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Design Principles for Doing Business on Second Life: *an immersive ethnographic study*

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Abstract

This paper addresses the question of designing a virtual world business. A popular and economically thriving virtual world - namely Second Life 1 - was selected for the research investigation. From an extensive literature review, a conceptual framework was developed in order to model the four most thriving industries on Second Life: (1) Real Estate, (2) Building, (3) Fashion, and (4) Entertainment. A six-month immersive ethnographic study was conducted using two primary research techniques of participant observations and in-depth interviews. For each industry, the results are summarized according to the business areas that were deemed critical. The final section presents a synthesis of the integrated context to gain further insights on the industrial dependency among the four industries. The PARTS framework of Brandenburger and Nalebuff (1995) was used to synthesize design rules for the business owner operating in a virtual economy. The paper concludes by linking the act of fantasy fulfillment with the demand for virtual goods and services.

Keywords: digital economy; business models; value analysis; virtual goods.

Design Principles for Doing Business on Second Life: *an immersive ethnographic study*

Introduction to Virtual Worlds

In the study of the Interactive Digital Media (IDM) Marketplace, the economic activities that happen within Virtual Worlds have received little attention in the current literature with Castronova (2002), Freedman (2008), Terdiman (2008), and Arts (2009) being some notable exceptions. Virtual World membership is growing rapidly – up 39% in the second quarter of 2009 to around 579 million members, with most of the growth occurring in the children's market segment (Keegan, 2009). Arts (2009), in his paper *The Current State and Future Potential of Virtual Worlds*, provides a comprehensive definition of a Virtual World. It is a simulated environment implemented by a computer or network of computers where some (if not all) the entities in the environment act under the direct control of individual users. Therefore the potential exists for the creation of a significant amount of user-generated content provided that the developer's attitudes and policies support this.

Arts also defines three types of virtual worlds namely (1) Game World, (2) Socializing World, and (3) Platform World. Game World refers to a virtual world in which the players have goals and rewards defined by the developers, such as in the case of the currently popular World of Warcraft (www.worldofwarcraft.com). The Socializing World refers to those worlds that enable players to develop their own social groups and dynamics which can range from simple text-based chat rooms to strong visualisation, such as in IMVU (www.imvu.com). Finally the Platform World refers to a virtual world that does not have a pre-defined function and can be used for various purposes. Second Life (SL) is such a world; players or residents can engage in activities beyond gaming and socializing. In Platform Worlds it is possible for entertainment and virtual commerce to thrive (Osborne and Schiller, 2009).

The Platform World, Second Life in particular, is perhaps the most significant Virtual World to study for commercial use due to its user-generated environment. A recent report by Chin (2010) in Singapore's *Straits Times* stated that Second Life is an economy with L\$6.95 billion (USD \$26.5 million) virtual currency in circulation with 21 million users and 80% of its revenue coming from virtual land sales to companies. Linden Lab's monthly survey has recorded an average of 216 businesses owned by ordinary residents (presumably non-corporate) with profits equal to or greater than USD \$5,000 from January to April 2009 (Linden Research, Inc., 2009). Although perhaps only a small number from its 21 million

population are currently active, it is attempting to grow larger with the Open Simulator project that enables users to create their own virtual worlds (Keegan, 2009; Arts, 2009; Chin, 2010). In this type of virtual world, generation of content by the user is seen as a way to reduce development costs by the game company (Pearce, 2006). Extensive user-generated content also leads to unanticipated challenges including a loss of some control of future directions (Tschang and Comas, 2010). Chin, for example, announced the closure of Linden Labs' RandD facility in Singapore and a 30% cut in its worldwide staff of 300 – suggesting that Second Life's virtual world platform may well be passé. Nevertheless, Terdiman (2008) suggests that some business sectors in Second Life are worth studying to understand the art of making real money in virtual worlds.

Real Estate. This sector is best exemplified by the success of a former Chinese school teacher Ailin Graef known as the avatar Anshe Chung (Terdiman, 2008). Anshe was the first land baron in SL who owned 550 SIMs (Simulators) and stakes in other SL businesses with an aggregate value of more than USD \$1 million. Her main business was focused on buying and developing custom estates, and renting them to the residents. Anshe's business is now incorporated in China under the name Anshe Chung Studios (www.anchsechung.com) in Wuhan with more than 30 full-time employees and an additional 20 to be added.

Building. Judging from the number of buildings listed for sale in XstreetSL, the Building sector appears to be very competitive. On the 16th of May 2009 there were 216,596 items listed in the combined building components, home and garden category, with the price range of L\$0-L\$83,999 (approximately USD\$300) (Linden Research, Inc., 2009). It must be noted that XstreetSL does not represent all Second Life economic activity for a particular sector nor is it static as there are shops located within Second Life and new goods inserted into and taken out from XstreetSL from time to time. One of the possible explanations for its competitiveness may be attributed to the continuous simplicity, user-friendliness, and improvement in the default building tools.

Fashion. This is not only the biggest business sector but also the most competitive (Terdiman, 2008). Using the XstreetSL categories, the industry can be broken down into: pets, animations, apparels, avatar accessories, avatar appearances, and weapons (Linden Research, Inc., 2009). As this sector is highly related to avatar customization, it serves to create the social identity and adaptability of Second Life residents at individual, group, and

organizational levels (Schnook and Sullivan, 2007). It can be further inferred that just like in the real world, designers need to skilfully select market segments, be sensitive to customer preferences, and pay attention to detail.

Entertainment. This sector represents approximately 30% of the economic activity in Second Life, and the content is segregated by age just as in real life (Terdiman, 2008). Historically the entertainment sector has been restricted to SIMs for “Mature” audiences, but with the introduction of new rating categories this may change.

