

“Real World Sold, Moving to Virtual World”

An investigation into the impact of the Global economic situation on Virtual World business

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Abstract

The current economic downturn is being felt, almost without exception, in every single economy in the world. With major economic superpowers being worst hit, there seems like there is no place where an economy would be shielded from the resulting impact of the economic fallout. However, seemingly parallel to the real world are virtual worlds, such as Second Life (SL), where entire economies and societies exist. The past few years have seen a huge explosion in the numbers of people actively participating in these worlds, with predictions that virtual worlds will hit mainstream adoption within 2-5 years. This research explores the most active virtual world economy, SL, in an attempt to assess the potential for small business entrepreneurs within these virtual economies.

Research by Linden Labs (the creator of SL) indicates that the SL economy is improving during this economic downturn, with in-world transactions still increasing rapidly. This paper reports on a pilot survey of SL business owners who deal in virtual products and services (pure play businesses). The study concludes that while varied fortunes are being experienced in SL there is no evidence of an overwhelming downturn. The study shows that females are more risk averse, renting rather than owning, and exhibiting consistency in their pattern of investment in the real world. Furthermore we report how the barriers to entry into a SL business are low both in terms of knowledge and financial resources making entry into this economy viable for a wide range of people.

Introduction

The term ‘sub-prime’ was hardly known outside the United States a few months ago, but now with the global economic crisis, it has become a household term synonymous with job loss and business failure (Lewis 2009). Yet while an economic downturn brings with it many challenges, it also provides unique opportunities to study economies that may be resilient to the prevailing economic forces, such as the seemingly parallel world that exists within virtual worlds, on the World Wide Web.

Technically virtual worlds are no more than bits of data that are exchanged by the participants; however, in reality these bits of data are being traded and converted for real currency in real economies. This raised the question as to whether the forces that are raging through and altering the economic landscape of the real world economies are being felt in virtual world economies. Linden Labs conducted a survey of businesses operating in their virtual world, Second Life (SL), and they release economic data every quarter. iReporters (reporters in SL) have also been covering stories related to the economic crisis. While initial reports seem to indicate that there is some level of insulation provided within these virtual worlds the current research has not been independently verified or examined to determine which virtual economic sectors are affected or not affected.

Purpose

This research seeks to provide further insight into the impact of the real world economy on a virtual economy and reflect on potential opportunities that exist within this space. In this research we restrict our study to those businesses that are “pure-play”. Pure-play businesses in e-business terms are those that have an online presence only, and are conducted over the internet (Ashworth, Schmidt *et al.* 2006). In this study we focus on businesses whose products or services exist entirely in-world i.e. they have no real world counter-part business. The intention is to explore as “pure” as possible a virtual business where the impacts of insulation from the real world are most likely to be noticed. The research questions for this study are thus:

- *What is the impact of the global economic crisis on the virtual economy within SL?*
- *What fully virtualized business models within SL are least impacted by the global economic crisis?*
- *What are the requirements for successful engagement with a virtual world business model?*

Literature Survey

In this section we firstly provide a brief synopsis of the current global economic crisis, its cause and impact. Next we consider the economic profile and activity within virtual worlds and the reported research on the impact of the global economy on SL.

The root cause of the current economic crisis has been identified as the sub-prime loans scheme that was prevalent in the USA (Miller and Jackson 2008; BBCNews 2009; Lewis 2009; Udell 2009). The resulting homeowner debt was bundled and sold as 'securitized pools of mortgages' to major financial institutions across the globe. This caused a decline in capital leading to the "credit crunch" (Miller and Jackson 2008; BBCNews 2009; Lewis 2009; Udell 2009).

One of the biggest effects of the global crisis is the number of people losing their jobs at an alarming rate. In the USA, 598 000 jobs were reported to have been lost in January 2009 and a total of 3.6 million jobs since December 2007 (BusinessWeek 2006; Andrews 2009). It is suggested that as many as 51 million jobs will be lost worldwide in the global recession, bringing the worlds' unemployment rate to 7.1%: Compared to 6% at the end of 2008 and 5.7% at the end of 2007 (BBCNews 2009).

