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REAL COMMERCE IN VIRTUAL WORLDS

Teaching Case[1]

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Abstract

This teaching case considers the challenges and opportunities faced by an entrepreneur in Second Life, one of the more popular virtual world environments. Second Life provides the economic and technological platform required for immersion, social interaction and the potential of private enterprise. Many entrepreneurs have taken advantage of the various business opportunities offered in Second Life and a number have earned significant real dollars through their in-world creations and services. Stuart O'Brian, the CEO and founder of VirtualCircle, was one of the early pioneers of virtual commerce. Over the last three years, his organization faced multiple business and technology challenges while negotiating the hypercompetitive and turbulent environment within Second Life. However, he now questions the sustainability of the ever-changing and agile business model that enabled the success of VirtualCircle. Stuart also faces questions regarding avenues of future growth and is grappling with issues concerning interoperability and the replication of his prior success in other virtual environments - and the real world.

Keywords: Agile Enterprises, Digital Options, Turbulent Environments, IS Platform, Virtual Commerce, Virtual Organizations, Virtual Teams, Second Life, Virtual Worlds, Immersion

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[1] The authors have prepared this case as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation. It is not intended that statements herein be excerpted as fact outside of the class discussion. The case represents a disguised depiction of the issues, perspectives and numbers of a real SL business. We thank Stuart O'Brian for his cooperation and willingness to examine his management perspectives and practices.

Introduction

As he scanned the island, taking in the familiar surroundings for one last time, Stanley's thoughts strayed to the travails of the recent past and waves of nostalgia washed over him. He could hear the surf pounding on the rocks and see the sun setting beyond the expanse of the horizon. He could *almost* taste the salt in the air and smell the green grass below his feet. *Almost* being the operative word; because none of this was real. The sun, the beach, the houses, the people, and even Stanley Orsk Barrowstone himself were all unreal. But his feelings, his experiences, his successes, and the money he had made were all very much real.

Stuart O'Brian, the alter ego of Stanley, was an entrepreneurial pioneer – an entrepreneur who in early 2009 was making real money from engaging in real commerce in a virtual world (VW). He had sensed the business opportunities offered by his passion and pastime, *Second Life* (SL), and carved a niche for himself in the micro economy of this virtual world. Over the past three years, he had witnessed many tumultuous events that created new business opportunities induced by continuously evolving rules and regulations in SL. And yet, he and his company *VirtualCircle* (VC) had not just survived, but thrived and prospered well beyond his initial expectations. His business model of having an adaptive business had seen him through ups and downs and had led him through a succession of roles: gathering spot creator, land developer, retailer, service-system provider and market facilitator. Despite these successes, he was worried where the next success would come from and if it would be as successful as the earlier ones. He was concerned about the sustainability of a continually adapting business and avenues of future growth. He wondered what it was in his business model that had led to his success in SL and whether that success could be replicated in another virtual world. Could his intricate knowledge of the SL platform and experience with virtual commerce be utilized to expand VC beyond the boundaries of SL, or even other VWs and into the real world itself? Were the learnings from the hypercompetitive and turbulent environment of SL applicable beyond its realms?

Stuart O'Brian pondered over these questions as he used his mouse and keyboard to guide Stanley along the shore of his company's latest sale, Patailani – an island that had been one of his earliest developments. Reminiscences of his entrepreneurial journey made him wonder what lay in store for him and his constantly adapting company.

Virtual Worlds[i]

Virtual Worlds (VWs) are immersive, interactive, persistent online environments that provide their participants with a game-like, role-playing, and concurrent experience. VWs provide a sense of identity within a space and enable participants to use their online persona to engage in a variety of activities, including socialization, education, commerce, entertainment, collaboration, exploration and creation. Thus, VWs consist of online personas, spaces, the creations of online personas and the interactions of these three.

The first 2-D VWs (e.g. *ImagiNation Network*, and *The Palace*) were born in the early 1990s and most were shut down by 2001. Some of the early immersive VWs, which were established in the mid-1990s, were still active in the late 2000's (e.g. *Active Worlds*). Many truly massive and immersive VWs (e.g. *Second Life*, and *Entropia Universe*) emerged at the dawn of the 21st century (Bray and Konsynski 2006). Some VWs were game focused (e.g. *World of Warcraft*), whereas others were focused on socialization of specific (e.g. *Habbo Hotel*) or all types of participants (e.g. SL). Many VWs enabled their participants to engage in commercial transactions of spaces (e.g. property in SL) and creations (e.g. virtual goods in SL). Real-world companies attempted to tap into these rapidly growing economies within VWs by offering a virtual shopping experience.

VWs consisted of a main application hosted on a set of servers, which were accessed via either a standard web browser or proprietary client software. There were several pricing models for VWs: Some providers distributed free clients and did not charge for their use, while other providers charged an upfront fee for the client, and others required subscription fees for access. Some VWs offered free download of their client applications and free access along with subscription-based premium offerings. The short history of VWs was replete with these and other complex pricing models as VW providers grappled with the challenges of monetizing their investments.

