

1 INTRODUCTION

1.1 Virtual Worlds

A *virtual world* is a computer-based simulated environment intended for its users to inhabit and interact via avatars which are graphical representations of themselves. A computer-simulated virtual world can be related to the real world e.g. it can simulate gravity, topography, locomotion, real-time actions, and communication; however there is no requirement for a virtual world to parallel the real world. Virtual worlds are limited only by the technology and the designer's imagination. *Second Life* is a highly successful Internet-based virtual world where users interact with each other through motional avatars they can socialise, participate in individual and group activities, create and trade items (virtual property) and services from one another. A wide range of businesses are active in Second Life (SL), but few analyses across these business have been conducted. In this paper we examine business activity across a range of areas and firms. In October 2007, the population of the total residents also known as "Running Residents Registrations" in SL reached 10 million (10,213,870) with 91,054 premium residents and a growth rate of almost 10% per month. At the same time the URP (Unique Residents Population) was 6,736,832, compared to only 4, five years ago in March 2002. Although not all residents are online at the same time, the average number of active online customers is 20,000 per day. According to the National Science Foundation a virtual organization is a group of individuals whose members and resources may be dispersed geographically, but who function as a coherent unit through the use of cyber infrastructure. Second Life (SL) is a virtual world that provides support for virtual organisations.

Major industry embraced the SL virtual world in terms of opening businesses; building up offices and creating huge global advertising campaigns. According to the Dutch firm EPN "30% of top 100 Dutch companies have engaged in SL" [EPN.Net]. The only in-world unit-of-trade currency in SL, the *Linden Dollar* achieved significant progress in the past few years. The exchange transactions of Linden dollars are in step with trading in real US dollars with transactions driven by the floating exchange rate. The only way to acquire the Linden Dollars is to buy them from LindenX exchange platform using real currency.

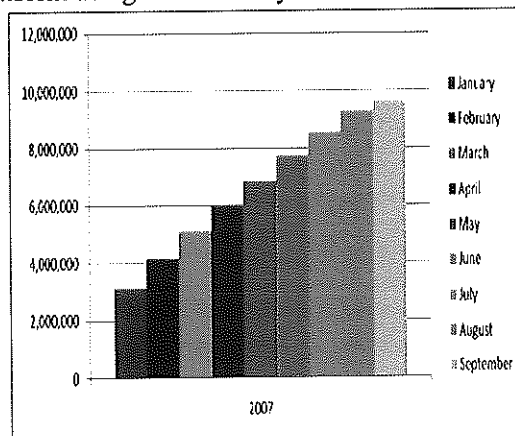


Figure 1: Total Running Residents Trend in 2007

(Source from Linden Lab Official Website <http://secondlife.com> October 2007)

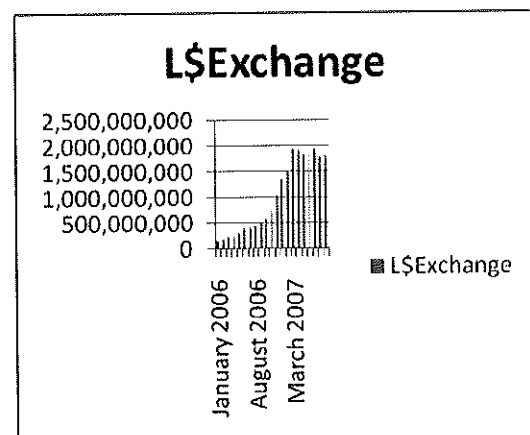


Figure 2: Linden Dollar Exchange Amount

However changes in the currency rate varies only a little and it is fairly stable at around 1:280. In September 2007, the total volume of transactions was 7,555,452 made by 302,054 residents which generated 207,194,057 Linden Dollars (77,529 US dollars at a rate of 1:268.5) for the SL world.

