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1.0 Introduction

This report aims to analyse the online e-business Second Life. The business development, structure and technical and aesthetical design will be examined and the various strengths and weakness of the adopted techniques highlighted. The application of relevant theories and concepts which support the research are drawn upon, where appropriate. A user satisfaction survey is conducted and the results analysed. Finally, a concise conclusion indicates Second Life's overall business success and largest strengths and suggested improvements.

2.0 History and Development

2.1 What is Second Life?

Second Life (SL) is an internet-based 3-D virtual world which was launched in 2003. Its approach is similar to networking sites such as YouTube, MySpace or Facebook where users contribute hugely to the business, providing the platform and ultimately, making the business work.

Second Life is free to enter and also navigate but in order to understand its full functionality, you have to buy land. The platform is generally used:

- To buy land and build things such as shops, houses, offices, galleries etc…
- You can sell things such as jewellery for example, for Linden dollars (SL currency)
- You can create your own profile with your personal details
- You can auction land (registered users only), using eBay technology

Companies also use Second Life as alternative offices in which colleagues can congregate to view materials, as they appear better visually in SL in oppose to the web (see Fig 1.1 below). Furthermore, a marketing plan was developed using Second Life by Bovington's firm in collaboration with the Carat Group, for the Walt Disney film 'Hitchhiker's Guide to the Galaxy'. They used SL to create 3D posters, CD-ROM's and a website, resulting in an overall saving of about $175,000 on modelling services and travel (Robert, 2006).

Fig 1.1 Example: Andy Powell from Eduserv showing PowerPoint slides Second Life (Reuters, 2007)

Linden Lab makes its profit by receiving a cut from currency exchanges and also by selling and taxing the real estate in SL (LaGesse, 2007).

2.2 How was the idea developed?

The idea was formulated by Philip Rosedale, the founder of Linden Lab. The concept was previously named 'Linden World' in 1991, but was re-named 'Second Life' and launched on June 23rd 2003 on 16 servers with around 1,000 users. These figures significantly amplified in 2006, with 3,000 servers and nearly a million registered users (Rymaszewski, 2007). Now, there are an estimated 11.5 million registered users, some owning multiple accounts. Its prominence has arisen from international attention via mainstream news media (Wikipedia, 2008).

The world which denotes Second Life was inspired by the cyberpunk literary movement and also by Neal Stephenson's novel 'Snow Crash'. The main goal of Linden Lab was to devise a world resembling the Metaverse depicted by Stephenson. This was a world where users can interact, play, conduct business and also communicate with others (Wikipedia, 2008).

2.3 The Web-based System

The web-based system is located at http://secondlife.com/. It was created by Linden Lab and its main features are:

- Basic membership plan – entitles you to enter the site, access all functions but not buy land for free
- Extra basic account - $9.95, lets you buy land, cost is dependant on users requirements

There is a huge database of companies which feature on Second Life, some examples are; Yahoo, Xerox, Dell Adidas, Sky News, Reuters, IBM, iVillage, Toyota and Phillips. These companies conduct business using the currency Linden Dollars (L$) which can be exchanged for real US dollars. Although the exchange rates are constantly fluctuating, one US Dollar is equivalent to about L$250 (Second Life, 2008).

On the other hand, Second Life is not the only business of this kind. It has many competitors including: There, Active Worlds and the Red Light Center (Wikipedia, 2008).

2.4 The Business Life Cycle and SL

As Second Life was launched in 2003, it is a relatively new business. As it is a fairly new concept, Second Life is not competing with existing businesses of the same genre and this could explain why Second Life is so successful as a business. Their concept of 'conducting business within a virtual world' is very innovative and has proved to be a success. They have not yet reached the 'reinvention stage' within the business life cycle but remain at the 'sustain' stage as the business is still popular, and adopts many customers daily.

3.0 Business Model, Value Proposition & Source of Revenue

Second Life's success to date, has not solely relied upon any one single business model. Instead the combination of multiple, each model having a different value source, value proposition and source of revenue. The predominant business models are noted below.

3.1 Virtual community

3.1.1 Value Proposition
Although often used as an add-on service for many companies, providing a virtual community is SL's primary focus and where its strength lies. SL directly connects its members to a growing network of people, via a real time simulated virtual environment, which can be modified by its members hence also providing a collaborative design platform. Members can, along with choose who they interact with and how, by using the communication technologies provided, i.e. chat, instant messaging and group notices, also determine the physical appearance of their avatar and the surrounding 'environment', through the use of 3D modelling tools and scripting languages embedded within the service. To enhance the service further, members are granted IP rights on all in world creations, enabling them to sell and lease them on if desired. These combined features largely give way to service customisation and a fit for all service, which widens the potential target audience. This target audience is further extended, by the provision of a teen's only virtual community, for those aged 13 – 17.

3.1.2 Value Source
Members ultimately create and maintain the content within the VC and hence determine the attraction level of new members. If the VC contained no valued content, there would be no reason to join, which in turn would have an adverse effect on profitability. For this reason it is important that SL continues to provide initial incentives, such as free basic membership, to encourage users to join and entice

members to re-subscribe, who will then provide the added value needed to attract further members and in turn valued content.

Members being the sole driver of the VC indicate that SL, as well as being a business to consumer (B2C) service, is a business to business (B2B) service. With the number of active registered members, businesses identify the benefit and potential to reach a mass target audience, through a trusted channel and hence themselves become a member of the VC. Business participation further increases the VC's value and again the number of members attracted. Including business competitors who realise they are losing out, on an opportunity their competitors have taken advantage off.

3.1.3 Revenue Source
Premium membership fees starting at $9.95 a month and land leasing, hosting facilities and server space respectively, are the largest revenue drivers derived by the Virtual Community business model. The price plans offered are dependent on the length of subscription and customer buying and leasing trends; therefore providing a customised service and an incentive, with savings of up to $47 annually to re-subscribe.

