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Communication in Second Life and E-business Opportunities: A Case Analysis

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Abstract: Second Life is an online, 3D virtual world imagined and created by its residents. The aim of the current study is to investigate why people communicate in Second Life and effectiveness of communication to perform e-business in virtual environment. The most common communication media used in Second Life are text and voice, instant messaging and video conferencing. The intention of residents entering Second Life is to interact with each other, socialize and conduct e-business. The major theoretical background used in this study was the communication theory and social systems, theory of intrinsic motivation and word of mouth communication. A case analysis from Second Life residents was performed to study communication behavior of residents and e-business opportunities. The result was focused on the efficiency and superiority of communication in Second Life among other social networking sites such as Facebook, Myspace, Twitter and Youtube and its significance on real world business. The findings provided that communication in virtual environment plays pivotal role for social networking and e-business growth.

Key words: Communication, e-business, Second Life, social networking, virtual world

INTRODUCTION

Second Life is an online 3D virtual world developed by US based Linden lab in 2003. This is one of the latest innovations of Information Communication Technology (ICT). There are a number of virtual worlds in computer simulated environment. Second Life is one of the leading and rapidly growing virtual worlds (Mark and Christoph, 2008). Second Life is also called a Massively Multiplayer Online Role Playing Game (MMORPG) where people socialize, have fun and play games. The individual who performs all the activities in 3D form is called avatar or resident (Messinger *et al.*, 2009). The appearance of the avatar such as body shape, height, weight, hairstyle and clothes can be designed and changed as per one's desire (Ondrejka, 2006). Residents can design and create products and services as per their imagination. Moreover, they can sell and buy new products and services and perform numerous social activities through communication (Hemp, 2006). The virtual currency used in Second Life is called Linden dollar which is convertible to US dollar.

Communication is widely used in social and behavioral science where human computer interaction takes place (William, 2007). The major communication media in Second Life are text, voice, Instant Messaging (IM), email and blogs. Linden scripting language is an effective scripting tool to design and create products, establish communication sound and

controlling behavior of the objects (Lyn, 2008). Second Life is an appropriate platform to carry out e-business activities (Castranova, 2005). Most of the revenue is generated from buying and selling lands, subscription fee and land maintenance fee. The interaction with customer helps to receive immediate reaction and feedback (Younghwa *et al.*, 2007). We can use Second Life for effective marketing, building relationships with customers, partners and creating business value (Lui *et al.*, 2007). Second Life can provide a great deal of value for real life businesses by providing them an opportunity as equals with customers, suppliers and business partners (Reina and Lang, 2008). Second life is largely known for its recreational and business activities. The virtual community is becoming an online destination of choice for big companies looking to test and sell new products and promote their brands (Ondrejka, 2006). The economy is real and can make the real profit.

Social networking in Second Life: Second Life is an electronic gaming and online social networking place serving as an information superhighway. The space is globally shared enabling people to perceive and utilize the environment (Messinger *et al.*, 2009). The traditional advertising network is being replaced by modern electronic social networks and behavior of individual in online networks can be different from the behavior of the same person in traditional social network (Clemons, 2008). In this connection, the communication behavior in real life

and virtual life becomes totally different. Virtual world is the computer generated multi agent system reflecting meta games and interactive dramas. Second Life has an opportunity to develop and evaluate virtual campuses for learning environment (Lucia *et al.*, 2008). Virtual campuses are recreational, collaborative and communicative zones. It paid attention on perceived sociality, virtual learning environment, productivity and general satisfaction. Barbara and Gloria (2007) formulated that collaborative virtual environment can be called as social system.

In social networking the implementation of quality control, security, privacy and bandwidth is very important. The development of web 2.0 technology helps for policy makers, intelligent analysts and researchers to better understand communication theory (Hsinchun *et al.*, 2008). After the introduction of internet in 1990, the development of social interaction sites took place. One of them is Second Life, in which people have their virtual identity and they can communicate with each other. Riva (1997) formulated that there are three types of presence in virtual world: social, physical and co-presence. Second Life communication is useful for managers to share knowledge. The previous survey showed that 97% of managers believe that knowledge bears strategic competitive advantage. Bass (1969) stated that new users in Second Life are innovators or early adopters. Clemons (2008) states that the behavior of individuals in online networks can be very different from the behavior of the same individuals interacting in a more traditional social network. Comparing Second Life with other social networking sites such as Facebook, Myspace, Twitter and Youtube, it bears a high social and communication responsibility.