With the above snapshot of virtual worlds in general and Second Life in particular, this article seeks to determine whether there are sound principles for doing business on Second Life. More specifically, what are the design rules for establishing profitable and sustainable economic activity within a virtual world where money may be virtual but time is not. To the best of our knowledge, such research has not been reported in the literature, and it is likely that experiences on Second Life would apply to other platform worlds. However, our research is limited by scope. Unless perceived and judged as relevant to the research question and objectives, any discussion and analysis regarding the following was regarded as beyond the scope of the investigation:

- i. The illegitimate ways of making money in the virtual world such as online gambling.
- ii. The establishment or discovery of best practice for the operation of specific processes within a particular economic sphere. For example, which marketing method is most effective for a particular product?
- iii. The possible linkage between the Virtual World and the Real World beyond the economic activity in the Virtual World. For example, how organizations link their organizational processes such as sharing, internal training, and collaboration to the virtual world?
- iv. The rules, norms, regulations, cultures, behaviour, and practices of any particular community (e.g. political, religious, lifestyle) encountered during the investigation.

The remainder of the paper is organized as follows. The next section describes the research method used to investigate the research question. Section three summarizes our findings in each business sector. And section four gives our analysis across all sectors using the concept of avatar-added value to denote a generic relationship between a player (avatar), its role

(business activity), and value (linden dollars). On the basis of such an analysis, we derive some design rules for sustainable economic activity in section five and then conclude in section six.

Research Design and Method

According to Berg (1998), ethnography is suitable for conducting field studies in a supposedly elite setting where the group is not easily accessible. This research technique allows the researcher to be immersed in the everyday activities and has a high potential for revealing insights (Leedy and Ormrod, 2005). In our field work, an *immersive ethnographic study* was used in the manner appropriate for the collection of experiences, encounters, and insights on virtual world economies. The research team created a male and female avatar to observe, participate, and gain first-hand and intimate knowledge on the working mechanics in the main SL sectors of Real Estate, Building, Fashion, and Entertainment.



Figure 1 – One of the many appearances on the two avatars used.

The two avatars, shown above, were used for participant observation (getting hands on experience and reflections) and in-depth interviews (with a more experienced avatar). The two research techniques were seen as complementary to each other. The research team engaged in the following five activities critical to the success of data collection and its validity and reliability:

- i. Transactions of relevant goods and services in order to experience them.
- ii. Covert conversations (outside formal interviews) with more experienced avatars in the various relevant roles in order to increase factual depth, more advanced knowledge, and to establish validity. Reliability was ascertained by repeating similar transactions and conversation using alternate avatars and members of the research team.

- iii. The use of the Second Life Knowledgebase to solve technical problems relevant to the conduct of the research and to check validity and reliability of the statements made by avatars.
- iv. Use of advanced features provided by the default Second Life client software (Version 1.22 and 1.23) for navigation, and study of mechanism and trend.
- v. Use of external software such as Adobe Photoshop to directly understand the use of textures in various sectors and non-official websites to determine the location of relevant objects and places in Second Life.

Based on the reviewed literature and practical experience, the conceptual framework was formed. The framework and its implementation in the field study will be described below.

Real Estate. The Real Estate industry may be conceptualized as shown in Figure 2. The boxes represent entity/actor, diamonds represent action/decisions, and dotted arrows represent possible secondary options. Blue Boxes on the lower part of the diagram represent the infrastructure provided by the Second Life Client to support the business system. The process begins with Linden Lab releasing land (by adding more servers) and with residents purchasing properties of various sizes and configurations. The land residents own can be lived on, leased out, rented, or resold. These four particular activities are important because they create the demand that makes the real estate sector thrive. It is important to note that it is possible to do these activities concurrently. The land could also be sold after conducting one or more of the three activities. Finally if a player decides to abandon it, Linden Lab will reclaim the land and put it for sale again. The role of the Search Engine here is mainly for advertising and finding plots of land for sale. The Knowledge Base provides necessary guidance for setting up and configuring the required land systems. Meanwhile communications functionality allows residents to bargain and negotiate the prices of land, and to conduct other necessary relevant social interactions. Lastly XstreetSL allows the private owners and buyers to meet when a land plot is advertised in XstreetSL.