3.1.4 Strengths & Weaknesses

Digital Services
SL provides real time digital services, therefore the need for repeated production and hence the associated time and costs are removed; ultimately making SL 'cheaper' to produce and easier to update. Furthermore SL is easily distributed over the internet via downloads. This eliminates the need for physical delivery and storage facilities. It is only the server space on which the service resides, that will need to increase as the service and demand for it grows.

Trusted Network
Joining a community generally provides members security in knowing the people around them. Members are therefore likely to take advantage and advertise products / services they wish to sell, with the knowledge that being in a trusted environment, members are more likely to try recommendations in comparison to seeing an advert, simply placed on the internet. This potential rapidly increases the number of community members and in turn community value.

Members
Whilst members are SL's strongest strength, they can easily turn around to be its strongest weakness. It is not the number of registered users that is important, but the number of pro-active users. In this case if the VC had non valued content and or a lack of activity, revenue would drop rapidly. Therefore SL needs to ensure the 'buzz' within the VC, remains for as long as possible and needs to introduce changes and revisions when necessary, to extend it.

Content Control
Linden Lab as a service provider only provides the VC SL platform. It has no control over the quality, safety and or accuracy of content included, which suggests its members although may perceive SL as a safe environment, it is not. This factor can easily be the cause of damage to SL's reputation. If several users have bad experiences due to the nature of the content and community members, dependent on the seriousness of the matter, it is likely to spread through word of mouth and discourage new members to join and or existing members to re-subscribe. Hence it is important Linden Lab take as many screening processes as possible, to help maintain the security and reputation of its community.

Customer Profiling
SL has over 12,000,000 members (Linden Labs, 2007). This provides the benefit of being able to 'lock in' on specific groups and tailor products and information to their needs. I.e. Land pricing packages and email campaigns. Members perceive these efforts as a personalised service, which in turn improves their satisfaction level.

3.2 E-Mall

3.2.1 Value Proposition
SL provides members, (including potential) with a generalised umbrella view, of many of the shops and services available in SL. Each listing contains a brief description about what they offer, as well as a direct connection to their shop front access point. This umbrella provides a snapshot view of what is available through the community platform.

Increased traffic flow and brand reinforcement are offered to the listed e-shops and services. Members browsing in one shop are likely to browse in neighbouring shops, therefore potentially helping to increase sales and brand recognition. Furthermore, they can take advantage of the already embedded electronic payment systems, in place within the platform.

3.2.2 Value Source

SL a strong and recognised brand image, is likely to create an environment of trust and therefore increase the readiness, amongst its members to purchase; they are more likely to trust a recommended shop / service made by a known brand, then an unknown brand. It is for this reason why hosted e-shops and services see value in advertising under SL.

The hosted e-shops and services in turn will improve the perceived value of SL; the more content it has, the more value it will appear to have and therefore the more traffic it will have.

3.2.3 Revenue

The e-Mall business model drives it revenue from the advertising fees, charged to the E-shops and services hosted on the SL platform. Advertisements start from $L250, with the highest priced ones been given more exposure, displayed higher up on the listings.

Revenue is also driven from the non refundable advertisement fees, obtained from third party applications, designed for use in SL.

3.2.4 Strengths and Weaknesses

The circular nature of an E-mall and the value derived from it, can easily take a negative effect. If an E-shop or service perceived as recommended by SL, via its listing accompanies a bad experience, then SL will also be associated with the bad experience. This on a large and repeated scale could damage SL's reputation and remove the value E-shops and services previously saw, as the reason for advertising with them. Ultimately this would result in a loss of value and revenue for SL, which suggests they should make clear the independent relation between them and the hosted services.

3.3 E-Auction

3.3.1 Value Proposition

SL provides an ebay sponsored, simple and automatic bidding facility for its members. The bidding mechanism is used to help resolve conflicts of interest on the same piece of land.

Referral, association and marketing are the value propositions offered to ebay. Each time the SLs website is accessed, ebays logo, as part of SLs promotions is seen, thereby indirectly reminding the users of ebay and the services they provide.

3.3.2 Value Source

Using ebay sponsored technology reinforces SL's brand image. ebay is a well established and known company for its high quality service, therefore by sponsoring the bidding technology used by SL, they indicate their usage approval. Thus the technology to be of their standard and something they are supportive of.

3.3.3 Revenue Source

Land bids are a direct source of revenue since the pieces of land are owned by SL and not a third party. Bids can range upwards from as little as $L100 and occur for multiple pieces on a daily basis.

3.3.4 Strengths and Weaknesses

The bidding mechanism allows Linden Lab to make better use of their server space, helping to ensure created land (server space) is not idle for too long and if it is they have the ability to sell it off cheaply.

The negative side to the E-Auction model is its dependence on the need and desire for land. If this does not exist then there will be few bidders and little revenue. Hence Linden Lab needs to continually highlight the benefits and value of joining the VC SL, so that people continue to demand land.

3.4 E-Marketplace

3.4.1 Value Proposition

SL connects suppliers to buyers, as well as provides the platform that allows the trading between; this is a key strength. It makes trading simpler and accessible and executable from one access point.

3.4.2 Value Source

Value is gained through the provision of the virtual unit of trade Linden dollars, which has real market value. Linden dollars can be exchanged for real US dollars, giving members the opportunity to make real money, through a virtual community and hence acting as a strong attraction point for new members and a large competitive advantage.

3.4.3 Revenue Source

The purchase and exchange of Linden Dollars is a continuous revenue source; the exchange rate LindeX is determined by SL and currently lies around $1 to $L250.

3.4.4 Strengths and Weaknesses

The success or failure of the connected businesses does not affect the success of SL, hence there is no dependent relationship and no restriction on the type of business hosted.