Communication in Second Life: Second Life communication has significance to play online games for enjoyment. People play online games to remove challenges, make friends and spend time but the basic reason is to enjoy (Davis *et al.*, 2005). Second Life has scripting tool for monitoring and controlling the entire communication system. The podcast is an important communication media to communicate from Second Life to real life (Lyn, 2008). Machinima is a video created by avatars. Chatboats are Artificial Intelligence (AI) based software used for responding reference questions while having facial expressions in virtual environment (Daden Limited, 2008).

Word of Mouth communication became an important market force for consumer decision making. Word of mouth is the formal transmission of ideas, opinions, comments and information between two or more individuals. The consumer is an active participant in an interactive exercise of multiple feedback loops and highly

immediate communication (Valck *et al.*, 2009). There is the difference between avatar email and traditional email communication. Avatar email has media richness and social presence. Managers prefer rich medium (e.g. face to face communication) rather than lean media. Traditional email is a lean media (Younghwa *et al.*, 2007).

Voice communication is more effective than text. It brings emotional data and needs high bandwidth. Birdwhistell (1970) stated that 65% of information takes place through facial expression and remaining 35% through spoken words. Non verbal communication is limited in Second Life. Facial expressions are used to show reactions and these are shown through gestures. Residents can walk, run, stand and fly easily but animations and gestures are sophisticated. Second Life has been missing actual face to face communication. Peter *et al.* (2008) stated that the privacy and trust should be maintained in order to encourage face to face meeting. There is a public domain code in Second Life to encrypt communication for sending sensitive message to protect from the unauthorized users. The environment can be temporary, real or virtual (computer mediated). Heeter (1992) described three types of presence: subjective personal presence, social presence and synthetic presence. Robinett (1992) made distinction between real and synthetic experience. Held and Durlach (1992) made a remark that telepresence is common to teleoperation and the experience of virtual environment. By employing concept of virtual reality, this is defined as a simulated environment in which a user experiences telepresence (Held and Durlach, 1992).

Figure 1 shows the virtual environment of Second Life where people from different part of the globe in the form of 3D human shape gather in particular place to socialize and perform different activities. Second Life has numerous locations or islands to have desired activities. Figure 2 presents voice and text communication among residents. The most commonly used communication media are voice and IM. Local chat is used for public communication whereas IM is preferred for private communication. Communication enables users to build social network, participate in fun and entertainment and perform business activities. Second Life bears the concept of presence and telepresence. Second Life has the feature of synchronicity so that distant participants could communicate with each other promptly. It has been providing new and enhanced advertising material, product placements in the form of 3D objects inside virtual world, creating concept of advertising (Stuart and Brand, 2008). Due to the growing number of users and reliability of Second Life platform, the current research will be significant for IT researchers and management professionals.



Fig. 1: Second Life virtual environment



Fig. 2: Communication in Second Life

E-business opportunities: Web based technologies such as Second Life is useful to create new e-commerce for income generation and consumers participation (Holsapple *et al.*, 2005). Hemp (2006) argued that virtual worlds have future importance for marketers. They become interactive, collaborative and commercial platform

for all. In this connection, there is a huge opportunity of virtual e-business. Virtual world offers flexibility in brand building, new product development, testing and advertisement (Vedrashko, 2006). Avatars and virtual representations play a pivotal role to conduct marketing activities in Second Life and have numerous e-business

opportunities (Chambers, 2005; Vedrashko, 2006). Virtual business is divided into three parts: virtual stores to conduct virtual commerce, web store to conduct e-commerce and brick and mortar store to conduct physical commerce (Reina and Lang, 2008). The most fun in Second Life is creation of new products, share and sell to others. The revenue status is that 80% of the money comes from land and land maintenance fees and 20% comes from subscription fees (Yi and Wei-quan, 2008). Thus, the web based technologies have motivated users for generating and engaging users (Holsapple *et al.*, 2005). The researchers investigated that users are able to get enjoyment through instant messaging (Li *et al.*, 2003) and online shopping (Koufians, 2002) but less attention has paid to online gaming. Virtual worlds have significance in electronic gaming and social networking, so this is called a place as information superhighway (Messinger *et al.*, 2009). The traditional advertising network has been replaced by modern social networks. There is a plenty of opportunity to consumers for learning products.