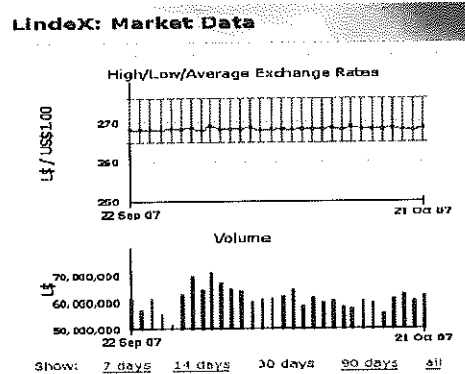


Figure 3: Currency Exchange Rate (Source from Linden Lab Official Website <http://secondlife.com>)

This preliminary high level analysis of SL raises the following important questions such as why large amounts of money have been spent or invested in SL; why have almost 60 Fortune Top 500 firms developed a presence in SL; why has Coca Cola sold millions of cans of virtual drink via vending machines in SL; why do consumers want to pay for a virtual drink. SL is just one of the successful enterprises in the era of Web 2.0; along with other the legendary success stories of explosive growth and overnight success as companies explore opportunities in the new economy and revolutionary technology innovation.

1.2 Our Research Data Collection

Motivated by the questions above we utilized the Global Top 500 companies issued by Forbes on July 23, 2007 as our sample pool of firms. We identified all those participating SL and classified them on the basis of industry; country; business model etc. Some examples are given in Figure 4, below and Appendix A.

Model	Industry	Typical Company
B-B	Bank	Wells Fargo
B-C	IT	IBM
	Hotel	Starwood
	Retail	Coca Cola
	Automobile	Nissan
C-C	Entertainment	Clubs
	Design	Designer
G-C	Politics	Sweden Embassy
Non-Profit	Charity	American Cancer Society
	Education	Harvard Law School

Figure 4: Classification of Businesses in SL

Firstly, we obtained a list of firms from the latest version of Global Top 500 from Forbes (Jun, 2007), and we classified them by country and industry. Second we searched for evidence of those companies activity in SL using the following sources Second Life itself, major media for example, CNN, Cnet, Reuters, BBC, Yahoo, AOL etc, major SL media provided by SL official website, major participator and researcher publications e.g. blogs, websites, other SL project team blogs and websites. We grouped SL active companies using the creation date of their island in SL. Having identified the group of firms active in SL we selected several companies for a closer analysis and conducted case studies of their business strategies.

1.3 Research Methodology

There are two major methodologies in scientific research: qualitative research methodologies and quantitative research methodologies. "Qualitative research involves an in-depth understanding of human behavior and the reasons that govern human behavior" whereas "quantitative research is the systematic scientific investigation of properties and phenomena and their relationships" (Creswell, 1998; 2003). The difference between them is that quantitative methods deal with measurable quantities; qualitative methodologies, on the other hand, focus on the reason behind the observed

behaviors which is typically difficult to determine. In this paper we use a hybrid approach based on numerical analysis and causal analysis methods that explore business issues and the impact of SL as well as the business strategies.

2 SECOND LIFE BACKGROUND ANALYSIS

“There are as many opportunities for innovation and profit in Second Life as in the Real World. Open a nightclub, sell jewelry, become a land speculator; the choice is yours to make. Thousands of residents are making part or all of their real life income from their Second Life Businesses” (Linden Lab). Different from the traditional e-business, SL businesses have a higher degree of visualization which all the participators have to collaborate and interact simultaneously instead of just “click” or “select”. The unlimited market has eventually attracted large corporations’ attention. Evidence from major media like CNN, Reuters indicate that global top 500 companies have played an important role in the acceleration of SL economy growth. From the data we collected, until Oct 2007, 60 of the Top 500 companies have engaged in SL, compared with only 24 in 2006. (See Appendix 1). The growth of SL dwelling Top 500 companies nearly tripled from 22 in 2006.