Furthermore, it provides many to many connectivity and removes the need for paper based ordering systems; the communicative and transaction technologies and processes, enabling trading are embedded within the system.

3.5 Value Chain

SL being a largely a self contained, 'digital' service residing on Linden Labs hosting servers, requires no outsourced components or delivery services.

Its value added activities however, do include offering PayPal payment options. This service used by million of users' worldwide, increases SL's attractiveness and in turn use. It improves and simplifies the transaction processes and creates a secure payment environment. PayPal accounts (along with alternative payment options i.e. credit card), are used to confirm identities and prevent the need to re-enter details, each time a transaction is made.

SL is currently in the process, of improving the security of its services further, by working with Aristotle, a verification technology and data services provider. The use of their ID verification technology Integrity, once fully tested, rolled out and embedded within SL, will provide VC members the opportunity to build safe and trusting relationships. Other members wishing to access their 'restricted' area will have to be screened checked before being allowed to enter. Therefore, giving potential users and existing members, the confidence that they will be in a secure environment with people they 'know'.

3.5.1 Other Value Added Activities

"The gap is not between other online outlets and Second Life but rather between Second Life and real life." (Blossom, 2006).

SL gains a large proportion of its value, through its innovation. The level of interest has led to a number of non partnering individuals and companies heavily investing in it and its development, thereby extending its value at no additional cost of the companies. Members are not only able to use SL, but also the third party applications created for use within it, such as identity, discovery and photo sharing tools. These collectively enhance the attractiveness and usability of SL. The creation of a mobile phone version, a development made by Comverse, a wireless multimedia networking company, further increases SLs value. It provides the benefit of being able to access the service on the go.

Another competitive advantage derived from SL's innovation and popularity, is the level of free advertising received from a number of sources, inclusive of user blogs, fansites and news reports. These forms of advertising relieve SL's marketing costs and allow their promotional activities to be focused elsewhere.

SLs value is additionally enhanced by the customer relation management system i.e. FAQs, web chat facilities and contact numbers, as well as the rich network of information resources available, such as the dedicated Wikipedia site**,** blogs and fansites**.** The availability of these support resources is likely to encourage service use, since information about it and its use is readily at hand.

Last but not least SL benefits from Linden Labs "Be Transparent and Open" culture. Members are informed where possible of all service planned outages and reported problems. This prevents the service being perceived as unreliable, but instead as organised and promotes the companies supportive capability.

3.6 E-Processes

PayPal Electronic Funds Transfer (EFT)
When the PayPal payment method is chosen, the user is transferred to the secure PayPal pages where they enter their details and pay. Once the transaction is completed they return to the SL website. If a credit card payment option is chosen, the user stays within the SL website, enters the relevant card

details and pays. Both methods hide the authentication process (bank check against the identity and card used), before a transaction is confirmed. Once the transaction is confirmed, the money is automatically transferred between the two accounts. This removes the time, cost and error associated with cash and cheque based processing i.e. late payments, bounced checks and the printing and delivery of paper based invoices.

Aristotle Electronic Data Interchange (EDI)
When the ID verification option within the VC is chosen, the member is likely to be prompted (technology still in testing phase so no access available) to enter specific identifying information such as a drivers license number, passport or national ID card number. The entered data will then unknowingly be checked against pre-existing databases, of public record to confirm their identity. On success, the member will be granted access to the restricted area.

Although this will be an outsourced capability, it is likely to be fully integrated into SLs infrastructure and therefore perceived as a service directly offered by SL. Hence the use of EDI in its integration, will improve the perception of SL's efficiency. It will allow for quick responses; the data will not require human intervention, it will be sent in a format that can be directly processed.

3.6.1 Other E-Processes

Registration Account Creation
Users are able to register through electronic web forms which can instantly be processed. Thereby giving users' almost immediate access to the service requested, along with the ability to update their account details when required.

Customer Relationship Management (CRM)
SL tracks member purchases via their account transactions and creates personalised packages. In addition, members, dependent on their account type, are able to contact customer service via text, chat, phone and self help i.e. FAQs. These help to ensure despite being an electronic service, users are able to make contact with members of staff and obtain all information if necessary. SL also provides opt-in emails for a variety of subjects such as service downtime, latest news etc enabling members to be automatically kept up to date with the latest developments in the chosen areas; mechanisms such as these help customer retention.
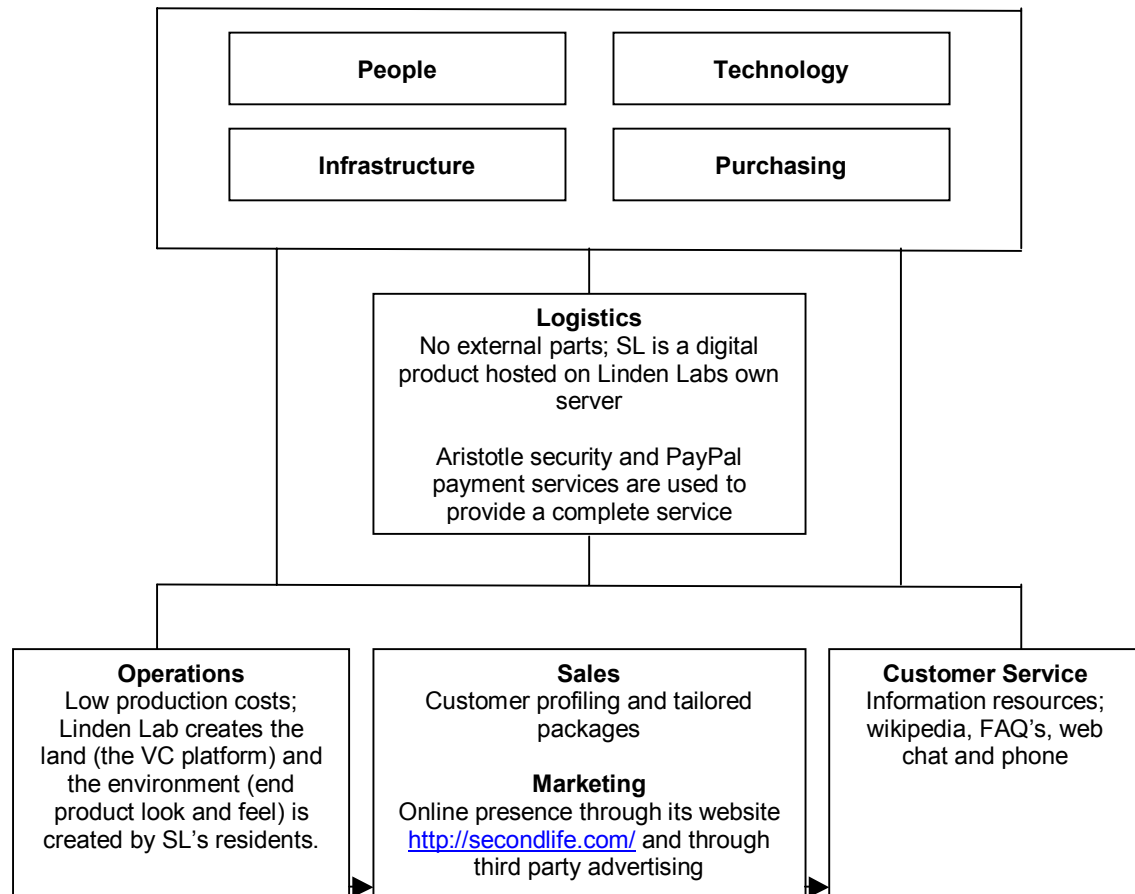
Delivery
SL's service is downloaded from the company's server, to the customers' hard disk via a thin client, which once installed enables content streaming.