Virtual worlds are becoming popular everyday and they are developing inworld economies offering different types of business activities, called virtual commerce or v-commerce (Castranova, 2005). Virtual markets are creating more advantages for them (Hemp, 2006) and improving the firm performance (Zhuang, 2005). A multidisciplinary approach is required to study synthetic environments (Bray and Konsynski, 2007; Kent, 2007). Virtual presence may be advertisement or product placement and e-business sponsored virtual activities (Vedrashko, 2006). The behavior of virtual avatars differs with real world in some extent (Clemmons, 2008).

Some previous researches are focused on interactivity through online virtual game. People often play online games for fun and enjoyment and spend time. Online game story, graphics, length and control are highly related to enjoyment and have a significant impact on behavioral intention (Jiming *et al.*, 2008). The communication plays vital role during game playing. Some of the important factors are feeling of telepresence, enjoyment, immersion and participation from a distance. Virtual world reduces the time consumption in real world. As a result, people spend less time in real life enjoyment and communication (Hui *et al.*, 2009). Steve *et al.* (2008) developed ICT networking project to demonstrate collaboration opportunities in Second Life. Thus, it was learnt that previous researches are inadequate and inconclusive on communication research.

The research question of the current study is why people communicate in Second Life and how reliable the Second Life communication for making real revenue? The

significance of the research is that Second Life is a suitable place for business strategy, social interaction, sharing culture and idea among different people residing at different parts of the world and to motivate them to join Second Life. It enables to increase the brand of the products, present organizational information and provide training and learning skills. People can participate on distance education and have new experiences and opportunities. Most of the information is social such as asking questions, receiving feedback and recommendation and culture sharing. Communication plays the vital role in virtual world that confers existence and reputation of Second Life.

THEORETICAL FOUNDATION

Communication theory and social system:

Communication is defined as exchange of information from one place to another. It is an exchange of understanding. Lasswell defines communication theory as who says what to whom in what channel with what effect. Communication research in Second Life has a broad area to study human behavior. The communication theory has been reflected at the beginning of socrates and plato. Later, aristotle developed the theory of communication. Nowadays, communication theory has application on information systems, psychology, sociology, linguistic and advertising. Many authors and researchers divide communication by context or levels and human users are symbol users or symbol makers.

A social system is widely used term in sociological systems theory. The basic requirement is that there should be an interaction between at least two people. Communication plays a vital role in Second Life social systems. There are different methods of measuring participation within social systems such as reach, engagement and frequency of participation. All social systems have commonalities. We can assume Second Life as a place for social networking.

Theory of intrinsic motivation: This is the theory which can be described as a motivation to engage in activities that enhance or maintain a person's self concept. It further states that the reward of performing an activity is the process of the activity itself and not an end result (Lesser and Madabhushi, 2001). The factors that promote intrinsic motivation are challenge, curiosity, control, fantasy, competition and recognition. Intrinsic motivation theorists divide motives into two global categories: drives (also called extrinsic motivation) and intrinsic motivation. Drives are biological survival links whereas intrinsic motivation pertains to what some have called ego

motives. Some of the examples of drive are hunger, thirst and pain. Whereas, curiosity, autonomy and play are examples of intrinsic motivation. The intrinsic motivation is about competence or mastery. The Second Life community is curious, competent and challenging. So, individual and organizations are motivated to join Second Life virtual world.

Motivation is required for residents to reside in Second Life for a long period of time. According to Markus (1994) the motivation is required to eliminate users' conservatism, fear of changing the environment and lack of involvement. The Second Life is a wide place for entertainment and engagement. People may have fun, interact with each other, make friends and form a social group through communication media. The theory is widely used to understand information system related human behavior.