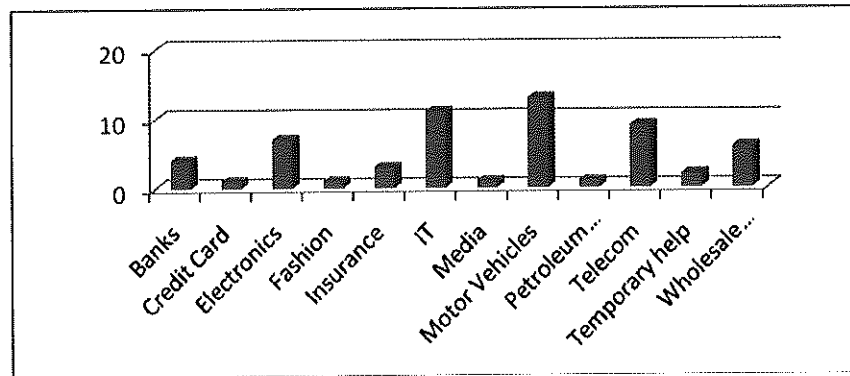


Figure 5: Distribution of Top 500 companies owning land in SL as at October 2007

Figure 5 shows that the many companies active on SL come from the ICT industry. The reason is quite obvious, SL derives from ICT technology, and therefore those companies were best placed to be early adopters. It is easier for those companies to establish their new brand marketing in terms of testing new technology and establishing new services. It turns out that motor manufacture occupies the largest proportion of Top 500 companies on SL. The reason is based on the special characteristics for automobile industry, especially the demand for high quality design and modeling. SL addresses many of their needs in terms of collecting rich feedback for conceptual design; free trials for new products; capturing ideas for modifying existing models. Business strategies can be used to accelerate the product cycle and hold virtual exhibitions which significantly reduce costs and support a cost saving strategy. Interestingly, from the data we collected, the USA is dominant in SL, followed by Japan and Germany, but according to “Google Trends” the search for “Second Life” gained more attention within the EU as a whole, than the US where it was not even in the top 10 list between 1994-2007.

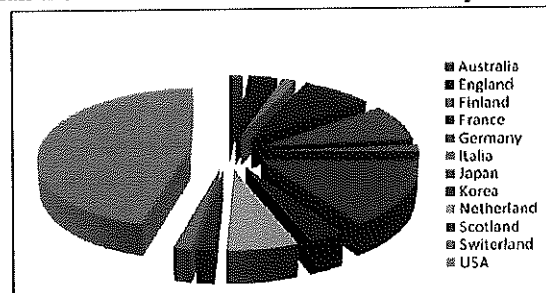


Figure 6: Countries distribution for Top 500 in SL October 2007

According to a Reuter 2007 report “Europeans make up the largest block of Second Life residents with more than 54 percent of active users in January ahead of North America’s 34.5 percent” (Reuters, 2007). Active residents by country at end of February 2007: US 31.19%, France 12.73%, Germany 10.46%, UK 8.09%, Spain 3.88%, Brazil 3.77%, Canada 3.30%, Belgium 2.63% and Italy 1.93%. According to the SL website “Second Page”, more than 80% of the business companies are from EU within the 600 firm records in the database. English, the world’s most prevalent language no longer dominant in SL; people from English speaking counties comprise only a small percentage of the population.

2.1 Economic Elements in Second Life

SL is a virtual society, not just a game, which has its own monetary system and currency. The issuance of currency levels is carefully controlled by Linden Labs, the owner of the SL. There are two main channels for issuing. The first is the regular membership fee payable by “Premium” account consumers. The other is the payments made by all members. Once the payments are made, the corresponding amount of “Linden Dollars” is made available to the buyers account. The exchange amount is limited, and the resident monthly limits range from US\$5,000 per month for Business Owners to Enterprise Owners US\$30,000. Therefore, even the interest rate in the market is high, which may cause the fluctuation of exchange rate in real life; the rate in SL is relatively stable due to the central control and the ability to directly intervene on the currency market by Linden lab. Since the virtual market is stable, the investments in SL remain low risk.

Currency activity: is regulated. Figure 7 shows the number of accounts with positive cash flow in SL is on the rise on a monthly base. People are gradually accepting the idea of virtual business and the SL business models. In teh early 90s there was a similar resistance to online business and ecommerce; however, SL completely provides some extraordinary opportunities. For example, the SL millionaire Anshe Chung achieved her remarkable business empire with only \$9.95 for a SL premium account initially. Her SL in-world assets value exceeds several million real US dollars and she accumulated her fortune within 3 years.

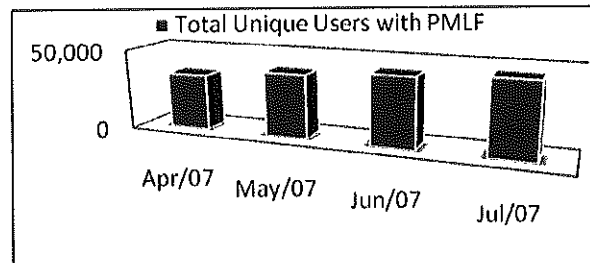


Figure 7: Positive Monthly Linden Dollar Flow (Source: Linden Lab)

Population: is the most powerful evidence for success. After an explosive rise between 2005 and 2006, the population trend in SL has flatted out somewhat but is still experiencing an upward trend. The majority Linden Lab’s income emanates from the registered “Premium” members. Figure 8 illustrates the net growth of the premium accounts and the total premium accounts. It demonstrates that up until March 2007 total premium accounts were growing. However, the reason for the signifiacnt drop around November 2006 is that Linden lab suspended and deleted a huge number of unwanted accounts as it sought to more control of v-world activities.