External Resources
Instead of completing a project poorly and or providing no extension guidance at all, Linden Lab provides electronic links. These take the user to third party applications and information sites, which are directly suited to helping with specific projects. The inclusion of these links improves the overall user experience. Users are not left to work it out on their own, but instead pointed in the right direction for help.

3.7 Summary: Business Model Analysis

SL's primary value chain activities can be summarised using Michael Porters Value Chain model.

People	Technology
Infrastructure	**Purchasing**

Logistics
No external parts; SL is a digital product hosted on Linden Labs own server

Aristotle security and PayPal payment services are used to provide a complete service

Operations	**Sales**	**Customer Service**
Low production costs; Linden Lab creates the land (the VC platform) and the environment (end product look and feel) is created by SL's residents.	Customer profiling and tailored packages **Marketing** Online presence through its website http://secondlife.com/ and through third party advertising	Information resources; wikipedia, FAQ's, web chat and phone

4.0 Technical Analysis

4.1 Programming Structure

Second life's website is available at the unique URL: www.secondlife.com. The site has several images on each page to illustrate the 'virtual world' users will be able to interact with. These images are created using a variety of different software packages, including Adobe Photoshop which could be used to create the many images and advertisements, Macromedia Dreamweaver for the website structure and Macromedia Flash (for the 'showcase' page which features an embedded flash animation). The website's main functionality is through the use of scripting languages such as HTML, XML and JavaScript. The website functions on most browsers such as Internet Explorer 4+, Safari, Netscape 4.5+ and Firefox 1.5+ and is compatible with operating systems: Microsoft Windows, Mac OS X, Linux and FreeBSD. The combination of these technologies allows the creation of an accessible and attractive website.

Upon accessing the website homepage, users are immediately presented with a rather large '3D-image' assumed to be created using SL, followed by the words 'Join Now!' (See Figure 1.1). This encourages users to sign-up instinctively.
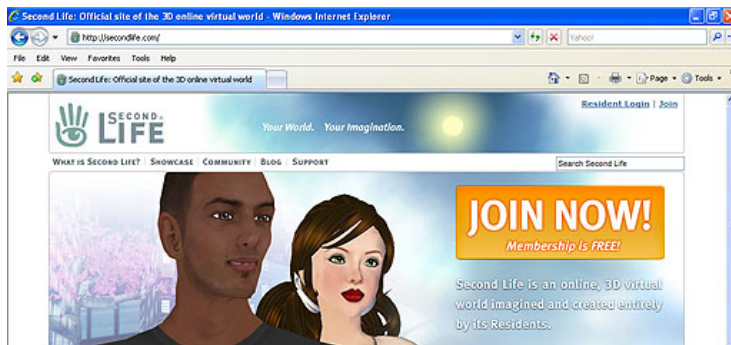
Fig 1.1. Second Life Homepage

The website uses Hypertext Transfer Protocol (HTTP). This is made apparent when transporting information; the URL initiated with 'https://….' appears in the bottom left-hand corner of the screen. HTTP is the protocol that enables programs at both ends of the communication link, to converse with each other.

4.2 Registration & Login-system

The registration and login system used within SL is simple yet effective. It uses electronic forms which are created using HTML and Cascading Style Sheets (CSS). These forms are connected to a database (mySQL) and JavaScript is used to validate information entered.

4.2.1 Registration

Upon registration users can select a community, then enter basic details such as their avatar name (which could be fictional) and choose from a selection of surnames (see Fig 1.2: numbers 2-3 below). If a name chosen already exists, the user has the option to enter a new forename, alternatively they are able to select from a list of system generated names. The error is prompted if the name entered already exists within the existing customer database. JavaScript (included in the HTML document) is used to verify that the two entered email addresses are identical, in the case that they do not match, the user is prompted to re-enter the information. (See Fig 1.2: number 4 below)

Fig 1.2: Registration steps

4.2.2 Login system

The login system is similar to the registration process in that it is created using forms in HTML, and details are stored in a mySQL database. The information entered by the user is compared to that in the database and if it does not match the user is presented with an error. Furthermore, as an added security measures the ReCAPTURE window (please refer to Fig.1.3) is shown and users will have to complete this task (please refer to security). The customer is then able to alter their membership and modify their account details; such as change their password or contact information or even cancel their account and the database will automatically be updated with the new information.