In comparison, initial indications are that virtual worlds are seemingly unaffected (Linden 2009). A virtual world is defined as "an interactive simulated environment accessed by multiple users through an online interface" (VirtualWorldReport 2003). They are also called "digital"- or "simulated"- worlds and "massively multiplayer online role-playing games (MMORPG)" (VirtualWorldReport 2003). They have six features in common, namely: shared space, a graphical user interface, real time interaction, interactivity that allows customization, persistence and allowing for socializing and building of communities (VirtualWorldReport 2003).

Virtual worlds can be divided into two types, namely, creativity-oriented environment and MMORPG's (Bainbridge 2007): The first, are open virtual worlds that allow you to do anything you want, while the second allows creativity but in the context of the theme of the world or a story that unfolds as developed by the characters. In a virtual world, people are represented by customizable avatars and communicate via chat in an open channel (Bainbridge 2007; Papagiannidis, Bourlakis *et al.* 2008) or via voice through a headset (Messinger, Stroulia *et al.* 2009). Virtual worlds have economies where you can buy objects related to the world and trade within them: You can exchange real money for the currency supported by the world, but to date only the virtual world SL allows its currency – Linden Dollars (L\$) –to be converted back into US Dollars (Bainbridge 2007; Papagiannidis, Bourlakis *et al.* 2008; Messinger, Stroulia *et al.* 2009). SL provides an interesting opportunity to explore the impact of the Real World economy on a virtual economy because of the real US dollar-value that Linden Dollars represent.

SL was built by Linden Labs and released in 2003. The SL world is made up of islands that can be purchased or rented (SecondLife 2009). You can fully customize your avatar and your land space. While many gamers visit SL, it is not a "gaming" or MMORPG world, as there is no designated theme. Residents can create everything from clothing to the objects they want to use: homes, businesses, social space etc. (Rymaszewski, Au *et al.* 2007; Papagiannidis, Bourlakis *et al.* 2008; Kohler, Matzler

et al. 2009; Messinger, Stroulia *et al.* 2009; SecondLife 2009). As SL supports social networking it hosts forums on its two official websites- SecondLife.com and XStreetSL.com- where the community can discuss, post classified adverts and request help. SL also provide mailing lists for educators, business owners, researchers, scripters (builders) and many others (Zimmer 2008; lists.secondlife 2009). SL is used for a variety of purposes including games, education, socializing, and business.

SL saw its first US\$ millionaire in 2006: Avatar Anshe Chung made her wealth in two and a half years through virtual property, shopping malls and chain stores from an initial investment of US\$9.95 (Hof 2006; Terdiman 2006). Aside from Chung, numerous cases of people making money in SL have been reported e.g. a disabled man earned about US\$10 000 in helping a car manufacturer establish an in-world presence (Mollman 2007) and a former factory worker earned about US\$1900 a week by scripting poses for couples (BusinessWeek 2006).

This begged the question: Could SL provide a haven from Real World economic cycles? CNN iReporters interviewed avatars in SL regarding their perceptions: Responses included: the SL economy will be a bit more stable as USD1 goes a lot further in world (Perian 2009), the hardest hit people are those that invested a lot of real money into their business (Perian 2009), the recession has affected an SL club but it still operates for fun (iReport 2009), and an SL employment agency business with a start-up cost of L\$11000 (about US\$40) and has found that making money in SL is difficult (Vantelli 2009). A three day poll of SL residents in February 2009 revealed 46% felt the recession had directly affected their SL activity(Au 2009). These reports seem to indicate that the impacts of the real-world economy are being felt inside SL's virtual economy.

However, Linden Labs state that "in 2008 virtual goods, entrepreneurs, landowners, in-world builders and service providers generated user-to-user transactions totalling US\$ 350 million"(Linden 2009). The top three earning businesses were the landowners, content creators and event managers. They expect transactions to rise to US\$ 450 million in 2009: the economy, user base and repeated logins are all increasing. Highlights of the first quarter report for 2009 were a US\$ 120 million in user-to-user transactions (up 65% from Quarter1 2008), and gross sales on XStreetSL (the marketplace) grew 23% over Quarter 4 (2008) and 72% in comparison to Quarter 1 (2009) (Linden 2009). In addition, 20% of SL business owners earn all of their income through SL (Au 2009).