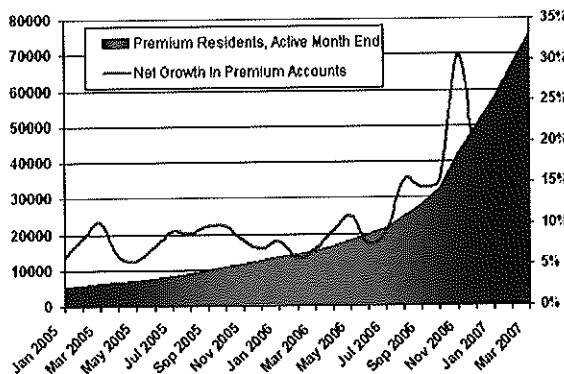


Figure 8: Total & Net Premium Account in SL (Source: Linden Lab)

Virtual Land: is the supreme “hot” resource in SL. It provides the necessary infrastructure for people to communicate; socialize; collaborate; participate. Therefore, real estate and object development are the major business activities in SL. Acquiring land in SL is actually renting hard disk space on the Linden servers which stores the specifications for the 3D visualisations. According to SL when residents buy a whole island, they get dedicated usage of an entire Intel or AMD based server, with pricing based on the processor, memory, and storage of that server. Therefore, each island represents a single physical space on the server. Processor rental ranges from USD\$5 – 295 per month from 512 – 65, 536 m². Private islands of 65,536 m² can be bought outright for \$1675 US dollars. In SL property is only limited by disk space and therefore it is essentially unlimited, and land value depends on the qualitative development aspects such as buildings. A widely accepted strategy involves acquiring deserted land, building value and then renting or selling it at higher price. All property on SL is man made and the key challenge is determining the value to pursue and how.

3 BUSINESS CASE ANALYSIS

With more and more organizations and institutions embracing virtual worlds like SL; there is a need to understand why people and business engage. In order to identify the factors, we separated the sample companies from the Fortune Top 500 into 4 groups based on their e-business models. For example, organizations utilizing SL can be classified in the following categories: Collaboration (IBM), Research & Concept Testing (Nissan), Simulation & Prototyping (Starwood), Events, Brand Promotion (Coca Cola, Mazda, Nissan), Philanthropy & Fundraising, Political Organization (Sweden Embassy), Education & Training (Harvard Law School), and Communication.

3D online virtual societies such as SL, are comparatively new, all business activities are essentially closed with the virtual world. The substantial growth and rapid evolution in the 3D technology changes the rules and the way of conducting business inside the world. The complexion of the industry profile within SL changes everyday, with the continual entry of new competitors. Therefore business strategy development is becoming more and more important as virtual worlds become increasingly complex and increasingly competitive.

3.1 IBM

Founded in 1911, IBM has become one of the most powerful IT service providers and system integration corporations over the past century. Longevity in the market requires strong leadership and a commitment to sustained innovation. IBM is highly ranked in 42nd position in the Fortune Top 500 companies, it embraced SL back in 2006, and is currently considered to be the most successful firms active on SL. The initial strategy IBM adopted was to use a SL island as a place for staff meetings and communication camps. However, after their initial success and learning opportunity, they commenced several revenue raising opportunities. The functions of IBM land can be classified as “diversified” as they engage in different types of activities simultaneously e.g. E-conference; virtual laboratory; virtual application testing base etc.

So far IBM has spent millions of US dollars in SL and owns 37 islands. Since 2004, more than 3000 thousand IBM staff have registered an avatar in the virtual world. They communicate online; discuss technique issues face to face; establish brainstorming sessions for particular projects; hold video conferences; new graduates can learn the culture of IBM across the world without stepping outside the office through SL; staff can even use SL during office time. Colin Parris, from Digital Convergence IBM Research stated that “One of the core values of IBM is to trust people, emphasize responsibility”.