Wide scale adoption of VWs was inhibited by several limitations. Chief among these was the proprietary and closed nature of VWs. VWs were developed as silos, many with proprietary code and rendering technologies, and thus lacked interoperability. Personas and their belongings in one world could not be ported to another world. Security, functionality and digital rights management issues needed to be resolved before inter-world portability could be implemented across multiple VWs. Efforts aimed at developing open standards and open source platforms such as *OpenSim* had been initiated in the mid 2000s, but had yet to gain widespread support. Another limitation was the

hardware and bandwidth requirements on both the VW provider and user ends due to the demands of providing more realistic graphics. Concentration of multiple online personas in a given space further increased the load on hardware. This compromised the ability of VWs to support gatherings of more than a few dozen people. While companies such as *NICTA* offered peer-to-peer technology based distributed solutions, only few of the prominent VWs had chosen to adopt this technology (Naone 2008). Legal and cultural issues arising from the global reach of VWs also dimmed their appeal to certain audiences. Issues of jurisdiction, governmental regulation, language barriers and self-aggregation of similar people were some other issues faced by VWs. Despite these limitations, VWs had the potential to transform many aspects of human life, including education, business, social events, corporate meetings, social networking and e-commerce (Bray and Konsynski 2007). By early 2009, many VWs had populations and economies that were larger than those of some small countries.

Second Life[ii]

Linden Lab (LL) was incorporated in 1999, with an aim to develop virtual immersion hardware which would allow users to immerse themselves in a virtual world experience. A software application, named Linden World, was developed to go along with the hardware and was eventually launched as SL in June 2003. SL was developed as much more than a mere game or chat application. In an April 2006 blog, Philip Linden (the SL persona of Philip Rosedale, the founder of SL) commented "*I'm not a gamer, and SL isn't a game. From the start, we/LL observed that something like SL would have its first uses in entertainment, and then grow beyond those uses and people became more confident in the capabilities of the new platform/OS/whatever-we-want-to-call-it. So we focused on making SL very exciting and visceral and inspirational, but not on making it a game.*" (Linden 2006). Unlike games, SL did not have rules or objectives and unlike chat applications, it consisted of an extensive world to be explored and interacted with. The world was designed on a real world template, wherein participants' online personas, called avatars (a Sanskrit word meaning incarnation), were placed under almost realistic environmental constraints. Andrew Linden, the avatar of a SL developer explained this in a March 2005 blog "*Way back when we started working on SL we talked about the fundamental design of what the space should look like. There were all sorts of freedom that could be explored in a virtual space - no need for gravity, ground, sky, water or trees. However, we decided we wanted SL to be very much a place rather than an abstract collaborative CAD tool. Since the humans are most familiar with an environment that has a horizon, ground, sky, water, and trees we decided that SL would be fundamentally familiar if it had these things. Similarly we decided to center the avatar possibility space around a realistically human shape instead of a cartoony or otherwise stylized avatar.*"(Linden 2005). SL avatars could take any animal, vegetable or mineral form that users chose, including resembling the users themselves. Users could change the appearance and form of their avatars as they wished and could also have multiple avatars. SL residents used to refer to the state of being present in the SL world or anything that took place within SL as in-world. SL was conceived as a largely user created, highly scalable environment. LL did not charge users for creating an account or for making use of the world. LL did offer a premium membership which provided a higher level of technical support and an in-world stipend. Philip Rosedale grasped the potential of collaborative creation early on and reoriented SL from an objective-driven, gaming experience to a community driven, user-created experience. He later remarked "*... we want SL to be able to reach everyone in the world, to be able to scale to 100's of millions of users and millions of servers, and to remain an open decentralized system in which creativity rules.*" (Linden 2006)

Business Model

The primary business model of SL revolved around virtual land. Ownership of land within SL bestowed its owner the ability to store or showcase creations and build offices, residences or any other buildings. A subscription-based premium membership gave participants the right to own any of the four types of land regions available in SL: Mainland, Private Region, Homestead and Openspace. Each region was hosted on an individual CPU and comprised of an area of 65,536m². LL tightly controlled the overall supply of land within SL. Residents could purchase regions sold by LL through auctions, or could purchase or rent smaller parcels of land from other participants. The owner of land had to pay monthly upkeep fees, which were determined by the size of the plot, to LL and could use the land for any purpose not prohibited by the SL's Terms of Service. Ownership of land would cease if a participant failed to pay monthly dues to LL.

LL provided residents with the virtual space within which they could store their creations. In November 2003, LL allowed residents to retain the intellectual property rights over their in-world creations. Residents had four basic choices to copyright their objects. Objects could be freely resold or given away, copied for personal use, modified or could remain unchanged. This decision to enable copyrights and ownership of digital creations made LL the

provider of a platform for creativity, where residents could engage in commercial activities regarding their creations. These commercial activities were facilitated by the SL virtual currency, Linden Dollars (L$), which had a market determined floating exchange rate with real U.S. dollars. The exchange created a secondary revenue stream for LL, which collected a 3.5 % fee for converting L$ into real world currency. Beginning with the first quarter of 2007, more than 10 million USD were exchanged per quarter. In the last quarter of 2008 nearly 30 million USD were exchanged, leading to nearly 1 million USD in conversion fees.

LL thus had a commercial interest in attracting two types of users: premium members who would develop land and thus contribute membership and land usage fees and users who would spend on in-world purchases of goods and services. While revenues from premium memberships slowly declined in 2008, the total amount of land owned by SL residents increased, foreshadowing a consolidation amongst land owners. At the same time, the value of in-world commercial transactions increased tremendously, which resulted in increasing revenues from conversion fees. LL controlled both the land and the L$ supply in SL. Changes in both directly impacted LL's revenues in the short term. Yet, oversupply of either would lead to devaluation of the assets of users and premium account holders, which could easily lead to residents leaving SL for good (see appendix B).