Clearly, there appears to be differing reports on the current and anticipated performance of the SL economy, suggesting a need for further investigation.

Research Methodology

The purpose of this study is to investigate the impact of the Global economic situation on Virtual World businesses within SL. A study of the "relationships among measured variables with the purpose

of explaining, predicting and controlling phenomena" is suited to a quantitative research approach (Leedy and Ormrod 2005). Thus a questionnaire has been used to collect data which is statistically analysed using the Chi-square test of independence, Spearman's correlation, and the Chi-square goodness-of-fit test.

The online questionnaire link was posted on Secondlife.com and XStreetSL.com, SL groups in Facebook and was sent to appropriate mailing lists, including: SLBusiness, SLInternational, SLED (educators list) and SLRL (researchers list). Business models identified on the official website served as the basis for questions in the survey. These business models include: Services (such as dancers, guides, nightclub owner, event planner), Building (avatar objects and larger land use objects), Scripting, Property (Buying, selling, renting), Consulting, Music, Newspaper, Magazines, Terraformer, Landscaper, Gaming, Textures and Skins & Avatars. The questionnaire consisted of forty questions in four sections. These sections queried details of: (1) the environmental, or personal, context of the SL business owner, (2) the nature and perception of their transitional phase during which they may have been residents (not business owners) in SL and the start-up phase of the business, (3) their economic context as business owners in SL and finally, (4) the performance of their SL business.

Linden Labs estimates there to be in excess of 17 000 SL business owners (Linden 2009). No information is available on the number of pure play business owners in the virtual world. This study is intended as a pilot study of pure play businesses in SL to identify areas of possible interest and significance for more detailed exploration. A sample of n=52 completed responses is analysed, and no attempt is made to generalise the results to a broader population. No incentives were offered for completing the survey.

Data Results and Analysis

Our discussion commences with the demographics of the study respondents and their personal context. The findings and analysis are then presented in the context of the three research questions, *viz.*

- RQ1: What is the impact of the global economic crisis on the virtual economy within SL?
- RQ2: What fully virtualized business models within SL are least impacted by the global economic crisis?
- RQ3: What are the requirements for successful engagement with a virtual world business model?

Demographics

This sample of pure play business owners is a mature group with the age median being in the group 36-40 years old. Linden Labs report a current age median of 33 years for SL residents (Messinger, Stroulia *et al.* 2009). Statistical analysis shows no significant relationship between age of respondent

and business performance. Genders are reported as 44% male and 56% female. Linden Labs report a predominance of males in the population (59%) (Messinger, Stroulia *et al.* 2009). No conclusion can be drawn however as it is not possible to identify the reason for the difference: Gender ratios for pure-play business ownership may be different to those for the general SL population, but it is also possible that females are more inclined to respond to a survey request than males. The avatar gender of 44% male, 48% female and 8% other, suggests that it is possible only the females elect to portray themselves as some other being. There is major debate and discussion on gender swapping in virtual worlds and this may be of interest for future business research. In our sample, 56% of respondents have no dependants and significantly more of them have a real life job (86%). It has been found that there is no significant ($p=.593$) relationship between those who have a real life job or those whose only income is from SL with monthly income. We will now consider the results in terms of the 3 research questions that guided this research.

Research Question 1: Performance of the SL Economy

The first research question explores the impact of the global economic crisis on the SL economy. We asked respondents how they felt the real world economic crisis has affected them with regard to sales. From Figure 1 we see that a 42% (27%+15%) of business owners indicate that they have experienced a loss due to the economic meltdown.