4.3 Security

The presence of a password strength bar (see Fig 1.2), which is likely to use JavaScript, encourages customers to enter a password which cannot be easily guessed. Inclusion of this visual aid helps user's asses how prone their account is to hacking and thus encourages them to enter a complex password.

Fig 1.3. Password strength

Furthermore, as an added security measure, SL uses a system proposed by 'ReCAPTCHA' (see Fig 1.4). In this, users have to verify the code given to them and enter it precisely. Two options for doing so are provided; audio and visual. Audio, in oppose to deciphering the presented words is likely to appeal to those with vision difficulties, since many of the presented characters are ambiguous. Use of this feature prevents automated services such as spam from abusing their service.

Fig 1.4. ReCapture field, placed at the bottom of registration form

As a further security measure, the system sends an email to the customer's email address which includes a URL, which they must click in order to validate their application.

4.4 Land Auctions

The land auction functionality uses eBay sponsored technology; this enables customers to search for specific patches of land and monitor the progress of current and live bids. Additionally, members are able to view their accounts and the bids they have placed.

The strength of this mechanism is that a member's account becomes inactive after 7 days, if the land purchased is not paid for. It allows close monitoring of purchases.

4.5 Purchasing

The payment methods accepted for online purchases include the most common forms i.e. Visa, MasterCard etc. Upon payment, customers are required to enter their current address and the security code of the card being used for payment. If the card details do not match with the customer's information the payment is declined as these combined verify both the user and card.

4.6 Customer Privacy and Security

A major concern for e-business' is to address consumer distrust in the online shopping environment (Arnold, Landry and Reynolds, 2007). To address this issue, assurance provision is increasingly important for building trust with consumers, often implemented through "trust marks and reputable third parties" (Kimery and McCord, 2002; Aiken and Boush, 2006 cited in Arnold, Landry and Reynolds, 2007).

Assurances provide "certification on the legitimacy" of the e-retailer. Examples such as AOL Certified Merchant, Web Assured, TRUSTe and VeriSign help provide credibility. Second Life unfortunately does not place emphasis on the security trust marks. This could affect the consumer's perception on the safety and security of the company.

On the other hand, Second Life does provide information on data security. In their 'privacy policy' they clearly state; "We comply with applicable laws and industry standards when transferring, receiving and storing consumer data. Access to your personal information is limited to those Linden Lab employees who require the information in order to provide product". (http://secondlife.com/corporate/privacy.php#04) This would but customers at ease, as disclosing personal information can cause a great concern amongst customers.

4.7 Feedback Facilities

Second Life has tried to make their website look user friendly as their portrayal of the company can be judged upon the aesthetics and ease of use of their website. Their feedback and 'FAQ' section is visible on the homepage and they have placed related areas of interest together in order to make it easier for the customer to locate.

4.8 Design

Clean appearance
Second Life successfully manages to create a clean and simple, yet visually attractive website. This is evident through the use of a white coloured background and hence the use of white space, which according to Oppenheim and Ward (2006), "is essential when trying to achieve an uncluttered appearance". The colour white also promotes "purity, cleanliness, lightness and emptiness" which aids navigation through the site whilst maintaining its 'professional' look. The user is instantly able to see the different elements of focus opposed to being distracted by a 'busy' and 'cluttered' screen. The font styles and light colour scheme are consistent throughout and make browsing the website a pleasant experience.

Ease of use
According to Cunningham 2000 and Badre 2002 cited in Oppenheim and Ward, 2006 "content is what will determine long-term profitability". To focus on technology without content is like building a hospital without nurses and doctors". Wrongly placed and incorrect information will affect potential sales. Looking through the SL's website, there is adequate descriptions and photographs of the product / service provided. The website is also broken down into manageable and comprehendible sections suggesting further ease of use for the user.

Navigation System
"Consistent placement of interface elements can help users learn to recognise them, allowing maximum benefit from experience using the site" (Badre 2002 cited in Oppenheim and Ward, 2006). This is evident in SL's website. When browsing through the site, the navigation is in a consistent place; a simple categorised menu at the top and a detailed and sub divided menu towards the bottom of the screen. This consistent placement helps ensure customers know exactly where they are, and where they are able to explore.

Graphics
The carefully placed graphics throughout the website aid the customer's perception of Second Life as it displays examples of the 'virtual world'. It makes the site more aesthetically pleasing as well as acting as a visual aid, supporting the transcript.

4.9 Strengths and Weaknesses of the Technical and Design structure

4.9.1 TECHNICAL

Strengths

- They use a simple registration system with good security measures. It does not ask for unnecessary information such as the customers address. This is only requested if the user wishes to add payment details/upgrade their account.
- The use of encryption keys is used to verify members; these controls make information harder to intercept.
- Data privacy options; the users are able to select which forms of information are displayed.
- Separate 'Teens' only SL for those under 18; registration requires a valid birth date.
- Information is up-to-date and the site is updated regularly.
- The registration and activation process is efficient; confirmation and activation is generally received within 1 hour.