Word of mouth communication: Consumers interact with each other through internet to share knowledge, experience and opinion. Word of mouth is an important marketing tool for consumer decision making. The marketing tool is useful for marketers, managers and researchers for decision making. Companies and consumers access online network to have communication and interaction. Hoffman and Novak (1996) stated that the consumer is an active participant in an interactive exercise of multiple feedback loops and highly immediate communication. Through online technology, information can be transmitted worldwide at lower cost. In virtual environment, friendship can be made, information is gathered and collect opinion of experts. Information is exchanged through other social networking sites such as Myspace, Youtube, Facebook and Wikipedia. Virtual communities play an important role for new product development and consumers motivation. Blackwell *et al.*, (2001) stated that World of mouth is the informal transmission of ideas, comments, opinions and information between two or more individuals, neither one of which is a marketer. Virtual communities can be considered as word of mouth networks. The impact of world of mouth communication is characterized into two parts: structural and interactional characteristics. The structural characteristics include network size, number of connections whereas interactional characteristics include strength and degree of homophily among network members. When people enter first time in virtual environment, they are not familiar with virtual activities. So, they should engage in informational and instrumental activities.

MATERIALS AND METHODS

Online conversation with Second Life residents: In the first step online interview was performed with 20 Second Life residents to study their communication behavior and e-business experiences. Out of 20 residents 10 were selected for analysis. The category of residents includes Second Life players, experienced business practitioners and real world company representatives in Second Life. The original interview of users was copied first and then edited. The interview process and information collection from various resources took place for two weeks and three hours a day. The qualitative data is received from interview. The qualitative research interview is a construction site of knowledge and lead to specific explanations to the interview results (Kvale, 1996). It can help to understand the virtual worlds from the subjects of view and to make use of participants' experiences to analyze virtual business phenomena. As a result, interview was used as one of the qualitative research methods. The semi-structured interview was used as this provides interviewees flexibility in asking and answering questions, thus lead to the freedom to explore the phenomena in more details. The objective of the interview is to get a better understanding of how communication is important in Second Life and its effectiveness to generate revenue. The interpretation and explanation of the result is based on linking between theories and data to find some pattern matching or common phenomenon. Customer benefit in virtual world includes scope of product, quality, convenience, ease to access and customer service. Some observations in Second Life include watching particular types of events, focus communication related activities and business potentialities to support data for interview. Different islands was visited to find out how often products and services exist in Second Life. Also observed how a resident can find his competitor in Second Life. The benefit of products and services was observed analysing their description. Moreover, mode of advertising and customer service by companies was investigated to learn possible ways of revenue generation. Major coverage of the study in the form of open questionnaires include following:

- How effective do you find communicating in Second Life?
- Do you have e-business experience to Second Life?
- What is the popular business in Second Life in your opinion?

- How successful the real world companies are?
- How virtual events are effective for business promotion?
- What is the future scope of second life in e-business?
- What are the problems and challenges for business in Second Life?

The information was collected during the period of March 3 to March 17, 2010 for the period of two weeks. Second Life is a 3D virtual world, so it requires a high speed internet connection with a computer in good condition. The minimum requirements to use Second Life are as follows:

- Internet connection: cable or DSL
- Operating system: XP, Vista or Windows 7 (32 bit only)
- Computer processor: 800 MHz Pentium III or Athlon, or better
- Computer memory: 512 MB or more
- Screen resolution: 1024x768 pixels
- Graphics Card for XP: NVIDIA GeForce 6600 or better; ATI Radeon 8500, 9250 or better; OR Intel 945 chipset

Some of the experiences of Second Life participants are summarized in this study.

Participant 1: Ricki Keng (March 3, 2010): What stands out to me about communications in SL, is that its a nice way to interact, because for me it feels more personal then email or other text only communications, while keeping a nice safe feeling of anonimousity that you don't have with for instance video or voice chat. It saves time, money and effort to meet real world people. They can gather in one place for interaction. It's just not as reliable as I would like to see it. My experience is that those businesses that want to use e-communication already do and that communication is a lot more effective then the Second Life type. I have video internet conference several times a week and even with powerful computers the extra crud in Second Life prohibitive. Online events in Second Life are highly effective for e-business.