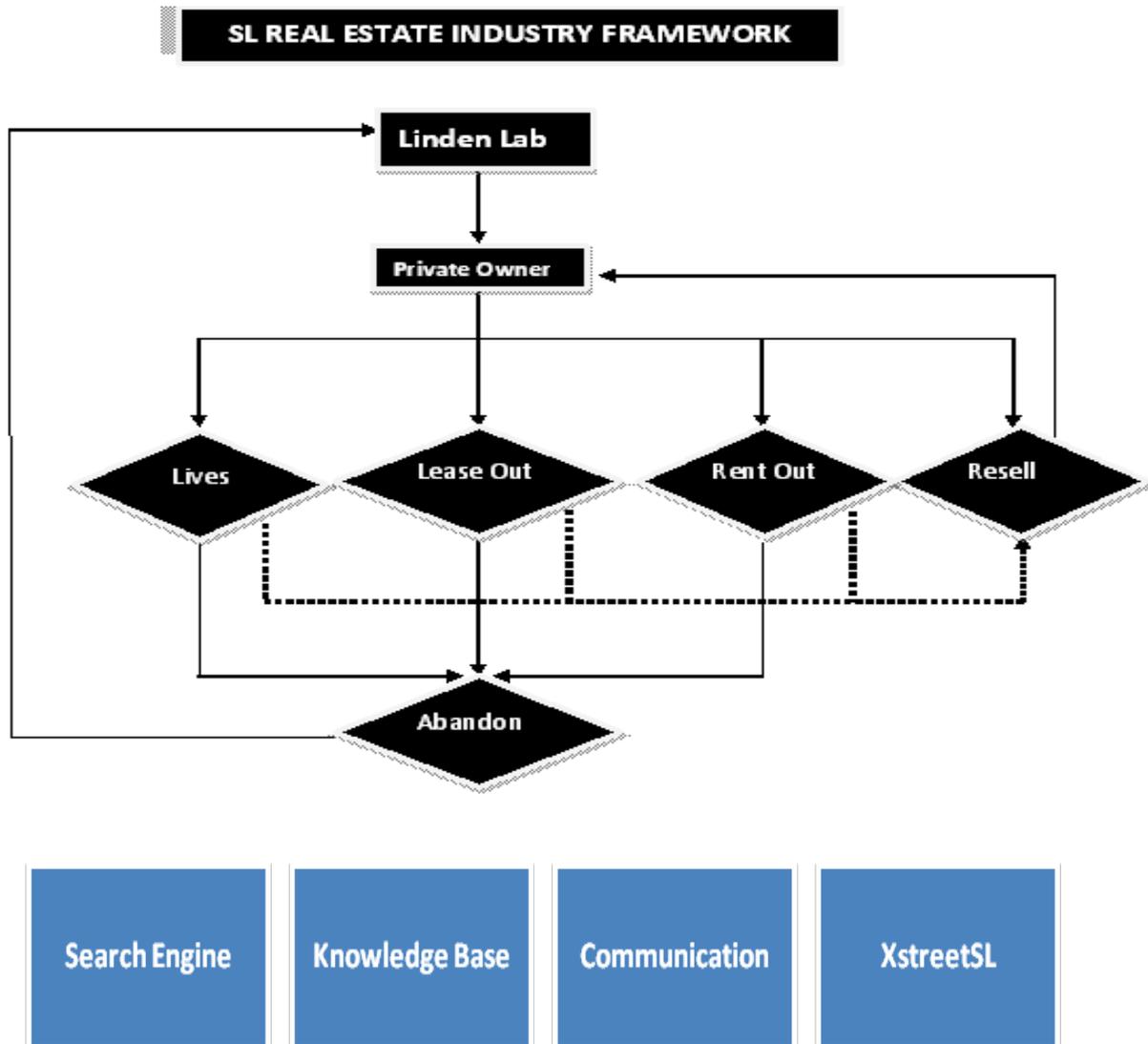


Figure 2 – Conceptual Framework for Real Estate Industry.

Building and Fashion. The Building and Fashion industry may be conceptualized as shown in Figure 3. Content Creators refer to the builders and designers who may work individually or in groups. The Knowledge Base provides tools such as prisms, textures, and the procedures for importing them in-world. The acquisition of raw materials may happen through self-creation and/or procurement where the latter may be done through in-world shops and/or XstreetSL. The raw materials are composed of prims and textures (applied images) though it actually depends on the intended final product (e.g. it is possible to sell scripts only). The finished product is then packaged usually with the manual included and either sold in-world (by renting a shop on another avatar's building or renting land for shop design customization) and/or in XstreetSL. The Search Engine helps sellers find real estate for rent and advertise their products, and it helps buyers find appropriate shops and products.

Content creators can also implement a reseller program. However, this approach will not be studied in our research; it is difficult to accurately assess the viability of this strategy because it is also product dependent.

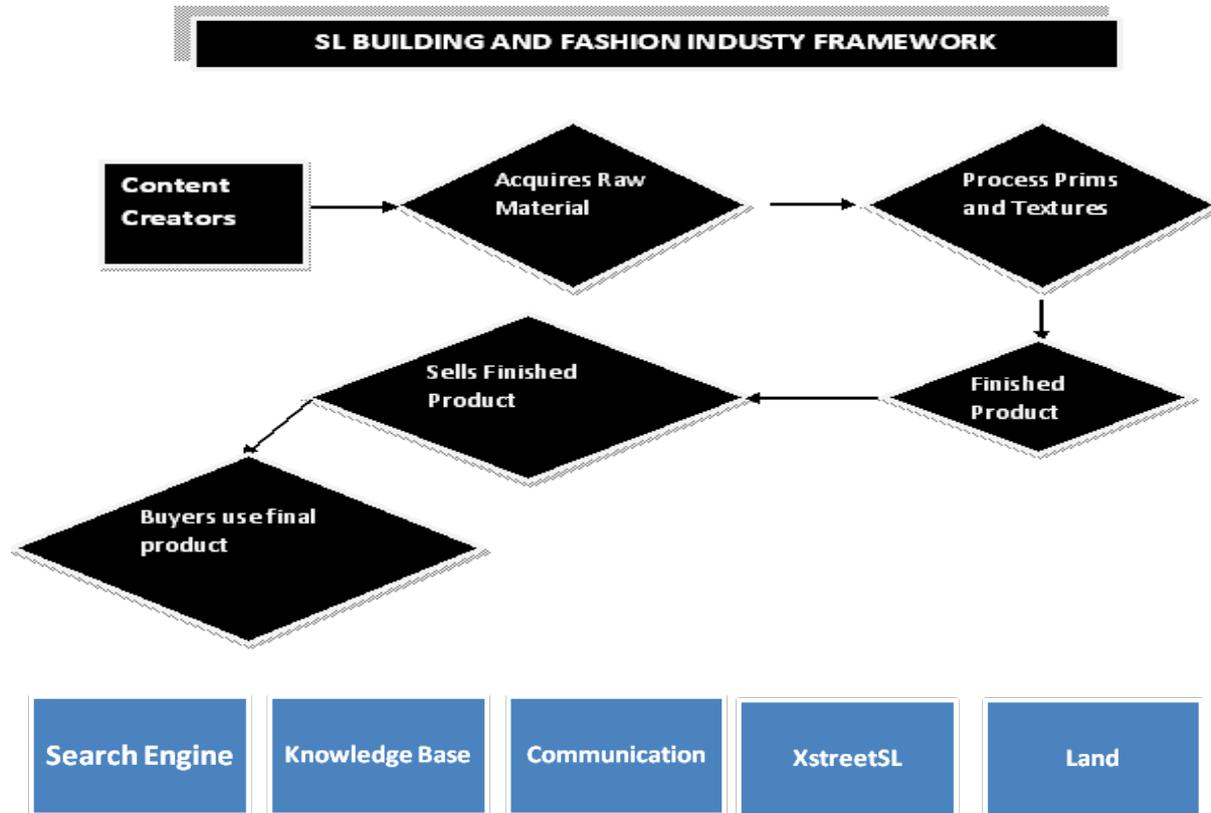


Figure 3 – Conceptual Framework for Building and Fashion Industry.