SL had started as a virtual space for creativity, but had developed into a micro-economy. It was LL's core business challenge to make both governance and technical decisions that would satisfy all stakeholders while at the same time warranting positive cash flows for the company.

In-world Economy

By October 2006, over 1 million accounts had been registered in SL. However, not all registered residents were active. It was estimated that less than 10 % of newly signed up users would return within 30 days after they had initially signed up. Several factors contributed to the low retention rate: First, users had difficulties with the SL interface. While most managed to create an avatar, few were able to find or interact with other avatars. In addition, the lack of a defined objective, similar to quests in popular MMORPGs, led to users not returning to SL.

Still, from the end of 2006, SL usage started to grow. One reason was the increased media coverage of SL. Outlets such as BusinessWeek and the German Bildzeitung started reporting on SL and Reuters decided to have a dedicated news bureau that would only report on the developments in SL and other VWs. The increased coverage not only drew in more casual users but also spurred the interest of entrepreneurs. The intense reporting on Anshe Chung's success as the first self-made USD millionaire in SL only added to that movement. The influx of new residents created new demands in the in-world economy. Users wanted to express themselves but often lacked the skills or time to create virtual goods or accessories on their own. Just like in the real world, residents started to buy virtual goods from other residents who had specialized in designing and creating objects. The exchanges of virtual goods along with the commissioned development of real estate were credited with the first significant spike in user to user transactions in the fourth quarter of 2006.

After establishing their virtual identity by creating an individual space and purchasing or creating virtual goods, many residents sought to showcase their belongings and find like-minded peers. Thus, gathering spots, built by the early entrepreneurs, became increasingly popular. Popular venues included coffee shops, night clubs and resorts. However, most of those venues did not have a clear cut business model to monetize on their popularity. Some operators tried a subscription model but often failed to retain paying customers, who would just move on to free alternatives. Advertising within the gathering spots was another attempt to capitalize on the popularity of venues. But similar to the early days of online advertizing, few operators were able to provide measures of success of advertising beyond the number of residents that had gathered in a particular space at a particular time.

Despite the meager returns of the initial entertainment services, entrepreneurs soon found an economically viable niche. Virtual gambling became a huge success in the first half of 2007. The provision of gambling services and the transfer of funds to and from gambling service providers was heavily regulated in the U.S. However, U.S. law had yet to include VWs into this ban. Thus, virtual gambling became an alternative welcomed by many users. Within six months, user-to-user transactions tripled in SL, due in no small part to the revenue generated by gambling services. Despite this success, LL decided to ban gambling in SL because of the legal uncertainty. The decline of user-to-user transactions in 2007 was a direct result of this ban, leading to the first recession in SL. Yet, usage of SL increased, making it an interesting place for real-world businesses to promote their real-world products (see appendix B).

Real-World Institutions Move into SL

By early 2009, many real world institutions had established a presence in SL. Some confined their activities to in-world advertising and brand building. Other institutions offered their real world products and services through SL. Some organizations attempted to tap into the collaboration potential of SL and used it as a virtual meeting place. More ambitious firms integrated SL into their overall business model and presented SL variants of their real life offerings. For example, an architectural firm called *Crescendo Design* built model homes in SL, which it then integrated with its website. This enabled the company to provide virtual tours of homes to its potential customers. Similarly, *Starwood Hotels* built and tested a digital prototype for a new hotel chain. Other real-world institutions with a brand presence in SL included *American Apparel, Coldwell Banker* and *Nissan*. In a brand-building exercise, the *Weather Channel* created weather-related sports activities across a series of SL islands. *Dell* developed an island in SL for interaction with its customers and use as a meeting spot for its employees (Dell 2009). *Cisco*, *Generali Group*, *IBM* and *Microsoft* were other organizations that attempted to use SL for meetings. Many universities and government institutions also used SL for its meeting capabilities. Early SL adopters expected SL to act as a substitute for face-to-face meetings. However, some of their efforts were stymied by the population concentration constraints of SL. Some companies moved away from SL to more controlled worlds like *There* to avoid association with controversial elements.

The initial failures of real-world institutions' efforts to adapt to SL created a demand for the services of virtual consultants. These in-world service providers had successfully promoted their own virtual offerings and thus were in a position to offer insights into the idiosyncrasies of the SL economy, resident behavior and the SL platform. Real-world institutions that relied on the services provided by these consultants realized that mere replication of real-world products and processes was not a sustainable strategy in SL. Companies like *Apez*, *Electric Sheep* and *Hippo* provided distribution, record keeping and communication systems which facilitated virtual commerce. They also enabled their clients to offer incentives to their virtual customers for purchasing real goods. *Aimee Weber Studio* was another successful inter-world business, which combined real world and virtual world activities. Run by designer and artist, Aimee Weber, it designed virtual products in SL for many real world institutions, which included the *United Nations, American Cancer Society* and *Ohio University*. It also provided virtual marketing, project management and video production services and had an acclaimed virtual fashion clothing line.