Participant 2: Lady Letov (March 4, 2010): I started in Second Life (SL) four years ago as a work project setting up a business presence for a real life corporation... but no one came, so we dropped the project. I enjoy the social side of it but do not see it as an e-business medium just yet. Second Life is still in the growing stage. My company

has a research group that has worked with Linden Labs to establish an internal SL environment (just for employees) they are looking at it as a way to do remote training and education. Some consumer companies are using it for brand promotion/identification, like placing a coke bottle on TV shows...but the few actual selling sites have not taken off. I work for IBM. I managed a team that built a piece of the SL site. I participated in IBM events in SL, but the public SL world was not effective for us. It really was more of an experiment.

Participant 3: Sassy Romano (March 6, 2010): As I said, you should be asking what makes e- business successful in SL not how to bring a Real Life (RL) business here which is unwanted. Answer this for example, can you name one very exclusive shoe brand here? Surely the research should be asking why the likes of Stiletto Moody for shoes are here making a real business yet Jimmy Choo's are not even in existence. And the answer is, there's nothing that Jimmy Choo's can bring that the likes of a good 3D modeler can't already do on a budget that's appropriate for the platform. They're not REAL, nobody needs to pay for a brand name (a RL brand name). The whole consumption model here is different, I don't feel that RL brands apply. Marketing principles sure, there's nothing new there but for the reasons stated, it's just not an instant crossover to a leisure platform. I appreciate the communication system that is attracting distant participants for e-business events.

Participant 4: Zypher Yao (March 7, 2010): I gathered the study seems to be trying to feel something out. You may find that adding a few open ended questions such as what is the most important thing to you about SL or what's the biggest problem in SL. they may generate a wide range of messy responses (non statistical) however it will give you a good sense of what kind of question to ask in your formal investigation and because you're studying business communications, you may want to ask something about e-business, like do you have one in SL...? Do you want on in SL...? Does your business pay for itself...? (Let me tell you now that most of the sims you see are being supported by other means). It is rare to encounter people who are actually making a profits in SL, my sim is one of those cases, also you were asking in a newbie hub, your responses there would be different than if you contact many business owners directly. Many customers come to my sim by referral. They see one of my magical effects, right click on it get the creators profile, look at my profile picks then they get the name of my shop (which is there). Some come by doing SL searches. Though I don't rank to high on the magic search word yet.

Participant 5: Elithera Blackheart (March 9, 2010): I can say honestly that I probably would use voice more if I didn't Skype at the same time but because I Skype and do SL at the same time, the skyping hinders talking in SL, it's an unusual situation-my boyfriend here in SL is actually my boyfriend in RL, so we do SL and Skype at the same time. I guess maybe that's too much information but since it seemed to be about voice, I just thought you should know. I have spent hours on the phone with certain friends when I'm free (in SL). As far as e-business is concerned initial investment, multiple and updated products as well as after sales service is required. I'm in SL since three years. As per my experience SL has pleasant e-business future.

Participant 6: Velma Paine (March 11, 2010): It would give me some immediate feedback on how the overseas customer would use SL, IF they could use it...and give them the opportunity to make other connections. I am making good money here on the meeting sim. But it takes a lot of time to perform activities. Computer based communication certainly not as effective as face to face, missed emotional cues, lack of body language. It is very easy to mislead people when they rely on an avatar for body language cues.

Participant 7: Jessii Placebo (March 13, 2010): Interestingly I like to study the behaviors of the characters in SL and in my experience I believe it brings out the worst kind since there is no accountability in SL only one's conscience. I am more interested in the sociology rather than the methods of communication. You miss the breadth and depth of the communication that goes on in SL, for example live performance broadcast leading to CD and MP# downloads via sites like CD Baby are a LOT more important than things like Myspace from both a social and financial point of view. There are artists all around on SL and a LOT of people miss that. As I say-have you spent all of your time at infohubs? I'd recommend checking out the actual communities: <http://app/inventory/254495c0-2afb-9961-6b80-cbf5fed36bae/select?name=NOT%20TOO%20HOT%20Blues%20CLub%20Moon%20Park%20East%20%2834%2C%204%2C%2025%29> secondlife:<http://app/agent/acb1252f-5929-42d4-b181-e24ca1352555/about>,

Another landmark: secondlife://app/inventory/6ee22dd1-4e4b-4f24-6ab3-87dd66b4f55f/select?name=THE%20CROSSROADS-BIKERS%20BLUES%20PARA%20%20The%20Crossroads%20%28111%2C%20147%2C%2049%29.