Entertainment. The Entertainment industry may be conceptualized as shown in Figure 4. Entertainment is mainly provided by service providers who attend to their customers and by content creators who create and supply related goods. The users (customers) create the demand for such goods, and the content creators supply them. The service providers often are located together inside a club and tend to be employed by the club. The club owners can manage their own clubs or employ players to manage them. The club's business requires the following additional players: Dancers, Hosts, and DJs. Clubs need venues and building structures which define their connection with the land and the Building Industry. Interactions occur through the local chat, private IMs, one-to-one modes, and the visitor's profile. The Knowledge Base has the same role as in the other three industries. Lastly, the Search Engine lists the location of the club enabling prospective visitors to find it.

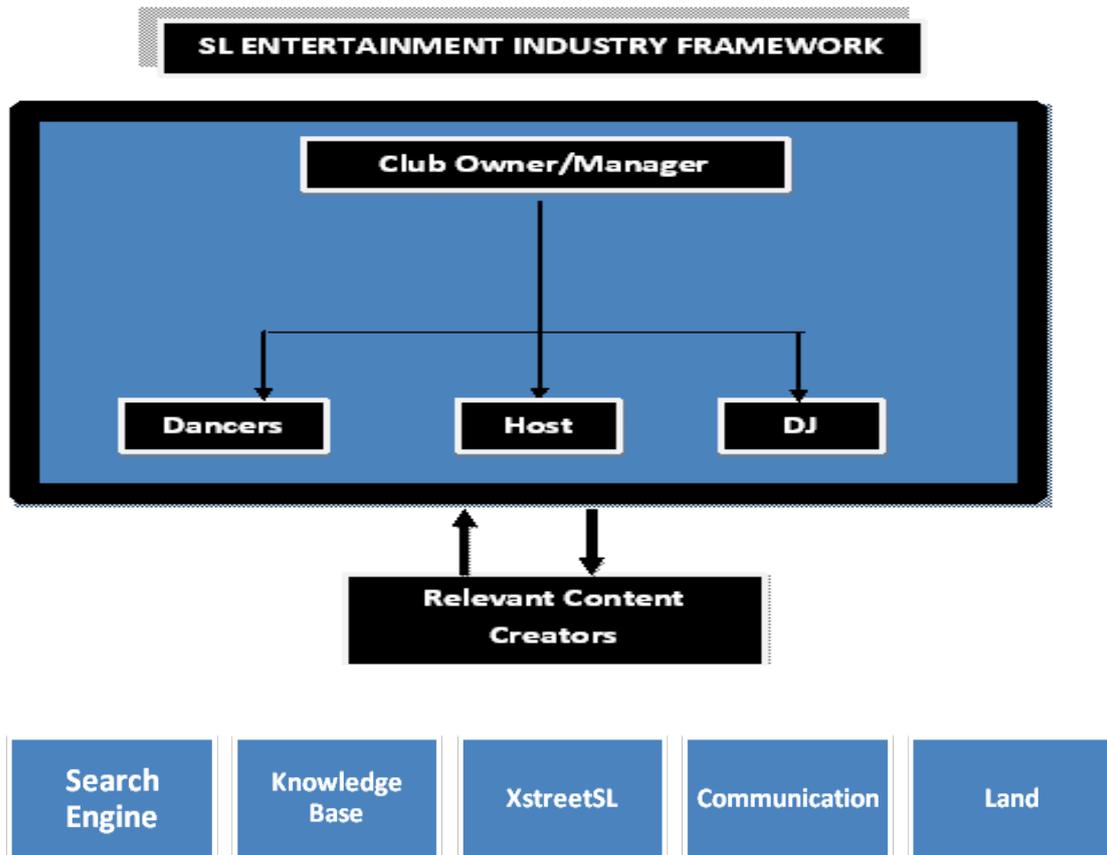


Figure 4 – Conceptual Framework for Entertainment Industry.

Table 1 shows a summary of the data collection scheme. The first column represents the vocation that was investigated and the second and third columns represent the business areas that were explored for each vocation using interviews and observations. These techniques were selected based on the expected effectiveness and efficiency of data collection for a particular business area. For dancers, it was determined that Participant Observation was sufficient to collect data. For Club Owners/Managers, no Participant Observation took place given cost constraints and limited managerial experience within the research team.

Business Area	Participant Observation Business Role	In-depth Interview Business Role
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Real Estate Business Owner	Market Research, Infrastructure Investment, Fixed Asset Liquidation, Legal and Compliance.	Market Research, Infrastructure Investment, Fixed Asset Liquidation, Operations Management, Human Resource Management, Innovation, Legal and Compliance.
Builder	Market Research, Operation Management, Marketing Strategy, Legal and Compliance.	Marketing Strategy, Customer Service, Human Resource Management, Innovation, Legal and Compliance.
Fashion Designer	Market Research, Operation Management, Marketing Strategy, Legal and Compliance.	Marketing Strategy, Customer Service, Human Resource Management, Innovation, Legal and Compliance.
Club Dancer/ Host (Entertainment)	Infrastructure Investment, Operation Management, Human Resource Management, Revenue Stream Management, Marketing Strategy.	N/A
Club Owner/Manager (Entertainment)	N/A	Value Delivery, Human Resource Management, Revenue Stream Management, Marketing Strategy, Legal and Compliance.