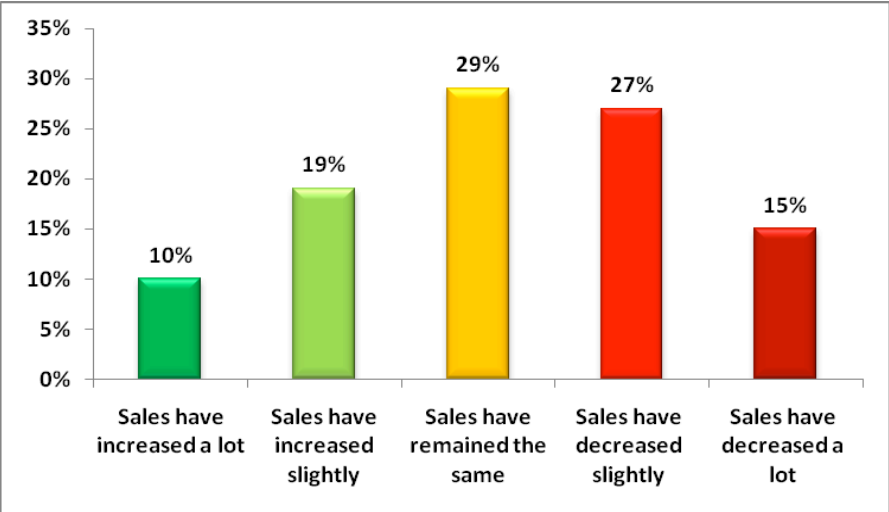


Figure 1: How has the economic crisis affected your sales (%)?

We also asked two questions that were asked by Linden Labs in a survey run earlier this year (Linden 2009). The first question deals with optimism with regard to growth in future revenue (see Figure 2). Our survey shows people are “somewhat optimistic” ($p<.0005$) that their sales will increase; with 67%

of respondents selecting this response (Linden Labs result was similar at 61%). We have also found that optimism and impact on sales are positively correlated.

The second question deals with their intention regarding investments in SL. There is a large difference between our findings, which appear to show a more committed and conservative approach to investment and those of Linden Lab (Figure 2). This may be related to the gender bias in the data. Significantly (.021) more males than expected were found to be planning not to invest in the next 6 months, while females plan to keep investment the same. We have also found that impact on sales and anticipated investment are positively correlated.

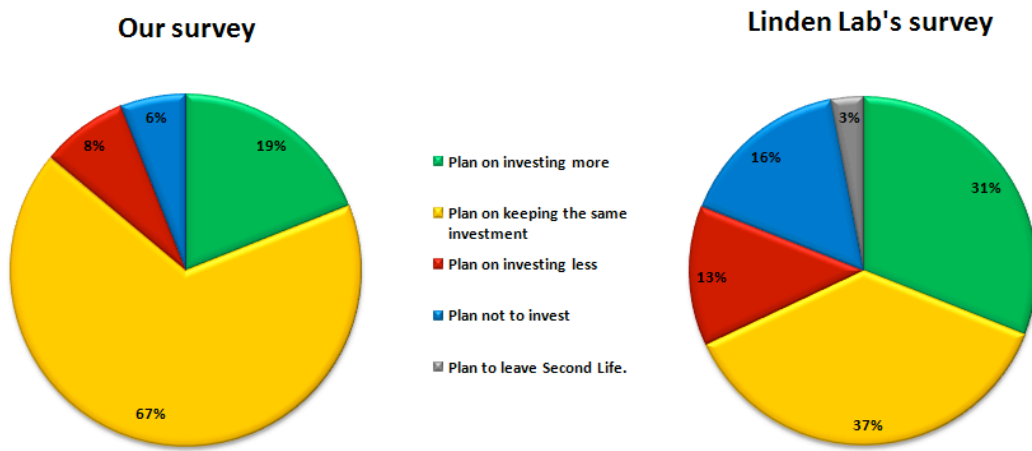


Figure 2: Maintaining/Increasing/Decreasing investments in the next 6 months (%)?

Linden Labs reports that the XStreetSL Marketplace has seen a significant growth over the same quarter in the previous year (72%), and 23% up from the previous quarter. We asked respondents if they listed their items on the website and how this has affected their sales. Of those that do advertise (83%), 80% have noted an increase in sales and 4% show a decrease. 16% show no change in sales. This is similar to the increase in sales reported by Linden Labs.