Weaknesses

- There is no automatic log out; users stay logged in even if there account has been inactive for a few hours. This is a downfall as others may be able to use the account while unattended. A re-connection password should therefore be implemented to ensure a valid user is making use of the account.
- There is no limit to the number of incorrect attempts to login to the system. This is a negative aspect since it gives way to the hacking of user accounts.
- The ability to sign in as a guest if login details are forgotten gives rise to misuse of the system. This feature easily allows those trying to access the system without an account / another member's account details enter without officially signing up.
- They do not place emphasis on the security trust marks such as VeriSign upon purchases or on their website, this could be an improvement to the website

4.9.2 DESIGN

Strengths

- The colours and fonts used are readable and make the site appear 'clean' and uncluttered
- The design of the navigation system is apparent as soon as the user visits the homepage
- For new members the 'Join Now' text is prominent and encourages new customers to register
- The site is very visual as it employs a large number of pictures
- For the menu displayed on the 'showcase page' (see Fig 1.5 below) the images are carefully placed to reinforce and show an example of the specific area
- The 'support' section is clearly visible at the top of the site

Weaknesses

- Although the 'support' section is clearly visible at the top, the 'contact' details, although apparent on the homepage are not immediately visible, the customer has to scroll in order to notice these, so an improvement could be to place 'contact information' near the top of the page
- The images of second although very attractive, are rather large and dominate the site, whereas more information could be used in these areas
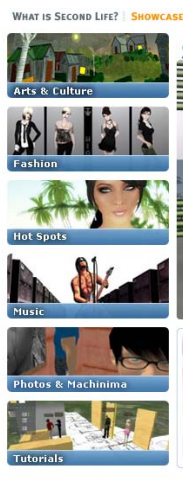

Fig 1.5 'Showcase menu'

5.0 Satistica

Satistica was used to asses the quality perceived by SL's customers. A survey was created and distributed to students on the Multimedia Technology and Design course, other students and residents within SL.

5.1 Survey Design

Focusing on a number of areas (please see below), opposed to one allowed the overall satisfaction with SL and its service to be monitored. For the finalised and distributed questionnaire, please refer to Appendix.

Areas of focus
- Website usability
- Information content
- Product / service pricing
- Security
- Transactions
- Customer service
- Customer support

5. 2 Analysis of Results

The overall usability of SL's website can be considered to be a strong point, receiving an overall **CORE Satisfaction** of 0.642. The results suggest the largest areas for improvement are the efficiency of the sites response, along with the browser friendliness. Whilst it is clear the site responsiveness is an area for improvement, the need to improve the compatibility with browsers is questionable. It is likely that users only use second life with their consistent browser and not across multiple. Therefore those that answered the questionnaire may have not selected this element, not because the site was not browser friendly but because they did not know whether or not it was. This element would have to be re-measured for accurate results.

The content contained within the site is predominately perceived as fit for purpose and that which is accurate, suggesting all the necessary and essential information is easily accessible, without having to contact customer service. Whilst 11 respondents suggest the information is more then necessary, in comparison to the 37 respondents who selected the fit for purpose option this is not considered an area for concern.

Membership fees on the whole were considered to be average if not cheaper, indicating users of the service were happy with the pricing strategy; the results indicate a 0.972 satisfaction level. This is thus an area of the service which does not need immediate attention or improvement.

Although the CORE satisfaction level is reported to be 0.92, for the level off security felt, when processing transactions, there is slight room for improvement in this area. 31 respondents selected the 'Safe; I have a rough idea of what procedures are in place to protect my data' option. This implies whilst they trust the transaction process, the data privacy and security measures in place, to validated details should be made more visible. This will help to ensure all users are confident and know the procedures that protect their data in place.

Account activation waiting time, receiving a CORE satisfaction level of 0.957 strongly implies the strength in this area. The majority of users' imply they had to wait no longer then an hour to receive their activation details.

The feelings about the customer service received were mixed and suggest this could be an area to be improved. Out of the 45 respondents, only 22 implied the service received was friendly and only 25 implied it was responsive. Therefore to achieve a satisfaction level higher then 0.619, among it customers, the tone and responsiveness of the customer service needs to be analysed and re-worked. These findings are re-iterated through the results of question 9, where the customer experience was rated as good / average by 43 respondents in total. Improving the type of service received is likely to impact the overall experience of using SL.

0.963 is the satisfaction level in regards to the number of support tools available. This indicates this area of service is sufficient for the users needs.

5.3 Summary: Satistica
Amongst 54 respondents, the overall CORE satisfaction level with SL's services is 0.867. This indicates

SL's service to date is strong and one that is likely to encourage users to return. Whilst operating strongly in a number of areas, the areas which could be improved and thus improve the overall satisfaction level further have been highlighted as the website responsiveness, membership fee pricing and the customer service.

6.0 Conclusion

This report has shown how Second Life has developed from its early development stage to its current maturity stage. Findings suggest Second Life's success has heavily relied upon its innovation coupled with the ease and usability of its online store Second Life. Without the ease of use, Second Life would not be in its current position today. Since it is this, through which its customers access its services. Innovation is also a key strength, providing a service new to the virtual community industry. Please refer to the Competitive Analysis Checklist below to see the advantageous position Second life holds. On analysis of the various business activities, recommended improvements to enhance business performance include improving the efficiency of the online store as well as revise the customer service offered to the customers. Continual adoption of multiple business model structures is also a strong recommendation. This widens Second Life's value propositions and revenue sources; thus helps grantees future and lasting success.

Competitive Analysis Checklist

	High	Medium	Low
Competitive Rivalry		Unusual but advantageous.	
Power of Customers	They are the business value.		
Power of Suppliers			Components, storage and delivery done in house; therefore minimal suppliers.
Ease of entry to market		Need to have experience / knowledge using the equipment.	
Threat of Substitutes			Not many alternatives with the same functionalities.
Overall Evaluation			

7.0 References:

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[www] [Accessed: 20th January 2008]
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Wikipedia (2008). Second Life.
[www] [Accessed: 23rd November 2007]
Available from: http://en.wikipedia.org/wiki/Second_Life

8.0 Appendix

Satistica Survey

Please login into Satistica using ee04mmm3, 0404152 to see the final questionnaire distributed.