Table 1 – Data Collection Scheme Summary

Research Findings

The research findings for each of the four industries are presented below. The information is organized according to the investigated business area as given in Table 1. Participant Observation was conducted on a covert basis, and the location and identity of each research subject was obscured for ethical reasons. In-depth Interviews were done overtly except for the Fashion and Entertainment categories. In Fashion the interviewee could give permission for the name and brand to be mentioned; in Entertainment, the interview was done on a covert basis.

Real Estate. For Participant Observation, a Skybox was rented for approximately one month followed by an attempt to start a rental business on 2,048 square meters of land on a PG-rated SIM. The interviewee was a land manager who operated a skybox, and ran a Class 5 Private SIM business called Indo Paradise in Real Estate. The business was attempting to grow and get more tenants. The result is summarized in Table 2 below.

Business Area	Possible Tools, Solutions, and/or Critical Factors
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Market Research	<ul style="list-style-type: none"> • Use In-world Search Engine, XstreetSL, and Maps to find and survey other existing businesses. • Use other existing businesses to identify suitable land, building design, Rental Rate and Prims allocation, and/or Rental Terms and Conditions.
Infrastructure Investment	<ul style="list-style-type: none"> • <i>Land Type Consideration</i> – Private Estate or Mainland. • <i>Land Quality Assessment Factors</i> – SIM/Server age and performance, average number of avatars on SIM/week, potential presence of lagging devices such as Zero Rezzer, potential presence of public facilities such as club (source of lag). • <i>Equipment</i> – Rental Box, Lockable Doors, Security Devices, and Building and Furniture (not needed if the ‘land’ itself is to be rented out). • Effective and Efficient Communication Mechanism with tenants.
Fixed Asset Liquidation	<ul style="list-style-type: none"> • Sell Land and/or Shares (For multiple owners). • <i>Mainland Consideration</i> – harder to sell off and standard prim limit but enjoys stability of ownership and lower monthly Dollar/meter cost from Linden Lab. • <i>Private Consideration</i> – Easier to exit/sell off with possible prim limit customization beyond standard but higher monthly Dollar/meter cost from private estate owner. Also runs the risk of private estate owner going default.
Operations Management (Routine tasks)	<ul style="list-style-type: none"> • <i>Planning</i> – Decide future strategic direction and approaches to action in solving daily problem. • <i>Prim Management/ SIM Cleaning</i> – Make sure tenants do not exceed their prim limit and reduce the number of high lag generating objects. • <i>Land Monitoring</i> – the daily activity and behavior of tenants and visitors in the SIM in relevance to the rental covenants. • <i>Terra Forming</i> – molding and adjusting the physical terrain of the SIM in the manner that is suitable for the business concept and value proposition implementation. • <i>Client Servicing</i> – the effort and decisions for resource commitment to retain tenants. • <i>Seeking Tenants</i> – ensuring that occupancy rate are adequate to cover running cost. • <i>Rental Chasing</i> – ensuring that tenants pay their rent on time.
Human Resource Management	<ul style="list-style-type: none"> • Staff hiring decision and reward scheme. • Staff training. • Task and time Allocation. • Provision of tools, authority, and

Possible Innovation Area (to enhance competitive advantage)	empowerment. <ul style="list-style-type: none"> • Marketing and Advertising Plan. • Effective delegation to effective staff. • Schemes to make staff work harder. • Relevant Business Intermediary set up. • Object Management system – current system associates object ownership to a particular avatar only (Saiman, 2009).
Legal and Compliance	<ul style="list-style-type: none"> • Draft rental terms and conditions/ covenant that is consistent with Linden Lab’s Terms of Service and Community Guidelines. • Ensure the chosen Land has correct rating for business concept (PG, Mature, or Adult). • Warn and ban griefers and spammers as appropriate.

Table 2 – Real Estate Industry Findings Summary

Building. For Participant Observation the Real Estate start-up context was used to frame the investigation. A builder who makes and sells garden furniture was interviewed. The result is summarized in Table 3 below.

Business Area	Possible Tools, Solutions, and/or Critical Factors
Market Research	<ul style="list-style-type: none"> • Use In-world Search Engine, XstreetSL, and Maps to find and survey other existing businesses to determine pricing and contemplate strategy. • Find design inspiration points and know-how such as by visiting and viewing various relevant locations and stores, knowledge base, and available resources on the internet. • Join reliable groups/communities for builders to gain more knowledge and help in solving problem. • Find appropriate sand boxes/rezzing location for building and practicing. • Search and find useful Builder Assistance tools such as texture organizer and mega prim rezzer HUD, and pre-made components. • During conception, focus on end-user need and combine one’s own idea with the competitors for inspiration and must avoid ending up replicating the competitor’s product (Lindman, 2009).
Marketing Strategy	<ul style="list-style-type: none"> • List product in XstreetSL. • <i>Rent in-world shop</i> – prim requirement could be high for large and complex product unless boxed. Devise an effective and cost efficient traffic generating strategy and themed layout/decoration if shop is setup on own rented land. • <i>Display vendor consideration</i> – minimal prim

	consumption and the possibility of giving out product manual but product delivery could be problematic in lags and no products are displayed physically.
Operations Management (Routine tasks)	<ul style="list-style-type: none"> • <i>Customer Service Group</i> – keep track of existing buyers for product update and promote new product. • Word of Mouth and Free gifts • Current Product update and improvement. • Product Manual Creation and Update. • Punctual shop/land rental payment. • Consider the possibility of employing and training a human shop greeter/promoter or using a bot.
Human Resource Management	<ul style="list-style-type: none"> • Consider the possibility of teaming up to reduce product development time (Lindman, 2009). • Determine the type of information and knowledge and work to be shared in a joint cooperation venture (especially if one operates as a custom-build Contractor).
Customer Service	<ul style="list-style-type: none"> • Treat every customer complaints professionally and with care, especially for the first product (Lindman, 2009). • Consider the possibility of making minor modification to current product on specialized request by a particular customer.
Possible Innovation Area (to enhance competitive advantage)	<ul style="list-style-type: none"> • <i>Shop Location Tracking</i> – when in-world shops move location, potential and existing buyers need to look for the new location in the builder's profile in which is time consuming (Saiman, 2009). • <i>Transaction Tracking and Delivery Confirmation</i> – necessary in the case of script or server error where the proof of delivery is not provided by the SL client (Saiman, 2009).
Legal and Compliance	<ul style="list-style-type: none"> • Ensure that potential buyers are advised on land rating appropriateness on product use. • Consider deploying anti-copy-bot object and report all attempted illegal copy-bot use. • Use texture images and materials with free commercial license. • Ensure that chosen brand does not conflict with both in-world and real world brand name.