Research Question 2: SL Business Models

There appears to be mixed results with regard to the impact of the economy on the SL economy. From some of the results it appears that there is more of an impact than that reported by Linden Labs. However some of the optimism reported by Linden Labs was also supported in our research. We therefore turn our attention to the second research question where we attempt to determine the impact of the economy on diverse virtual business models within SL. This is considered using 4 aspects – the

type of business, whether the land was bought or rented, if the SL business owner is a “seller” or a “seller and buyer” and finally how they market their goods/services.

In terms of the type of business it was found that there is a wide range of business types represented in the sample. However the vast majority are engaged in activities related to “clothing” or equipping avatars, building or writing scripts to help automate actions and activities. Figure 3 below shows the types of activities that business owners are involved in.

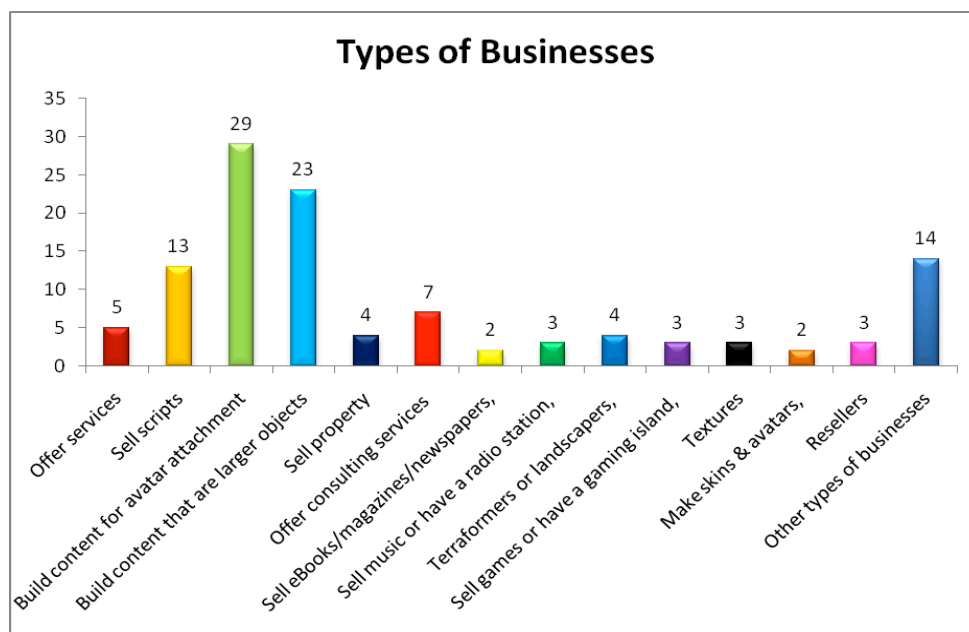


Figure 3: Types of businesses represented (n=52)

The type of business has shown to have no significant effect on monthly income during this recession. This means that no one type of business is doing significantly better or worse as compared to the others.

In terms of the land ownership the results indicated that 29% of respondents only rent, with 8% being in partnership with someone else who rents/owns, 40% who only own land, 15% who do own and rent and 8% who are using a free parcel or land space. This indicates that the majority (55%) own land indicating that they have committed to investing in the infrastructure of this virtual economy. Furthermore significantly (.010) more male avatars own land than females with females preferring to rent. (Dwyer, Gilkeson *et al.* 2002; Eckel and Grossman 2008) show that females are risk averse when investing in real life and gambling, so this could be a reflection of similar behaviour in a virtual environment. Females’ intention over the next 6 months is to maintain the same level of investment in their SL business, while males intend not to invest. The reason for this is unclear.

There are very few respondents who earn over \$1000 per month through their SL business with most earning \$101 - \$500 per month. Although one respondent clearly indicated that without the SL business their “...family would be on the streets. The financial security from Second Life is a positive

light to the real world in the crisis we face now”; many see this income as a complementary income to a real world job, to help pay small bills. The majority of respondents (86%) do not depend on their SL business and also have a real life job. Other respondents, earning \$0 - \$50 per month see this income as supporting in world activities (*“having fun”*).