Satistica Survey Results

Summary ⬆

Number of responses : 54
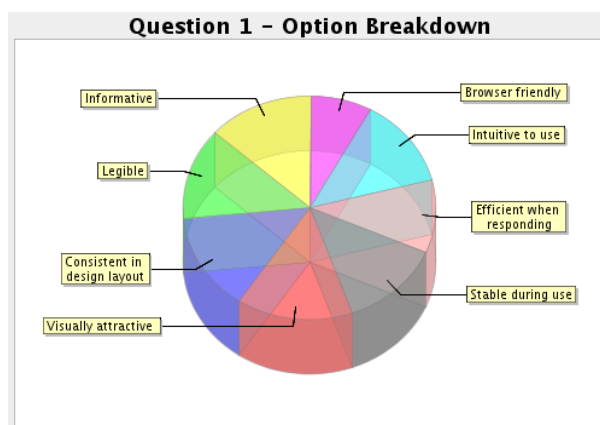Overall CORE satisfaction : 0.867

Summary For Question 1 ⬆

Question was a *multiple choice* question.

Text: The second life website is:

Number of responses to the question: 54

CORE Satisfaction: 0.642

Option Selection Breakdown

Index	Text	Value	Count
1	Visually attractive	1.0	44
2	Consistent in design layout	1.0	41
3	Legible	1.0	39
4	Informative	1.0	40
5	Browser friendly	1.0	23
6	Intuitive to use	1.0	38
7	Efficient when responding	1.0	31
8	Stable during use	1.0	38

Summary For Question 2 ⬆

Question was a *long textual* question.

Text: How could your experience of using the website be improved?

Number of responses to the question: 54

Summary For Question 3 🔼

Question was an *exclusive multiple choice* question.

Text: How detailed is the information contained within the website?
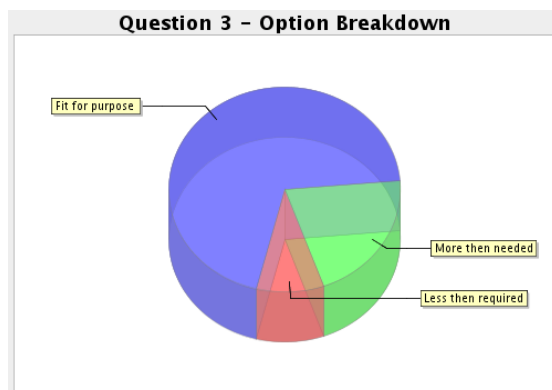
Number of responses to the question: 53

Mean: 2.113
Median: 2.0
Mode: 2.0
Standard Deviation: 0.537

CORE Satisfaction: 0.947

Option Selection Breakdown

Index	Text	Value	Count
1	Less then required	1.0	5
2	Fit for purpose	2.0	37
3	More then needed	3.0	11

Summary For Question 4 🔼

Question was an *exclusive multiple choice* question.

Text: How accurate is the information on the website?
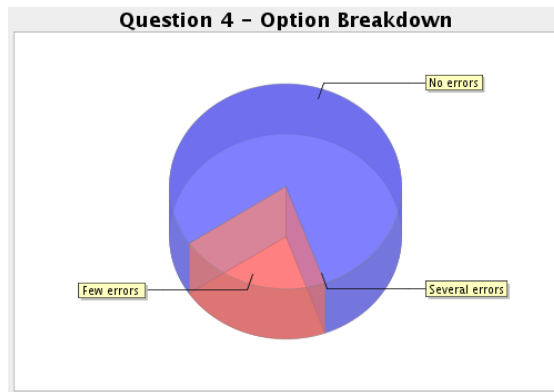
Number of responses to the question: 52

Mean: 2.788
Median: 3.0
Mode: 3.0
Standard Deviation: 0.408

CORE Satisfaction: 0.917

Question 4 – Option Breakdown

Option Selection Breakdown

Index	Text	Value	Count
1	Several errors	1.0	0
2	Few errors	2.0	11
3	No errors	3.0	41

Summary For Question 5

Question was an *exclusive multiple choice* question.

Text: How costly are Second Life's membership fees?
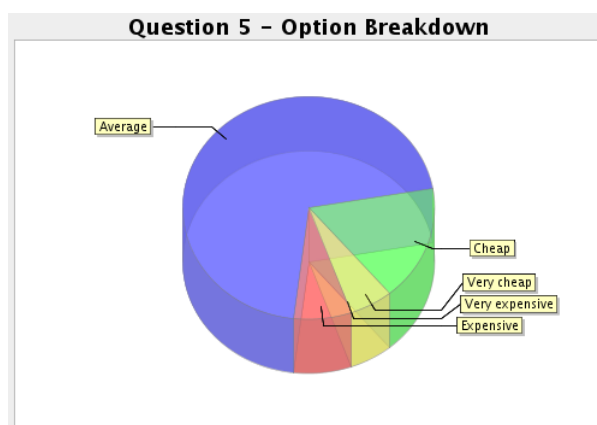
Number of responses to the question: 54

Mean: 3.203
Median: 3.0
Mode: 3.0
Standard Deviation: 0.649

CORE Satisfaction: 0.972

Question 5 – Option Breakdown

Option Selection Breakdown

Index	Text	Value	Count
1	Very expensive	1.0	0
2	Expensive	2.0	4

3	Average	3.0	38
4	Cheap	4.0	9
5	Very cheap	5.0	3

Summary For Question 6

Question was an *exclusive multiple choice* question.