Table 3 – Building Industry Findings Summary

Fashion. The avatar of a free-lance female clothing designer was selected. For the In-depth Interview, a successful entrepreneur named Javabox Kawanishi was interviewed who owned the brand Vidal with a monthly net profit of USD \$1,200 and 125 in-world outlets. The result is summarized in Table 4 below.

Business Area	Possible Tools, Solutions, and/or Critical Factors
Market Research	<ul style="list-style-type: none"> • Use In-world Search Engine, XstreetSL, and Maps to find and survey other existing businesses to determine market niche, pricing and contemplate strategy. • Find design inspiration points and know-how such as by visiting and viewing various relevant brands and stores, knowledge base, and available resources on the internet. • Join reliable groups/communities for designers to gain more knowledge and help in solving problem. • Search and find useful pre-made components such as prim skirts with full license.
Marketing Strategy	<ul style="list-style-type: none"> • List product in XstreetSL. • <i>Rent in-world shop</i> – put each product in a separate box or vendor covered with a standing out image that shows the details of the product. This is best when complemented by advertising groups and simple traffic generation method such as Midnight Mania Board. • <i>Customer Service Group</i> – keep track of existing buyers for product update and promote new product. • Word of Mouth and Free gifts • <i>Franchising Scheme</i> –prim efficient vendor and attractive profit sharing scheme to overcome SIM avatar limit and encourage brand consciousness. Consider holding active franchising talks to convince potential franchisees for brand values and profit potential.
Operations Management (Routine tasks)	<ul style="list-style-type: none"> • Current Product update and improvement. • Product Manual Creation and Update, especially if franchising is used. • Punctual shop/land rental payment. • Consider the possibility of employing and training a human shop greeter/promoter /model or using a bot. • Consider employing a manager for more complex tasks such as franchise management.
Human Resource Management	<ul style="list-style-type: none"> • Consider the possibility of teaming up to reduce product development time (Lindman, 2009). • Consider Contracting out full or partial design to another designer with full license end product for a one time fee. • Consider monitoring franchisee’s performance and upgrading status to those that represents the brand well.

Customer Service	<ul style="list-style-type: none"> • Treat every customer complaints professionally and with care, especially for the first product (Lindman, 2009). • Consider the possibility of making minor modification to current product on specialized request by a particular customer.
Possible Innovation Area (to enhance competitive advantage)	<ul style="list-style-type: none"> • <i>Shop Location Tracking</i> – when in-world shops move location, potential and existing buyers need to look for the new location in the builder’s profile in which is time consuming (Saiman, 2009). • <i>Transaction Tracking and Delivery Confirmation</i> – necessary in the case of script or server error where the proof of delivery is not provided by the SL client (Saiman, 2009).
Legal and Compliance	<ul style="list-style-type: none"> • Ensure that potential buyers are advised on land rating appropriateness on product use. • Consider deploying anti-copy-bot object and report all attempted illegal copy-bot use. • Use texture images and materials with free commercial license. • Ensure that chosen brand does not conflict with both in-world and real world brand name.

Table 4 – Fashion Industry Findings Summary

Entertainment. The female avatar was used because the male avatar had many job applications rejected. She worked for two weeks in a music club and a ballroom as a hostess. Covert interviews were performed with the club managers. The result is summarized in Table 5 below.

Business Area	Possible Tools, Solutions, and/or Critical Factors
Infrastructure Investment (physical)	<ul style="list-style-type: none"> • Use In-world Search Engine, XstreetSL, and Maps to find and survey other existing clubs for necessary equipments, contemplate strategy, and compute estimated cost. • <i>Conduct land survey</i>- consider lands that matches business plan and concept in terms of price, terms and condition, and rental rate.
Marketing Strategy	<ul style="list-style-type: none"> • <i>Club Group</i> – invite visitors to join the group to receive event notice and club updates such as new locations and promotions. • <i>Advertisement Group</i> – can be used in the same way as Club Group to reach new audience • <i>Mass teleport</i> – teleport all online individuals in owner and staff contact list. However this may risk upsetting the individual teleport target.

Human Resource Management	<ul style="list-style-type: none"> • <i>Contest</i> – hold contest with prize such as money or object during events to draw more traffic. • <i>Search Engine</i>– post the event in the SL client default Search Engine. • Increase and sustain consistent traffic range. • <i>Vocation and Task Design</i> – Identify the roles, and its responsibilities and requirements. Design and communicate formal chain of command for layered. • <i>Recruitment Procedure</i> – advertise in advertisement and recruitment group. Consider using recruitment agency job and/or interview for specialized skill and complex expertise. • <i>Training</i> – Decide who will train and the content of the training. • <i>Wage rate/reward Scheme</i> – consider tip sharing scheme and/or hourly wages. • <i>Staff Group</i> – Create staff group for internal communication and collaboration.
Operations Management (Routine tasks)	<ul style="list-style-type: none"> • Punctual shop/land rental payment. • Host events. • Generate traffic before and during events. • Maintain adequate staff level.
Value Delivery	<ul style="list-style-type: none"> • Creates a themed layout where the club rules are consistent with the theme. • Ensure there is enough traffic during events so guests are able to socialize. • Ensure that visitors treated with the best hospitality and feel welcomed. • Ensure music are in tune with targeted visitors • Ensure there is someone who can replace the URL stream with a public one in case the DJ crash in order to retain visitors.
Revenue Stream Management	<ul style="list-style-type: none"> • <i>Advertising</i> – provide advertising board for other non-competing goods and service provider to rent. • <i>Tips Sharing</i> – if tips sharing arrangement is in place, ensure the script in the object works properly at all times to avoid staff unhappiness.
Legal and Compliance	<ul style="list-style-type: none"> • Ensure the club has correct rating for business concept (PG, Mature, or Adult). • Ensure club visitors comply by Linden Lab’s Terms of Service, Community Guidelines, and Maturity Ratings.