These in-world service providers had developed enormous expertise in dealing with the idiosyncrasies of the SL platform. Moreover, they had also developed agile structures that allowed them to constantly adapt to the environment that was at the mercy of LL's governance.

Influence of LL's Governance on the In-world Economy

SL was regulated by LL through changes to its Terms of Service which participants agreed to adhere to during the SL signup process. These regulations concerned the presentation and behavior of avatars and the commercial activities in which they engaged. Many changes to SL's Terms of Service were made over the years to bring in-world activities into compliance with various international laws. As a result, many businesses that made up large portions of the SL economy became regulated or were banned. Changes to the SL platform sometimes also resulted in certain business activities becoming irrelevant. Losses suffered by SL entrepreneurs due to such changes in regulations were normally not compensated for by LL.

For example, in December 2005, LL decided to allow avatars to bypass telehubs, which were points where avatars gathered when moving from one region to another. This caused large upheavals in the SL land prices. In her interview, Anshe Chung explained "... *the telehub situation was big mistake where Linden Lab screwed up in many ways. Basically, they acted like a government that decides to build one big dam and flood one city. However, they finally realized what they did and changed their policies. They made a buyback offer for devalued land. That way we still all took some loss, but within what one can call acceptable business risk.*"(Hof 2006)

In another intervention of far-reaching consequences, LL banned in-world gambling activities in July 2007. Many virtual corporations went out of business and the SL economy halved in size. The economic damage was not restricted to businesses that provided direct gambling services. Many virtual banks were faced with liquidity problems and became victims of bank runs. In August 2007, a virtual bank named Ginko Financial, which was running a pyramid scheme, collapsed as a result of a run triggered by the gambling ban. Account holders lost 750,000 USD in the collapse of this single bank, leading to calls for greater regulation of in-world banking (Gardiner 2007; Hsu 2008). Consequently, in January 2008, LL cracked down on unregulated in-world banking activities by banning interest payments on cash deposits. Within a month, the SL banking industry ceased to exist.

All purely virtual banks either closed down or converted into virtual joint stock companies. A few companies remained, which offered zero-interest deposit accounts to avatars.

Influence of LL's Technology Decisions on the In-world Economy

Over the years, LL introduced technological changes that inadvertently stimulated social and economic changes in the world. SL comprised of many servers operated by LL and an open source client application that was executed on each individual participant's computer. In order to reduce the load on the servers, all object-related data were stored in a separate asset server cluster. Limited data transfer between the region servers and the assets servers often caused lagged interactions and led to downtimes. In these downtimes, residents were advised not to create or sell objects, essentially halting economic activity in that period of time.

One of LL's core missions was to use open source applications and to eventually publish the server application code and the client as open source. In addition, the servers ran on the open source operating system Debian Linux. The use of open source code in the application allowed external parties to reverse engineer some SL functionalities. As a result, customized versions of the open source client software were available online. Externally developed clients provided earlier bug fixes (i.e. Nicolaz Edition), customized user interfaces (i.e. Electric Sheep's OnRez viewer) and viewers designed for mobile use of SL (i.e. Vollee mobile access). The external clients not only attracted new users but also allowed existing users to have a better SL experience.

However, the availability of the source code also led to negative consequences. CopyBot was a program originally written by the LL-supported *libsecondlife* open source project. It was designed to debug objects and scripts and to back them up. However, it was soon abused to copy objects regardless of their assigned digital rights. Many residents complained that their objects had been illegally copied and protested in SL by shuttering their businesses. LL did not ban the program itself. Rather, LL updated its Terms of Services and threatened to ban users employing the program for illicit purposes. For legal action it referred affected owners to file a take down notice under the Digital Millennium Copyright Act. Only few in-world businesses had the financial resources to file lawsuits. While these lawsuits ultimately awarded compensation for the original owners, many small businesses felt unprotected and hesitated to further do business in SL.

Many businesses felt they were at the mercy of LL's decisions to change policies and technologies at will. While LL openly communicated changes before they took place, the economic impact was not always foreseeable. But with SL being the largest virtual economy, and the substantial investments made by in-world businesses, there simply wasn't an alternative other than to keep adjusting to the ever-changing environment.

VirtualCircle

VirtualCircle (VC) was an in-world service provider. The company was founded by Stuart in 2006 to seize entrepreneurial opportunities in SL. While initially focused on virtual land development, VC soon became known for its agility to adapt to new opportunities and for being a pioneer in various business and technology niches in SL.

Company Background

In its early days, SL was a fairly bleak place. SL was a platform that depended on user creations, such as virtual goods and lands, to make it an interesting space for users to spend their time. Residents were able to search either goods or places created by other residents. However, due to the fragmentation of the virtual land, and the lack of a search engine for like-minded residents, early adopters were frustrated by the initial virtual experience. Stuart was one of the early residents of SL. He soon realized both the shortcomings of the SL experience and the potential of SL as an entrepreneurial platform. He founded VC in 2006 primarily to fill the residents' needs to find like-minded peers. Instead of creating a search capability for residents, Stuart decided to leverage the existing engines and to develop virtual gathering spots that would be tailored to the tastes and needs of residents.