The majority of our respondents do not offer employment (89%) which supports Linden Labs findings (81%) (Linden 2009). This means that it is an “every person for themselves” type mindset, typical of pre-industrial economies, that requires each participant to fend for themselves rather than being able to rely on being gainfully employed by another. The findings indicate that an eBook/magazine/newspaper business is significantly more ($p=.007$) likely to employ avatars. The proliferation of communication tools offered by the web is seeing a rise in citizen journalism and it appears this is also starting to be experienced within virtual worlds too, with people being employed within these businesses.

63% of business owners indicate that they own more than one type of business, which suggests it is easy for business owners to explore multiple potential business opportunities in this space. It was also found that 35% of business owners additionally seek to increase revenue streams through allowing advertising on their land. There is a statistically significant relationship ($p=.041$) between business owners who don't have real world jobs and those placing adverts for other businesses on their islands. This seems to indicate that those who are relying on their SL business for an income seek as many potential revenue streams as possible.

The final aspect we consider is the marketing of goods and services. Advertising techniques used include: advertising in world (71%), listing on XStreetSL (83%), advertising in the classifieds in world (56%), advertising on the respondent's website/blog (44%), and 15% use other tactics. As is seen from these results most business owners sell their products and services through XstreetSL. Significantly ($p=.012$) the business owners who build objects for avatar attachment or use, report a sale increase due to listing on XStreetSL while those who are in the textures business ($p=.026$) and skins and avatars ($p=.032$) have reported a decrease in sales due to listing on XStreetSL. This could be due to the nature of their business, as a major drawback of textures is that you have to give full permissions to the item in order for the customer to use it. With this right, a customer can give away or even resell your product.

When determining the price of items, 64% of business owners look at the quality of their design, 73% look at similar priced items, and 33% price their items lower than competitors. When trying to increase revenue 39% lower the price of their older items, 35% have sales, 10% give away an older item with newer item purchases, 27% add free extras to the product (e.g. accessories, colours, gift vouchers). It was also shown that there is a significant relationship between those who don't lower their prices ($p=.017$) or have sales ($p=.039$) and those who have other ways of improving customer relationships.

These business owners try to increase sales by using customer relationship techniques or updating/upgrading older items. This suggests that business owners who concentrate on finding out why a customer buys or does not buy are able to increase sales without decreasing prices. This also underlines the importance of “relationship” in these virtual social environments. Relationship can play an even more important role than in the real world as it can be easily destroyed, but if effectively managed can positively impact sales.

Research Question 3: Requirements for success

We finally turn our attention to trying to determine what requirements are necessary for a successful engagement with a virtual world business model. Respondents were asked what computer related skills they have, independent from specifically SL related skills. A frequency analysis test shows that 12 respondents have programming language skills, 20 have scripting languages skill, 18 have 3D modelling skill, and 9 computer graphics artist skill while 16 have none of these skills. While nearly 70% come to SL with some form of skill there is no relationships between computer-related skills and ease of setting up a business in SL. It was found that significantly (.050) more builders with 3D Modelling skills than expected took a ‘few days to a week’ to learn to build and more builders without 3D skills than expected took a ‘few weeks to a month’ to learn basic building. Thus having some form of 3D modelling skill such as Cinema 4D, Maya and Blender significantly reduce the time required to develop SL building skills. However a similar test shows no significant results for scripting. This could be indicative that the Linden Scripting Language is easy to learn (even without previous programming related computer skills). Significantly ($p=.007$) more than expected males have advanced scripting skills and females have no scripting skills.

Next we considered whether the amount of time that a business owner has been active in SL impacts the success of their business. 6% have been active for less than a year, 67% of respondents have only been in SL for between one and three years and 27% have been active for more than three years. However, the length of time people have been in-world or in business are not correlated with monthly turnover. This is interesting as it means that start-ups are just as likely to succeed as well established businesses, thus lowering the barriers to entry for potential new business owners.

Initial capital investment figures provide additional evidence for low barriers to entry within the virtual economy as most of the respondents’ (62%) initial investments were between \$0 - \$50 and the most common monthly income significantly ($p<.0005$) indicated is \$101 - \$500 (Figure 4).