Table 5 – Entertainment Industry Findings Summary

Analysis and Synthesis

We use a framework from Brandenburger and Nalebuff (1995) based on Game Theory to describe the interactions that take place in a virtual world and to obtain a sense of the value

being added by the various avatars and business units. The PARTS framework constitutes of five elements namely Players, Added Values, Rules, Tactics, and Scope. A business strategy can be crafted by assessing and changing one or more of the elements. The PARTS framework shall be applied from the perspective of the entrepreneurial tenant who rented the Simulator from the private estate owner. For the purpose of this analysis, the integrated context will be imaginary but realistic, and popular context will be a private estate Simulator that is listed on the in-world search engine. On the ground, there will be a club, rented shop houses, and a public park with a fishing area.

Players. The suppliers are Linden Lab and Private Estate owner. The customers are shop owners who rent the store (major revenue stream) and club visitors. Its complementors would be a business solutions producer such as Hippo Technologies and other vendors who specialize in business intelligence. Its substitutors are those who try to compete – potentially including the tenants of the shop owners. However, most of the businesses encountered did not have a formal approach for managing customer composition. A more targeted and integrated concept might help to increase the retention rate of desirable tenants.

Added Value. Simulators with high added-value are those that can inspire high traffic and therefore increase the visibility of the tenant's shops. In this case the value can be enhanced by supporting and promoting popular activities.

Rules. Community Guidelines and Terms of Service must be expressed and enforced. In addition weekly shop rental rates must be set. Initially a conservative market rate can be set for these short duration contracts. However after a trial phase the rental terms can increase to two-week durations or longer. Similarly discounts for longer leases can be arranged, and in rare cases pre-paid options can be instituted.

Tactics. The success of the integrated concept (between the shop, the club, and the Simulator design) is evident. A good example can be found in Simulators that have Japanese traditional cultural content and clusters of Kimono Designers grouped together. Frequent visitors to the Simulators will be able to note that the Kimono Designers and the Simulator tenants collaborate together on joint events. In these situations, competitive differentiation may be created; it would be difficult for others to aggregate a similarly rich collection of content and commerce.

Scope. The boundary for content should be restricted to Mature as the targeted crowds are generally adults. This rating will also block Adult clubs that feature sexually explicit content. However, if Adult clubs in the region offer services other than explicit sexual content, then they could become part of the scope as well. In short, the theme of the Simulator must be popular and consistent with its audience's expectations.

To close this section, we introduce the concept of an Avatar Added Value - the value that the player or avatar brings to the virtual world (Brandenburger and Nalebuff, 1995). In the absence of that player, the value of the game as a market will be reduced. Similarly, the 'Business Added Value' or BAV can be defined as the value that an avatar's business provides to the virtual world. The previous section has described the BAV generating activities and the manner in which BAV can be quantitatively measured (and therefore converted into monetary value such as Revenue). It is therefore highly context-dependent.

Avatars can also increase their added value to the virtual world by consuming goods and services. Purchases from businesses would increase the cash-flow for businesses. Similarly, purchasing from another avatar would increase the cash available for that particular avatar to spend in the virtual world economy. Hence, the AAV for a period of time can be described as:

$$AAV = \omega + \theta + \beta$$

ω = Sum of all BAVs

θ = Cash expended for consumption of Goods and Services

β = Cash expended for Donation to businesses and/or other avatars in anticipation of his/her willingness to consume goods and services in the near future

If a player has many avatars, his AAV is the sum of all AAVs of all his avatars. This equation applies to value generating activities with a direct monetary value. However not all value-generating activities are tied to direct financial transactions. For example long-term attractive shops might boost the traffic rankings for a given area in the virtual world. Whether this traffic may lead to more transactions for the surrounding shops is not clear.

Knowing AAVs illuminates the contribution that an avatar or player (in the case of multi-avatars) makes to the four industries. This is significant because the AAV measures the monetary value of transactions as opposed to the value of an avatar's assets and possessions. For virtual world operators, the AAVE can be used to assess the impact of different players and therefore segment current customers. However AAV does not track a player's significance in terms of community formation and cultivation, both of which are important to the existence and continuity of the virtual world.

Design Principles for Business on Second Life

Business activities in Second Life share many similarities to those in the real world. However some differences were also found. The principles listed below are organized according to business areas. Salient aspects will be outlined for each.

- i. **Partnership.** As highlighted by Lindman (2009), product development time can be shortened by strategic partnering among Avatars or business units. A lack of professionalism was regularly encountered during our Participant Observation. Some of the Avatars displayed stress, work avoidance, and an inability to focus on business objectives. Activities are often treated as a hobby and this may relate to the primary understanding of Second Life as a game or recreational activity. Tardy work deliveries were frequently encountered, possibly because real world responsibilities took priority over virtual world ones. Hence it is important to find and engage partners that excel at professionalism and the ability to balance their real life and Second Life vocations.
- ii. **Real-Virtual World Balance.** Balancing time spent in Second Life and the real world may be easier said than done. For instance, the fashion entrepreneur interviewed spent more than 15 hours each day in Second Life to run his business despite the fact that he had many managers and staff members. Participation in the virtual business world is demanding and requires a high level of maturity and self-awareness to balance real life and Second Life priorities.