Initial Business Models

For its first venture, VC leased a parcel of land and started developing a space similar to a real world night club. Since there were only few virtual architects in SL at the time, Stuart designed the gathering spot by himself, creating objects and controlling their interactive behavior, storing the created objects and assembling them into the gathering spot. There were 15 basic building shapes or "prims" to choose from. The prims could be edited in form, shape, color and texture to resemble real life objects. The objects then could be saved in the creator's inventory. The creator

could duplicate any objects in the inventory, use them for multiple projects, or sell them to interested parties that wanted to use them for their own developments (Curtis 2008). The design process did not require programming experience as it was supported by a graphical user interface. However, creating interactive objects required knowledge of object-oriented programming language. The behavior of objects was coded in the Linden Scripting Language (LSL) that had syntax similar to C. Despite the similarities to standard programming languages, LSL suffered from its proprietary nature. There was hardly any documentation on LSL and standard features such as data type declaration, library mechanisms or dynamic evaluation were not supported (Lee 2007). Thus, the development took much longer than expected and involved many trials and errors. Stuart later reflected "*The SL interface was a disaster. It was fairly easy to create the prims and skins. But making the passive active was a different story. There was no documentation or support for LSL. We would program scripts hoping that the LSL backend would accept our code and execute it. If it didn't, we would start again. Over time we tapped into the community of SL coders and collectively started to understand the idiosyncrasies of LSL. In retrospect, we probably were just very early adopters. Most issues we faced were resolved and documented by 2007. Yet, I still think that we managed to learn the principles of SL. It shows in our scripts. We still can do things that others can't.*"

After the success of the first gathering spot, Stuart used the experience gained to develop more gathering spots and virtual commercial lease spaces. The gathering spots gained revenue through strategically placed in-world advertising boards. The commercial lease spots mainly earned revenues from leasing fees. While the business model was cash flow positive, the margins began to decrease due to increased land development, the availability of skilled residents that could develop professional gathering spots, and the decreasing cost of land due to oversupply by LL. The popularity of SL became a double-edged sword: More residents meant more potential business for the gathering spots, but the popularity also meant more competition.

Virtual Retailing

Stuart realized in the spring of 2007 that the original business model was not scalable and started looking for different business opportunities. He also recognized that behavior of the residents had changed. Rather than designing their avatars to shape their virtual identity, residents started to buy clothes and accessories designed by other residents to express themselves. Instead of relying on third parties to pay advertizing fees for users coming to the gathering spots, Stuart focused on generating revenues directly from the consumers. In April 2007, VC ventured into virtual retailing. It initially offered virtual furniture products and soon added designer items such as clothing, and accessories lines in its own store. Instead of designing products itself, VC contracted successful in-world designers and offered their products on a commission basis. As business picked up, VC started developing numerous specialty stores and housed them in virtual malls. Stuart remembered the situation in August 2007 "*At the time I ran a store and we had over 100 locations in SL. Most were profitable, some were not and we closed them. I evaluated everything at the end of each rent cycle and decided what to keep and what not to, based on a number of factors. It seemed each month I had at least 5-10 malls that would close up, disappear or remodel on me. Some made things right by giving refunds and some just went away, taking my rent money with them. I guess this is part of why I don't pay more than 4 weeks ahead. It limits my risk to these things. This is just a part of business and accepting it as a cost of doing business and writing it off is really all you can do. As for returning things, if a place accidently returned my setup once, I would give them a second chance. If it happened more than once, something was wrong and it was time to move on.*"

But as with the gathering spots, running multiple stores soon became a cost concern. Apart from the leasing cost, labor cost for store associates started to accrue. While labor was generally cheap, the costs were not scalable across stores. Moreover, all commercial transactions were facilitated through Stuart's avatar, which caused hours of manual payment processing. Although the virtual retailing in stores and malls did not become the sustainable, high-margin business Stuart had hoped for, he did credit their first ventures with many learning experiences. He was particularly proud of his grasp on the behavior of the residents and his understanding of how to direct his offerings to his target consumers. He later commented on the key lessons learned: "*First, make sure the place fits your demographic. Selling niche items in a vanilla mall doesn't work any better generally than selling mainstream items in a nice place. I'm not saying it can't work, just has to do with odds of success. Second, big traffic means nothing! Camping [inactive avatars that might have been placed there by the property owner] is fake traffic that serves no purpose other than to scam you, the renter, out of a few weeks rent until you realize there are no sales to be made and move on. When I see a place with a lot of camping, I generally pass. I don't care what their traffic numbers are, after all, more campers means more traffic but not necessarily more sales. Third, the rents have to make sense. I have a very good feel for market rents with all the stores we have, so when I priced the rental spots at my places, each of which*"

gets 30-40k daily traffic score without campers, I probably underpriced compared to a lot of places out there. If you can make enough sales to justify a high rent, great. The problem is that most places, especially those that are camper heavy and asking high rents due to high traffic scores, won't cover it. I find that the cheaper rent places with good quality, no camper traffic easily cover their rents."

Vending Systems & Virtual Sales Affiliate Program

Stuart soon started questioning the dependence on virtual real estate and paid sales associates as a requirement for the virtual retailing model. He first experimented with vending machines that would be placed across SL to sell VC's products. Although successful, Stuart was still dissatisfied with paying rent for the machines, with the lack of tracking systems and with the limited customer service that vending machines could offer. He later recalled "*Our system needed to be upgraded to allow us to more efficiently track every rental box in one place so things weren't accidently returned and we could know exactly who had paid and for how long, without running around to every box or trying to decipher a huge list being spit out of an in-world server.*" Thus, he came up with a radical idea: There should not be any variable cost of selling virtual goods. On the procurement side, VC had already been able to become an intermediary that would facilitate the sales of virtual goods in exchange for a commission. Stuart imagined that it could create a similar model on the sales side. Similar to Amazon.com with its seller's marketplace, Stuart decided to put his customers to work.