Some advantages of SL adoption for IBM include:

- **Resource management:** Meetings and online collaboration reduce costs for travel, staff time, and communication and create more opportunities for sharing expertise globally.
- **Technology management:** SL provides a platform that can be use to develop and test aspects of new system applications or even SOA, and middle ware can be tested or simulated with lower

cost. Customers are able to watch the business solutions and simulations online, e.g. IBM launched the "Lotosphere Complex" SL project in January 2007. Avatars are able to discuss requirement issues based on rich experiences with researchers and developers online; provides high degree of perception, interaction and feedback. IBM has also demonstrated its commitment to cultural heritage, e.g. the Forbidden City in Beijing, China using their new 3D modeling technology. Also, IBM broadcast Tennis Tournaments including several grand slams like Wimbledon and the Australian Open using their tracking technologies.

- **Business opportunity creation:** The alignment with Sears & Circuit City and new modelling technology provides consumers' personalised design. Meanwhile, new potential models can be created by consumers and value for potential consumers identified.
- **Corporation culture enhancement:** Experiences in SL can help to reduce the time for new employees to understand and accept the enterprise culture; enhance the collaboration and knowledge exchange within each as well as different branches all over the world. SL helps to break barriers within the management hierarchy. SL is used as a leadership development tool; employees are able to develop and gain leadership experience in SL and implemented those newly acquired skills back into the real world. This is similar to game play; tell people what to do, how to do it, where to go.
- **Competitive Advantage:** Cost leadership in consulting and advisory fee competitiveness. SL provides IBM a platform upon which, experts from different branches can collaborate freely without boundary; commands from headquarters can be delivered more lively and enjoyable because richer experiential communication is possible in SL. Yet, people may consider video conferencing as an option in terms of effectiveness and cost saving, but if there is an option of a much more flexible and effective way of getting engaged, rather than holding still in front of the camera or keeping adjusting quality of the communication due to the relatively low bandwidth, which will you prefer? Furthermore, both methods utilize the same Internet infrastructure, which means same stability; same scalability but one introduces a fresh element into the work which brings more efficient productivity and engagement. At this stage, beyond all doubt, IBM performs better than its adversaries.
- **Differentiation:** By integrating the data with the service, just like they did in the early days of e-business, IBM offers an immersive experience to the customers. "We're combining the 3-D virtual experience, our 2-D Web site and real IBM people to conduct business. That's what makes this unique" Maggie Blayney, IBM's director of Global Web Strategy said to searchcrm.com. It is a new way for clients and IBM staff to meet, work together, and do business. Instead of regular meeting overseas; long term negotiation; extremely long term product life cycle, IBM can provide efficient and enjoyable way of producing product. Customers who know or never heard of IBM products both corporation and individual are able to have the chances equally to see products' 3D demo; explore the backend technology as well as be greeted by IBM officers. Through this, client group will be more focused and the service provided to them will be much better than those rivals.
- **Business Strategy:** Benchmark & Prototype via cost saving; Enhancement of customer relationships via experience providing; stimulate employee productivity and creation via global collaboration; Explore new opportunities via business alignment

3.2 Coca-Cola

As one of the largest manufacturers, distributors and marketers of nonalcoholic beverage concentrates and syrups in the world, Coca-Cola offers nearly 400 brands in over 200 countries or territories. Coca-Cola embraced SL in 2006. In SL on the coke land, youth are free to record or remix their music in the "Coke Studio" and get decibel scores. Coca-Cola hosted a premiere for their Cannes Silver Lion-winning advertisement "Happiness Factory" in Second Life that featured limos, a red carpet, and an appearance by the pop singer Avril Lavigne. They were able to extend the life of their campaign, get high-profile media, and present the advertisement to a global audience."

“Second Life is first and foremost a social community. As a result, companies have found success in building community acceptance and participation by devising unique approaches such as hosting events or offering in-world experiences or products to generate the interest of Second Life Residents.” (Linden Lab)

The advantages for adopting SL by Coca Cola include:

- **Brand Promotion:** “The coke’s market gap, if include brand, worth 120 billions; whereas without brand, just 50 billion” (Kurfiss, 2007). Therefore, the brand for coke is not just an identity; it indicates the degree of customers’ trust and how well Coca-Cola satisfies the customers’ expectations. In SL, Coca-Cola developed a new way of building up their public images - a Design Contest. As a result Coca-Cola was able to obtain a large amount of excellent designs from residents as well as their suggestion to the proposed design by Coca-Cola.
- **New market:** By authorizing land owners to setup vending machines in SL, Coca-Cola established a marketing campaign in this new battle field. “It’s a brilliant move for Coke, actually. Not only is the company getting the benefit of such broad social advertising, but they are also contracting out future marketing efforts to the very people they are trying to reach. What better way to give people what they want than to let them actually design the product.” (Lewis, 2007).
- **Competitive advantage:** By infusing their “Enjoyable Fun & Refreshment” spirit into the market campaign, the beverage giant has successfully attracted the public attention more than its competitors. According to the report from “Social Media Marketing” profession Scott Monty, although the Pepsi launched a campaign the same month after Coca’s contest which features advertising on bus shelters with blue tooth technology that enables a music download, most of the residents felt the Pepsi land was hard to relate to and not much fun. The differentiation of “experience” offering led to the success of the marketing campaign in the virtual competition.
- **Business Strategy:** Establishing new markets via virtual retail; brand promotion via innovative visual model designing; enhancing customer relationship via experience providing; propagandizing culture via immersion.

3.3 Nissan

Nissan competes in completely different markets to IBM and Coca-Cola; it is one of the top motor vehicle manufactures in the world. In SL people/avatars can “teleport” and “fly” and do not require vehicles to move from place to place, hence is no need for avatars to buy cars. However, Nissan has had significant success using SL to promote their cars in real life and to gain valuable ideas and feedback which they can use in the design of future models.

The advantages Nissan has been successful in realising its adoption of SL include:

- **Cost saving:** By offering free trial cars in SL, Nissan is able to collect feedback from residents and therefore improve their design in reality. This assists accelerate and enrich the product life cycle as well as the product quality and eventually, saves cost.
- **Brand Promotion:** A socialization environment like SL has millions of residents from around the globe and this can bring potential customers from all over the world. Nissan has already held several driving campaigns just like online car games as well as the car exhibition in SL. Hundreds of subscribers tried the free cars and left comments on the website and blogs. This is an innovative way of allowing people from all over the world to experience Nissan and to build brand value.
- **Business Strategy:** Mining potential customer needs via virtual modeling; enhancing customer relationship via experience providing; propagandizing culture via immersion.

4 CHALLENGES FOR VIRTUAL WORLDS

SL provides a computationally intensive simulation which provides a signifiacnt computing challenge on the server side but also on the client/customer side. Overall performance of the SL experience depends on computing power at Linden Labs and on the computing resourses available to the client.

For example, Linden labs recommends at least a 1.5GHz processor and a non-standard Nvidia graphics card. However, most systems that clients possess fall short of these recommendations and therefore the SL experience suffers since a degraded service is obtained. If a consumer desires the full experience he must upgrade his computing resources. Furthermore, operating in SL requires certain conceptual and practical skills, e.g. without certain skills, such as proficient manipulation of the movement of avatar; customize of the configuration to fit your own system; you can barely survive in-world, therefore the demographics of SL citizens is dominated by the under 44's.

4.1 Impact for Linden Lab

Although the core infrastructure for the virtual world has more than 10,000 processors according to Linden Lab official site, the stability of the system, security of the customers' data are increasingly becoming obstacles to future development of SL. "On September 8, 2006, Linden Lab released a news bulletin that revealed their SL database had been compromised and customer information, including encrypted passwords and users' real names, had likely been accessed. However it was later revealed that the hacker had in fact been focused on trying to cheat the in-world money system and their access to personal information was believed incidental" (Linden Labs).

4.2 Social Implications

Like in real life, SL participants can form sexual relationships and have "cybersex" in the "mature" community in SL. The Main Grid regions are rated either "PG" or "Mature" Some media attention has been given to sexually related activity involving avatars with a child-like appearance, "Although residents on Second Life's Main Grid must be 18 years or older, for the most part making the issue one of role-playing between consenting adults. In spite of this, certain countries are introducing laws giving computer-generated pornographic images of apparent children the same status as child pornography, on the grounds that society should permit no indulgence of pedophile desires." "As of May 2007, two such countries, Germany and Belgium, have launched a police investigation into Age of Consent-related offences in Second Life (including both trading of non-virtual photography and involuntary virtual sexual activity with childlike avatars by means of virtual identity theft)" (projectopenletter.com)

Until July 25, 2007, gambling was allowed in both the PG and Mature regions. Gambling was most commonly conducted using scripted gambling machines created by residents. There was no central authority verifying the workings of these gambling machines, therefore it was entirely possible for these machines to "cheat", never allowing a player to win, or to include "back doors", allowing the programmer of the machine to be certain to "win" from the host. Virtual worlds like SL offer significant scope for cybercrime and breaches of privacy.