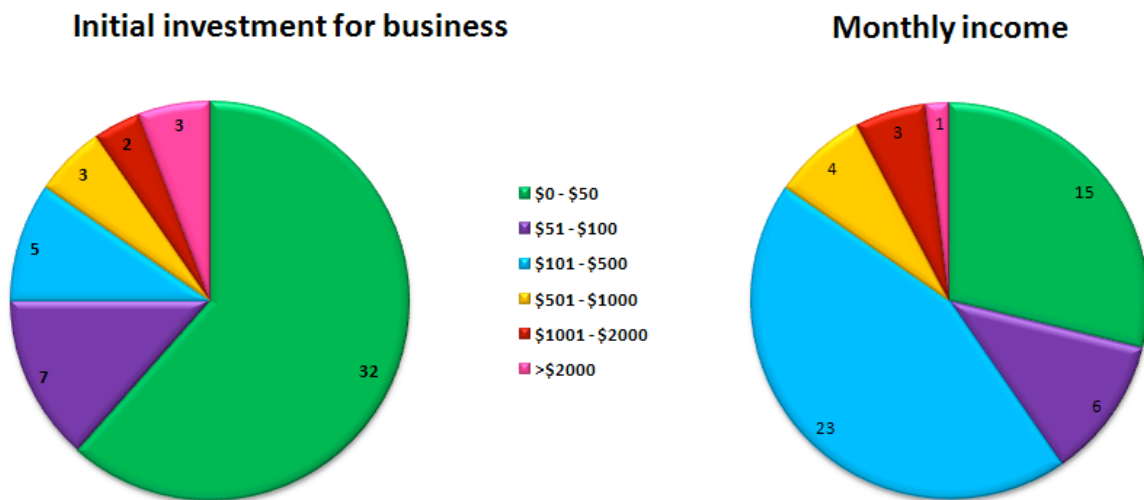


Figure 4: Initial investment & Monthly income (US\$)

This seems to indicate that the risk (in terms of initial investment) to potential return is relatively low although large investors may be feeling the pinch? Long-term earnings may be an important consideration in future studies. A number of respondents commented on the fact that while start-up costs are lower a time investment is still necessary, although some suggested this is the same as a normal business others implied it is less: “...in terms of personal investment (time, research and dedication) I think it is the same” as compared to “..real life takes a lot of paperwork. It takes tons of time and money that a stay at home wife like me just doesn’t have”

Respondents also stressed the fact that there are less regulatory requirements when starting a business in SL than in the real world, “There was no zoning requirements, no licensing requirements, no forms to fill out”. However one respondent did add a word of warning, suggesting “RL is very bureaucratic, but SL is (be)coming that way too”. Of the 52 respondents only 2% found it much harder to start a business in the virtual world. While 14% found it similar to starting a real world business, a significant (.018) majority felt it is easier to start a virtual business (25% “easier” and 60% “much easier”).

Summary and recommendations

For those who may be sceptical of the real value which can be generated in virtual worlds, this study has illustrated the experiences of approximately 50 current pure-play SL business owners. Increases in sales through the virtual marketplace of XStreetSL and apparent stability in terms of investment behaviour of individual business owners seem positive. While there is no particular type of business which is indicative of good sales, those showing a decrease are those businesses (based on textures) where copyright of the product cannot be guaranteed. Low start-up costs and limited regulatory

controls are great incentives to starting a SL business. One would hope Linden Labs takes cognisance of the issues raised by these respondents if they intend to boost business in world. Of importance is the fact that the attempts to keep Linden Scripting Language (LSL) easy to learn appears to have paid off considering scripting skills do not appear to impact business owners' sales.

Further studies relating to revenue streams, pricing models and customer relationship management are indicated by this pilot study. Complementary studies researching residents purchasing behaviour and what influences them to make a purchase would provide further insights important to determining the future potential of these economic platforms. In addition, not explored in our research, respondents have mentioned the role that the Linden \$ - US \$ exchange rate plays in this economy. Respondents have highlighted that the relatively low value of the L\$ makes it difficult for traders who are essentially charging out their time to create objects, to earn a fair wage, while this exchange rate makes transacting in world very favourable for customers who bring US\$ into the world. We would suggest this could form an interesting economic study for someone in this conference audience, although it falls outside our areas of interest and expertise.

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