The sales affiliate program was supposed to enable every resident to resell goods procured by VC. There were a few off-the-shelf solutions that promised to aid in the distributed sales process. JEVN was the early provider of a simple server script that would allow a content owner to sell at different locations in SL. The JEVN script was designed for individuals to sell only few products across different places. However, Stuart sourced from over 100 vendors and envisioned the products to be sold by numerous individuals. JEVN often crashed and had mediocre customer support. Stuart sought a more reliable vendor that would manage the digital assets and properly interface with SL. He realized that there was a need for a proper application programming interface (API) so VC could customize the sales affiliate script to their needs. He later reflected on the switch from JEVN to the more enterprise focused HippoVend system (HV) "*When I used the JEVN system, I lost a lot of business. My vendors that were online could neither develop nor sell the products. I couldn't add new stores or products nor could I finish setting up my affiliate system. It was very irritating and did cost me sales. JEVN was one disaster after another. Every time the server locked up on me, I had to change it out and update dozens of vendors with the new server key. When I switched to Hippo, I discovered half a dozen vendors that appeared online but were really seized up and another 3 that were offline but the server didn't reflect that.*" Customizing the HV platform to VC's needs posed a new programming challenge. There was a need for software that could control the sales process to enforce the property rights of the original creators and VC, and to ensure that sales affiliates would be properly reimbursed for their sales. Instead of hiring additional programmers in house, Stuart decided to rely on the skills of the SL community.

From its beginning, VC had only a small in-house staff that programmed the initial ad placement and the sales affiliate systems. Stuart focused on formulating the requirements for the systems and finding talented residents to implement the systems. Stuart understood that residents were eager to program and showcase their skills. For many, programming in SL was a hobby, not a job. Thus, many would work for a comparatively small stipend, accepting less than 600 L$ per hour as an adequate reimbursement (see appendix A for the profits of VirtualCircle).

Organization

By the end of 2008, VC had more than 200 virtual employees. Aside from the three employees in VC's real-world Atlanta office, all other employees were working and communicating through SL. VC was a truly global company with employees on every inhabitable continent on the planet. Most of the employees were object and systems designers who were hired directly in SL. In the majority of the cases, Stuart only knew the name of their avatars, not the true identity of the employed residents. Since Stuart made sure that all of his contactors and employees were paid on time, many of his employees signed up to work on further projects. Managing the different teams also had its drawbacks. Stuart said "*Working with individuals' in-world, it can't be 'work' and it's difficult to impose real world scheduling, and what might be considered business. Managing people in SL, involves ensuring that 'workers' stay in the illusion of doing a hobby rather than actually working. The salaries are comparatively small; however between the social and the monetary value, it is a 'profitable' job.*"

The organization was an early example of an institution that was truly agile. There were no headquarters or large overheads. Employees were hired based on their skills, independent of their identity, background or geographic

location. Employment was project-based and labor became an exchangeable commodity within the organization that could be scaled based on the demands of a given project. Thus, VC was a temporary organization that used the programmer network of SL to quickly adjust its workforce to implement projects.

In a typical recruitment process for designers, Stuart would scout SL for innovative or new designs and would track down the creator. He would offer to rebrand the assets and sell them through VC's stores and sales affiliate program and negotiate a commission. The standard commission was usually between 30 % and 40 %, but varied greatly based on the experience of the resident and the creator's valuation of their own work. VC was also active in commissioning work that might become a new fashion trend or sought after accessory. They would either ask existing partners to design the products or request services via the SL classifieds.

Stuart also tried to leverage the in-world business community to expand the influence of VC. As a founding member of the SL Chamber of Commerce, Stuart knew most of the business owners in SL. He estimated that he personally knew 80% of the roughly 600 account holders that were considered sustainable businesses.[iii] He organized regular chamber meetings, where responses to and recommendations for policy changes by LL were discussed. While there were some successful actions taken (e.g. the protest against CopyBot), such jointly coordinated efforts to change disadvantageous policy decisions by LL were the exception rather than the norm.

Conclusion

The virtual organization and the constant adaptation to the turbulent environment yielded impressive results for VC. In less than three years, Stuart had developed six business lines, five of which were still active and profitable. VC leased out 250 commercial spaces, with a vacancy rate of only 12 %. It had one virtual flagship store and more than 300 vending systems that operated across SL. In addition, there were over 1,000 sales affiliates who sold VC branded products to their peers. VC had become an in-world brand that residents trusted. On an average day, 5,000 residents either bought items or spent money in the gathering spots. Overall, Stuart felt good about VC's accomplishments and was certain that the next business opportunity was just around the corner.