Text: How secure do you feel your data is when processing your account membership fee?
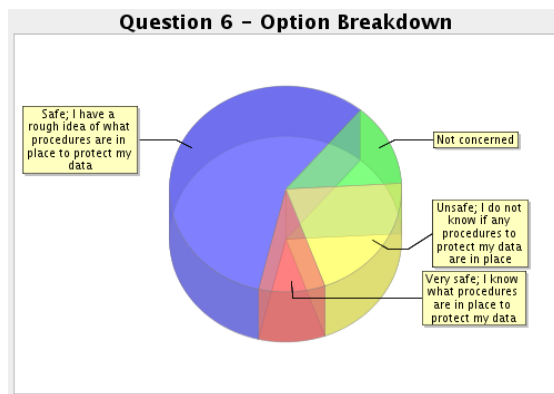
Number of responses to the question: 54

Mean: 2.111
Median: 2.0
Mode: 2.0
Standard Deviation: 0.532

CORE Satisfaction: 0.92

Option Selection Breakdown

Index	Text	Value	Count
1	Very safe; I know what procedures are in place to protect my data	1.0	5
2	Safe; I have a rough idea of what procedures are in place to protect my data	2.0	31
3	Not concerned	2.0	7
4	Unsafe; I do not know if any procedures to protect my data are in place	3.0	11

Summary For Question 7

Question was an *exclusive multiple choice* question.

Text: How long did you wait until the account was activated?

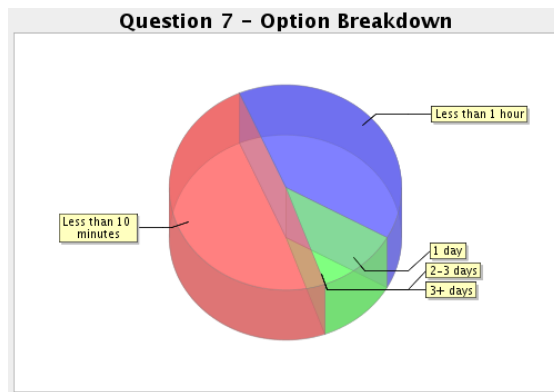Number of responses to the question: 53

Mean: 1.622
Median: 2.0
Mode: 1.0
Standard Deviation: 0.679

CORE Satisfaction: 0.957

Option Selection Breakdown

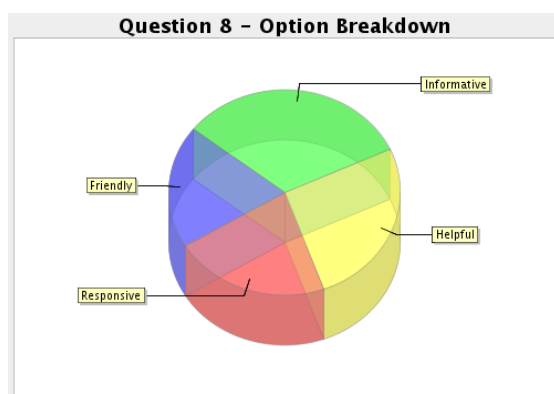| Index	Text	Value	Count
1	Less than 10 minutes	1.0	26
2	Less than 1 hour	2.0	21
3	1 day	3.0	6
4	2-3 days	4.0	0
5	3+ days	5.0	0

Summary For Question 8

Question was a *multiple choice* question.

Text: The customer service provided is:

Number of responses to the question: 45

CORE Satisfaction: 0.619

Option Selection Breakdown

Index	Text	Value	Count
1	Responsive	1.0	25
2	Friendly	1.0	22

3	Informative	1.0	37
4	Helpful	1.0	30

Summary For Question 9

Question was an *exclusive multiple choice* question.

Text: How is the customer experience during your use of Second Life?
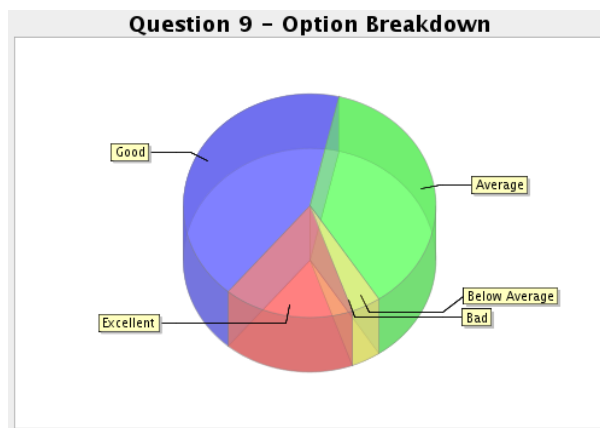
Number of responses to the question: 54

Mean: 3.722
Median: 4.0
Mode: 4.0
Standard Deviation: 0.779

CORE Satisfaction: 0.869

Option Selection Breakdown

Index	Text	Value	Count
1	Excellent	5.0	9
2	Good	4.0	23
3	Average	3.0	20
4	Below Average	2.0	2
5	Bad	1.0	0

Summary For Question 10

Question was an *exclusive multiple choice* question.

Text: How appropriate is the number of Customer Support tools provided?

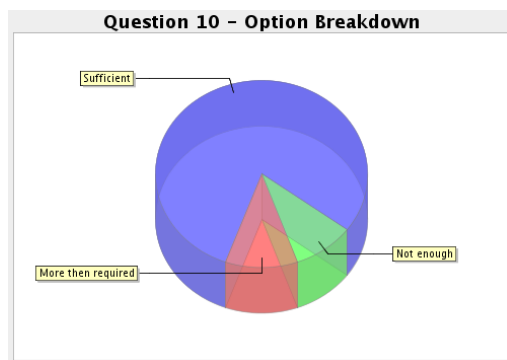Number of responses to the question: 54

Mean: 1.981
Median: 2.0
Mode: 2.0
Standard Deviation: 0.45

CORE Satisfaction: 0.963

Question 10 – Option Breakdown

Option Selection Breakdown

Index	Text	Value	Count
1	More then required	1.0	6
2	Sufficient	2.0	43
3	Not enough	3.0	5