Financial Commitment. The pooling of capital and financial commitment is essential if land is involved. It is therefore important to have partners that are financially strong. During the study, financially strong partners willing to commit funds were not difficult to find. However it is best to specify upfront their roles, rules of engagement, responsibility, limits of authority, and their share of ownership to avoid potential future disputes. Drawing up formal

contracts and legal documents is unusual in virtual worlds and the only written evidence of an agreement might be a chat log. But even with an intent to define relationships with clear upfront communications, there remains a risk; financial partners can ignore their obligations by simply staying offline, changing, or deleting accounts.

Contractual Relationship. Outsourcing remains a very attractive option as it shortens product development and project completion time. For instance, the fashion entrepreneur frequently outsourced the design and production of the clothing line. However as mentioned before, it is unusual to draft formal legal documents between outsourcing partners. All transferred end-products should be set on full license (copy, modify, and transfer) wherever possible to enable the seller to adjust it as needed. In more complicated end-products, the management of ultimate ownership rights may need to be agreed upon in advance and adapted over time.

- i. **Object Ownership.** Because objects are often associated with a particular avatar, ownership issues can arise (Saiman, 2009). This particularly applies to the purchase and ownership of business equipment that has a no-transfer license. Although the funding for the purchase of the object may come from many sources, the purchased object remains in one avatar's inventory. This can be problematic; not all ownership partners will be able to access the product. Creating another account which is accessible by all involved is one solution. However, this too may become problematic – a single owner could change the password, misuse the account, or perform other negligent acts. Ownership issues also arise when businesses with multiple owners need to shut down.
- ii. **Exit Strategy.** Exit strategies must be considered at the start of a business venture, not at the end. The partners observed in the Real Estate Industry understood this: they all agreed in advance to equally fund the purchase of equipment. They also made a plan for failure: if the business fails the equipment will stay with one avatar who will be required to buy out the others' shares.
- iii. **Staff Recruitment.** High levels of worker absenteeism appear to be a problem, especially in the Entertainment Industry. Although interviews and application forms can help to screen applicants, they do not illuminate the reasons that motivate avatars to look for, accept, and do a job in the virtual world. Workers were often paid less than USD\$10 per hour. Conversations over group chat suggest that avatars work in Second Life to

generate enough income to fund the purchase of virtual goods and services without requiring the use of real dollars. They also work as a form of amusement.

As Castronova (2002) suggested, challenges must be present in games otherwise boredom ensues. Working in Second Life may be one way for people to introduce new challenges and, by extension, enhance the game. Employers therefore need to design a working environment that presents fun challenges wherever possible.

i. **Intellectual Property Implication.** Intellectual Property and copyright laws apply even in the virtual world. ‘Copy Bots’ and “Anti-copy Bots” exist to copy and block the replication of objects. However unauthorized copies of objects are made and sold. Business owners in the virtual world are increasingly bringing real world copyright law into Second Life. In one example, Stroker Serpentine, an owner of adult business ventures, had two successful class-action lawsuits against Linden Lab for copyright infringement in 2009. Stroker successfully argued that Linden Lab profits from negligence and delay in dealing with trademark and copyright infringement issues. The legal dimensions of the virtual world are slowly evolving (Salomon, 2010).

Concluding Remarks

The impact of virtual goods and services can never be truly felt in the real world. Nevertheless, the demand for such goods and services continues to exist. According to Arts' (2009) definition, the virtual world investigated is a platform world – an environment without a well-defined purpose and with activities that go beyond gaming and socializing. Meanwhile Castronova (2002) has argued that within games, challenges must be present to prevent boredom.

Based on the four sectors described in this study, the most popular activities are those that resemble real life pursuits such as purchasing luxury clothing and accessories, and engaging in romantic and sexual seduction. It appears that pursuits in the virtual world might enable people (or at least their avatars) to achieve a lifestyle that is beyond their means in the real world. In essence in the virtual world people can make their fantasies “real”. Therefore the market for virtual goods and services could possibly be related to the inability of the real world market to satisfy the real world desire of consumers (Molesworth and Denegri-Knott, 2007).

One of the possible motivations for individuals to consume virtual goods and services is the psychological experience of narrowing the gap between fantasy and reality. The virtual

world provides a space for consumers to mentally negotiate new ways of thinking about the consumption of virtual goods and services and their identity (Molesworth and Denegri-Knott). Therefore the value proposition about virtual goods lies within the psychological experience it may create.

The argument for fantasy fulfilment could also be applied to business owners, especially in creative industries such as Building and Fashion. In such industries, there may be a large gap between the current general level of efficiencies in production and the optimum level of efficiency. For instance the builders encountered in our study all produced their own components rather than purchasing them (even when the components were not unique). In this case, perhaps the fulfilment of fantasy as a designer provides higher intrinsic reward when the final product was completely from their individual efforts.

For game companies, educating the players in virtual world may seem detrimental to the growth of its community. However such intervention may reduce possible social problems and ultimately provide for long-term growth. Just as government regulation has a role in the real world it also has one in the virtual world.

Future research should be conducted in a more focused manner than was possible in this study. Some possible areas for further research include:

- i. **Pricing Strategy.** Mathematical modeling of virtual goods and services would enable business entities to price their goods more effectively.
- ii. **Optimum Simulator Management.** Investigating the dimensions of simulator operations to enable business owners and managers to run their enterprises more efficiently and effectively.
- iii. **Fantasy Fulfilment.** Understanding the psychological experience of virtual world participation, including the role of fantasy fulfilment, may improve business performance in the virtual world and may have cascading benefits to the wider society online and offline.
- iv. **Vehicle Industry.** The design and production of vehicles is a complex creative enterprise. Understanding the dimensions and dynamics of this industry, as it is and as it could be if optimized, might add value to the entire Second Life community.

In conclusion we believe that virtual worlds do indeed present real economic opportunities. The design rules derived from this study represent the first step in the journey to describe and define the many ways that virtual and real world economies are aligned.

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