The email reminder jolted Stuart out of his reverie. He gazed at Patailani one last time and then teleported to the virtual office of VC. His daily virtual debriefing with his offshore design team was scheduled in the conference room. Spotting Linyette, the cat-shaped avatar of his assistant, he walked briskly towards her. Taking her aside, he asked her to schedule a meeting of the core strategy team of VC and handed her the draft agenda. It read "*When we started VC, we placed a real life business into SL, and soon realized that real world business constraints do not hold in SL. The natural laws of commerce are non-existent in SL - the laws are repainted frequently and the paint is not even dry and is subject to change! Thus, we dealt away with the constrained real world business model and developed a business model based on constant change. The world is constantly changing around us; in real life the rate of change is slow, in SL the rate of change is accelerated! Let us meet to think about the future of VC, consider options for its sustainability and growth and identify the direction we wish to travel in.*"

Stuart wondered about the suggestions his strategy team would propose. There were various questions for them to consider. Should they rediscover their real life business model and transcend VC into the real-world or should they enter other VWs? What had VC learned from its SL business and what had been the drivers of its success? Was it possible to replicate these drivers in other virtual worlds or in the real world? Ruminating over these questions and his experiences, Stuart flew into the conference room, starting another day of making real money in a virtual world.

Questions

1. Describe the virtual economy of SL! What are the main economic, technology and policy characteristics?

2. Assess VC's business! What are the key success drivers? How have the businesses lines evolved?

3. What are your recommendations for Stuart? How can VirtualCircle expand business in the future?

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[i] Refer to (Bray 2006; Bray and Konsynski 2007) for an overview of the history and limitations of VWs.

[ii] A two minute introductory video to SL is available at www.emory.edu/BUSINESS/VirtualWorldBiz/ .

[iii] Experts considered accounts with Positive Monthly L$ Flow of USD 5,000 or more as true in-world businesses.

Appendix A: Profit and Loss Statement of Virtual Circle

Table 1: Virtual Circle's Profit and Loss Statement ($L '000)												
Year	2006				2007				2008			
Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Land Development	(6,900)	1,800	2,250	1,650	750	9,000[2]	800	540	459	458	500	398
Gathering Spots	0	(960)	150	228	240	276	255	240	225	270	303	318
Commercial Lease Spots	0	(1,680)	(630)	(15)	738	1,617	1,869	1,935	2,157	1,965	2,034	1,896
Stores	0	(2,400)	(1,650)	372	402	330	468	594	606	639	645	657
Vending Program	0	0	0	651	942	1,101	1,203	1,269	1,296	1,197	966	1,095
Sales Affiliates	0	0	0	0	0	(267)	336	1,023	1,770	2,610	3,006	3,600
Quarterly Total	(6,900)	(3,240)	120	2,886	3,072	12,057	4,931	5,601	6,513	7,139	7,454	7,964
Annual Total				(7,134)				25,661				29,070

Appendix B: SL Data[3]

Table 2: In-world Businesses' Revenue - (Accounts with positive monthly L$ flow grouped by Quarter and Income Level in USD)										
Year		< 10 USD	10 - 50 USD	50 - 100 USD	100 - 200 USD	200 - 500 USD	500 – 1K USD	1K– 2K USD	2K – 5K USD	>5K USD
2006	Q3	12,254	6,755	1,845	1,363	1,231	532	318	196	99
2006	Q4	18,563	9,764	2,636	2,055	1,758	780	464	263	136
2007	Q1	33,886	16,831	4,418	3,329	3,006	1,232	775	539	303
2007	Q2	55,399	28,805	7,086	5,238	4,635	2,004	1,180	841	430
2007	Q3	69,636	36,365	8,632	5,814	5,184	2,053	1,254	847	406
2007	Q4	73,059	42,180	9,674	6,818	5,646	2,375	1,389	902	449
2008	Q1	84,529	47,247	10,361	7,030	6,067	2,554	1,439	964	469
2008	Q2	91,337	50,454	10,990	7,301	6,457	2,875	1,608	1,091	526
2008	Q3	97,879	54,170	11,554	7,472	6,867	2,965	1,778	1,246	656
2008	Q4	100,939	51,833	10,714	7,322	6,580	2,921	1,761	1,151	597

Table 3: Average Exchange Rate												
Year	2006				2007				2008			
Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
L$ to 1 USD	278.73	315.20	293.19	272.59	268.87	268.80	268.57	268.44	268.17	267.34	267.00	266.07

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[2] VC sold multiple land developments this quarter leading to exceptionally high profit