4.3 Summary

Our research revealed some of the reasons people engage in SL:

Socialization: SL is a social interaction space. Avatars inside the world can make a visual reference and express themselves. Research from Stanford pointed out that people tend to treat their avatars the same way as if they are in the real social life. Avatars try to maintain the same amount of eye contact as people do in the "first" life. This means, avatars are used as an extension of human beings rather than an element manipulated by residents.

Creation: Different from other virtual world, SL gives all intellectual property rights to all residents. They can create, copy, maintain, sell or exchange freely. With the implementation of LSL and other third party modeling tools, residents in SL can create as much and complicated assets as they want.

As a result it becomes possible for virtual business to be created with the following benefits and advantages:

Ownership of the content: Ownership of the content created by a resident ensures that they can “monetize the content just like in the real world. This creates a vibrant economy where goods can be bought, sold, exchanged in the virtual market.” (Linden Lab). One can create a world, the way one wants to: Purchase and develop a "Virtual Land Estate," and become the master of your own virtual world. There are lots of powerful estate management tools which can monitor and help to control all the resources they have and allow institutions to interact with the virtual world or retain any amount of privacy or security that needed.

Collaborate in an immersive environment: Internet communication today can be a confusing stream of email, webmail, instant messaging, chat, and voice-over-IP. The Second Life Grid gives every user a comprehensive digital presence that offers a unique environment for online collaboration.

Optimize business for virtual commerce: The Second Life simultaneously forms a content-creation, distribution, experience, and monetization platform. Virtual items can be linked to the physical goods and services through standard web protocols, so that business can be enhanced with commerce in virtual world goods and services. Just as the World Wide Web opened up new avenues of marketing and monetization for every business, the Second Life adds another dimension of online experience that can enhance the business.

Develop a cost-effective virtual experience: Everyone can build own virtual world, however, if you don't mind to takes a few years, a few dozen world-class engineers, and tens of millions of dollars. The Second Life “offers a fully configurable virtual world experience, interconnected with innumerable other experiences, that can go from zero to live production launch in a few weeks and a few thousand dollars. There is no cheaper, better, and faster way to build a flexible 3D interactive experience.” (Linden Lab)

Discover innovative ways to teach, learn, and collaborate: Discover innovative ways to teach soft skills, including training, and collaborative team building exercises. Distance learning over the internet has rarely been anything more than disconnected people passively viewing slides and videos. In SL, “learning is a hands-on experience that simulates the feel of a classroom, or better yet, field work without the cost and challenges of venturing into the field.” (Linden Lab)

Reach a global audience: Millions of users from over 200 different countries have registered to use the SL. Unlike the World Wide Web, where text-based media usually confines users to websites of their own language, the 3-D environment of the SL communicates digital culture in a manner that encourages cross-cultural tourism and collaboration (Linden Lab).

5 CONCLUSION

“A virtual company may appear amorphous and in perpetual flux, but it is permanently nestled within a tight, albeit, global network of diverse relationships. The key for a virtual company is no longer the ownership of the processes, but the control of results. A common future and mutual support will be the hallmarks of relationships between stakeholders, who will increasingly share the same fate, all closely linked as to create a shared destiny” (Porter, 2005). Good products no longer sustain the company's long term competitive advantage in the v-business era.

Innovative, global, sustainable are three characteristics in the v-business strategy (Scout.com). The v-business involves creation, innovation as well as imagination, without which, virtual world will be unattractive. Global collaboration and experience immersion will ensure the high levels of innovation and productivity. The following business strategies that tends to be successful in SL: brand promotion plan; experience focus; collaborate with the customers to create unique experiences; create new, innovative product.

