollars	No	6 – 13	yes	free with purchase	yes	2d	www.tygirlz.com
Club Penguin	New Horizon Interactive	Public	virtual coins	No	6 – 14	no	free or $5.95/month	yes	2d	http://www.clubpenguin.com/
Webkinz	Ganz	Public	Kinzcash	No	6 – 13	for real-worldweb-kinz items	free with purchase	yes	2d	http://www.webkinz.com/
Barbie Girls	Mattel	brand-ed	B-Bucks	No	6 – 13	yes	free + extras with purchase	yes	2d	http://www.barbiegirls.com/
Nicktropolis	Viacom	brand-ed	NickPoints	No	6 – 13	yes	Free	yes -- swap for points	3d	http://www.nick.com/nicktropolis
Multiple worlds	Corus Entertainment	brand-ed	Botanickels	yes (story-line)	tweens	yes	Free	yes	2d+	http://thebigrip.com/

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APPENDIX 3

Table 5. continued

World Name	Company	World Focus	Currency	User Gen Content	Target Audience	Ad Supported	Initial Cost	Virt Item Sales	3d/2d	URL
Neopets	Viacom	Public	Neopoints	yes (email, video, etc.)	children	yes	Free	yes	2d + 3d	http://www.neopets.com/
Virtual Magic Kingdom	Disney	branded	credits	yes (mash-ups)	8 – 14	yes	Free	yes	3d	http://vmk.disney.go.com/vmk
Whyville	Numedeon	Public	Clams	yes, limited	8 – 15	no	free or purchas pass for priority	yes	2d	http://www.whyville.net
Gopets	gopets	Public	Shells	No	children	no	free and can purchase gold shells	yes	3d	http://www.gopetslive.com
Millsberry.com	General Mills	branded	Millsbucks	No	children	yes	Free	yes	2d	http://www.millsberry.com/

Table 6. Various Services, Universities, Brands, and Other Entities in Second Life

Consumer Services and eCommerce		Thompson NetG: Thompson 182, 123, 35
ABN AMRO: ABN AMBR 238, 15, 22		Toyota: Scion City 44, 40, 23
Adidas: Adidas 104, 183, 55		Vodafone: Vodafone Island 128, 128,0
AMD: AMD Dev Central 124,151,31		**Media Companies**
AOL Pointe: AOL Pointe 128, 128, 0		AOL Pointe: AOL Pointe 128, 128, 0
Autodesk: Autodesk 128, 125, 54		Bantam Dell Publishing (Random House): Sheep Island 123,28,25
BMW: BMW New World 195, 66, 23		BBC Radio 1: BBC Radio 1 128, 127, 32
Circuit City: IBM 10 136, 38, 22		Choc Hebdo: La Plaine 59, 140, 37
Cisco Systems: Cisco Systems 128, 127, 30		CNET: Millions of Us 226, 30, 38
The Connected Home: The Connected Home		MTV Laguna Beach Laguna Beach 63, 218, 25
Dell Computer, Main Island: Dell Island 43, 162, 24		NBC Universal Headquarters: NBC 2 131, 123, 43
H&R Block: HR Block 113,48,37		Northsound Radio Scotland: Fusion Unity 204, 131, 22
IBM Sandbox: IBM 121, 154, 33		Popular Science, PopSci Future Lounge: Millions of Us 193, 133, 24
IBM 1 Virtual Universities Community. Theater I: IBM 1 128, 128, 23		Reuters: Reuters 127, 99, 25
IBM 2: IBM 2 128, 128, 22		Sundance Channel: Sundance Channel 55, 173, 38
IBM 3: IBM 3 243, 105, 23		The Infinite Mind: Infinite Mind 209, 76, 46
IBM4 IBM05 / Recruitment Project: IBM 4 130, 183, 22		Wired: Millions of Us 203, 228, 23
IBM 6: IBM 6 128, 126, 22		**Government/Public Entities**
IBM 7 Greater IBM Connection:		U.S. Congress (Democratic Party) Capitol Hill 128, 128, 0
IBM 8 SOA Hub: IBM 8 104, 106, 23		Swedish Consulate
IBM 9: IBM 9 128, 129 22		**Politicians**
IBM 10 Theater M, Circuit City: IBM 10 139, 42, 22		Mrs Ségolène Royal, French socialist candidate to the 2007 presidency, Comité 748 : Désirs d'avenir: Bretton 175, 233, 102
iVillage: Sheep Island 42, 150, 25		Mrs. Hillary Clinton, U.S. Democratic candidate 2008 presidency: Isles of Intrigue2 133, 137, 604
Major League Baseball: Baseball 214, 129, 27		Mr. Barack Obama, U.S. Democratic candidate 2008 presidency: Silicon Island 222, 217, 32 (unofficial)
Mercedes-Benz: Mercedes Island 128, 128,0		Mr. John Edwards, U.S. Democratic candidate 2008 presidency: Onnuri 169, 25, 87 ; Laguna Beach 219, 113, 23
Nissan: Nissan 19, 129, 26		**Agencies**
PA Consulting: PA Consulting 116, 119, 27		Centers for Disease Control and Prevention: Juwangsan 218,223,0
Pontiac Main Island: Pontiac 179, 96, 24		Homeland Security Synthetic Environments for Emergency Response Simulation
Reebok: Reebok 111, 100, 97		National Oceanic & Atmospheric Administration Meteroa 246, 244, 309
Reuters: Reuters 127, 98, 25		**Various Non-Profit Organizations**

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Table 6. continued

Sears: IBM 10 95, 32, 23		**Tourism Boards** of Intoscana, Tuscany and Galveston, Texas, both launching soon.
Sony|BMG: Media Island 108, 111, 21		**Marketing and Public Relations Firms,** fifteen
Starwood Hotels: Aloft Island 68, 69, 27		Leo Burnett: Millions of Us 193,80,23
Sun Microsystems: Sun Pavilion 182, 144,55		**Market Research Companies**, two
Sundance Channel: Launching January 2007		**Various universities**, not necessarily offering classes, and some not open to the public, including Ball State University, Center for Media Design: Middletown 196, 179, 31; Harvard Extension School and Law School: Launching soon; New York University: Launching soon; Ohio University, Ohio University Without Boundaries SL Campus: Ohio University 20,36,24; Pepperdine University: Malibu Island; University of Illinois at Urbana Champaign: Cybrary City 220, 138, 24 (Partial list).
TELUS: Shinda 187, 72, 22		

Source: DMD (2007) and Business Communicators of Second Life. A comprehensive list of Institutions and Organizations in Second Life is kept at the Simteach wiki (simteach.com/wiki).