[3] All data compiled from SL economics data available at http://secondlife.com/whatis/economy_stats.php
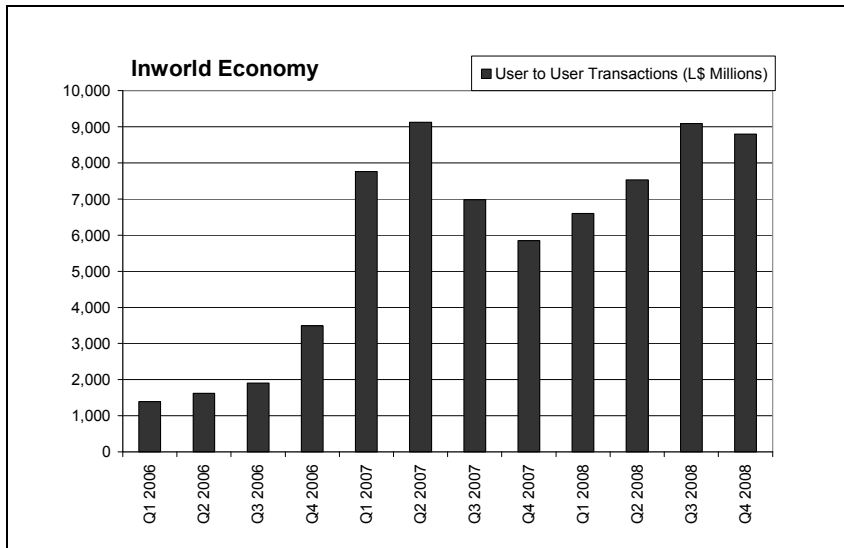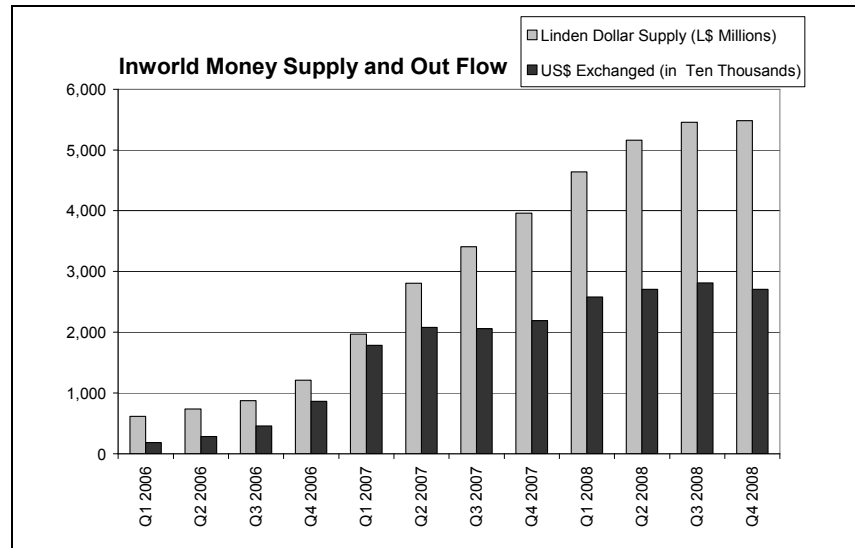
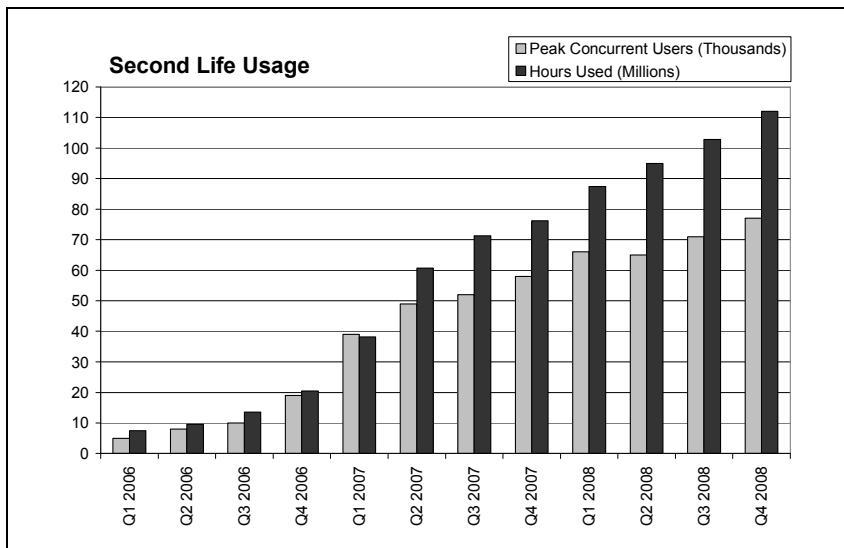**Figure 1: SL Economy**

Figure 2: SL Money Supply and USD exchanged

Figure 3: SL Usage

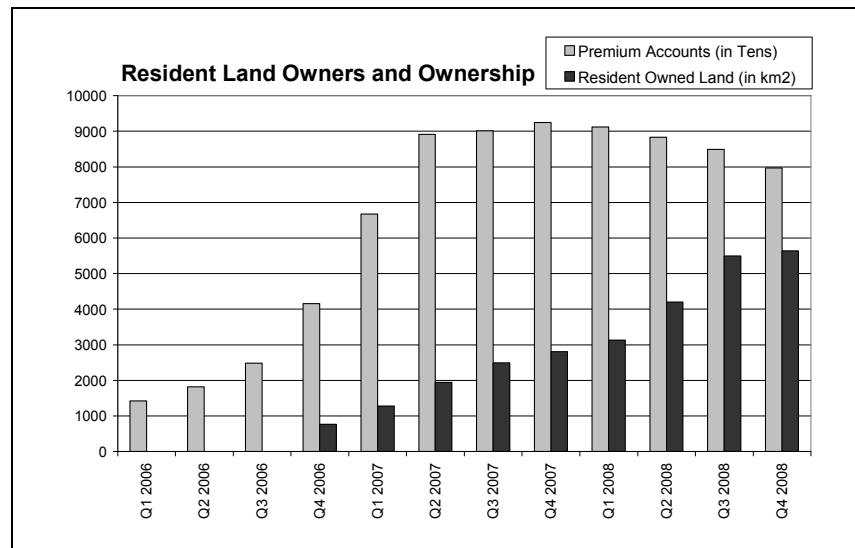**Figure 4: Land Ownership in SL**

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