The technology innovation adoption and impact curve shows that in reality, it takes a period of time for the new technology to be accepted by early adopters and then if it meets the expectations of users and is successful then explosively growth occurs. In terms of maturity SL has commenced the rapid growth phase. The developments and trends around virtual world are similar to the early web. Many business active in SL do not have a strategy much like many businesses in the early 90s where e-

business combined the latest technologies. Similarly, v-business, such as SL, converges technologies like stream media; 3D rendering; VoIP; grid computing together and fully implemented into virtual environment construction. Therefore the development of v-business is paralleling ebusiness development and this relationship can help business develop more effective business strategies for virtual worlds.

According to a recent Gartner study "By the end of 2011, 80% of active Internet users and Fortune 500 enterprises will have use virtual 3-D worlds" (Gartner). There are thousands of virtual companies in SL and they are the major force of the virtual economy. The business varies from fashion design to restaurant, from night club to magazine. They have common features: ownership of logo; goods, services or experience selling for virtual currency; collaborate with the customer and moreover, provide a space for interaction between customers. Providing different and unique services is the main strategy for the in-world firms, therefore imagination, creativity and innovation becomes even more important than in real world business.

References

- Creswell, J. 1998. *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, California: Sage Publications.
- Creswell, J. 2003. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Thousand Oaks, California: Sage Publications.
- Forbes http://money.cnn.com/magazines/fortune/global500/2007/full_list/
- Reuters, 2007, *Europe takes lead in Second Life users* Available at <http://secondlife.reuters.com/stories/2007/02/09/europe-takes-lead-in-second-life-users/> [viewed at Feb 9, 2007]
- Mitch Wagner, 2007, *Inside Second Life's Data Centers*, Available at <http://www.informationweek.com/news/showArticle.jhtml?articleID=197800179>
- Linden Lab Available <http://secondlife.com>
- William Porter Jr. 2005 *Biopharma's Virtual Business Model* Available: <http://www.dddmag.com/biopharmas-virtual-business-model.aspx>
- Peter Valdes-Dapena 2006 *Real cars drive into Second Life* Available at: http://edition.cnn.com/2006/AUTOS/11/17/2nd_life_cars/index.html
- The electric sheep company Available at: <http://blogs.electricsheepcompany.com>
- Future Lab Available at: <http://blog.futurelab.net>
- KZER Available at: <http://www.kzero.co.uk>
- Gartner Available at: <http://www.gartner.com/>
- Deborah Kurfiss *Guide to Doing Business in Second Life* <http://www.work.com/doing-business-in-second-life-1285>
- Marty Neumeier *The brand gap How to bridge the distance between business strategy and design* Available at: <http://www.slideshare.net/coolstuff/the-brand-gap>
- M. Rogers. *Diffusion of innovations* / Everett New York: Free Press, 2003.
- Elliot, Steve 2002 *Electronic commerce: B2C strategies and models* Wiley
- Timmers Paul, (1999) *Electronic commerce: strategies and models for business-to-business trading*
- Joe Lewis 04/17/2007 <http://www.webpronews.com/topnews/2007/04/17/coke-expands-viral-marketing-efforts-online>
- Scott Monty *The Pepsi Challenge* Available: <http://scottmonty.com/2007/05/pepsi-challenge.html>
- Peter Valdes-Dapena *Real cars drive into Second Life* CNNMoney.com
- BBC news Available at: <http://news.bbc.co.uk/2/hi/europe/6310915.stm>
- Local Sweden News *Sweden to set up embassy in Second Life* <http://www.thelocal.se/6219/20070126/>
- Second Life Insider *Harvard Law in SL* Available at: <http://www.secondlifeinsider.com/2006/09/12/harvard-law-in-sl/>
- Linden, Robin (October 9, 2006) *Security and Second Life*. Retrieved on 2006-11-18.
- Linden, Robin (September 8, 2006) *Urgent Security Announcement*. Retrieved on 2006-11-18.

2008001803
TOC, Preface, Correct Author
Entry

12th Pacific Asia Conference on Information Systems (PACIS 2008)

3 to 7 July 2008
Suzhou, China

Editors:

Huang, Wayne
Teo, Hock Hai

Ohio University, USA
National University of Singapore, Singapore

Host University:



香港城市大學
City University
of Hong Kong

Department of Information Systems
City University of Hong Kong
83 Tat Chee Avenue
Kowloon Tong
Hong Kong

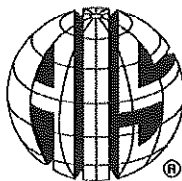
Co-organizers:



University of Science and Technology of China



Fudan University



Association for Information Systems