A couple of places that I've found very useful with business environment but there are many others. Infohubs are like bus stations. Some business islands are open for all public so they lack privacy and secrecy.

Participant 8: Thomass Adamski (March 14, 2010): None of them would say that SL affects their real life. You are asking to be correct and honest, but something it's very hard to admit. I guess you could be more sottle in your questions. SL have new rules, is not only pixeòs someone invent a new space with strong rules to attract people that's clear there. All people here can say they like SL cause you can meet people all over the world but I saw people crying, cause of SL and someone else building their death to see other people crying. Compared with other social network SL is highly social. Look for universities in SL. You can't have it in other social sites. Business side is interesting as you have creativity freedom. You can build, script and sell them to survive both in virtual and real life.

Participant 9: Marit Huet (March 16, 2010): Every resident in SL can build here in sandbox, which is not always possible on other land, by restrictions of the owner. Some have expertise on building objects and some come here to rez objects that others build. Content purchased in shops, is often delivered in boxes. The communication quality and capacity of servers should be expanded as I frequently encounter lagging and crashing problems. I missed some of the important business events.

Participant 10: Serinda Randt (March 19, 2010): Your delineation for professions is pretty bad, what about service industries. I am a teacher so I have to choose other? So how would you classify working as an exotic dancer... entertainment? Personally, I know a LOT of people who have used SL at work and they spend a lot of time at sex clubs, etc. if I were a boss I would be reluctant to use SL for e-business because it can be so immersive and distracting, of course my experience is in no way a representative sample. I'm satisfied with the use of communication media. I prefer IM as it is highly secured and business privacy can be maintained.

The opinion of some e-business experts are summarized as follows: Yarmis, a Second Life resident says to start business in Second Life, the user should understand what virtual worlds offer today. He has spent a lot of time in Second Life and suggests that people having interested in virtual world for business do the same. He says To grasp what's really going on, you need to make a commitment to spend a number of hours there.

That's the only way you can see how rich an experience it really is. The analysts say that virtual worlds are relatively inexpensive, don't require a great deal of start-up technology infrastructure and provide naturalistic, immersive approach to simulating space, people and objects.

Second Life helps IBM learn how to make the meetings more efficient in Second Life. If you're there with an Intel last name, you have to behave as if you are representing Intel says Paul Steinberg, an engineer with the Intel software network. E-business in Second Life is big understanding, exactly mirroring the steps and processes of business in the real world, with manufacturing, distribution, sales etc. Being a successful business in Second Life might indicate that the person should have experience running a company.

Virtual world like Second Life is the most popular web based community where users socialize, play games and sell products to imaginary people. Increasingly, tech-savvy businesses are using virtual worlds to design, create and test product concepts before they launch in the real world. The crucial advantage to working in virtual world is that they offer much more potential for customers to interact with new products. Working in virtual worlds help to solve the real world problems.

Second Life has some drawbacks such as privacy and security says Fred Fuchs, owner of Fire Sabre Consulting. It can be difficult to translate ideas developed in Second Life into more mainstream design software and it can be especially tough to get a sense of scale in Second Life, because avatars come in Second Life in all different sizes. But companies are experimenting Second Life insist that the prototyping possibilities and ease of collaboration it offers just aren't available anywhere else.

Brouchoud and his partner Kandy frequently have interaction with their clients in Second Life. We can invite clients inside the design concept instead of just showing them two dimensional drawings Brouchoud says. It gives customers a whole kind of visualization. There's nothing like being able to walk into what could be your home. He further says Second Life has transformed the way I think about design. The designs are free and it takes half the time to make the models with the in-world set of building tools. He paid Linden \$1,600 one time fee for his island in 2006 and pays \$300 in monthly rental fees on top of that, which supports the servers to host the island. Another Second Life resident Mr. Curet bought private real estate in Second Life. He says I know to do anything with new design, you would have a lot of other things in place in the real world potential clients.

The Linden Lab CEO Mark Kingdon says Enterprise is a really important growth vector for us because Second

Life is a really compelling platform for learning and collaboration. Especially today in large enterprises those are distributed around the world. Linden lab makes revenue by selling and renting virtual real estate with premium memberships and charging a fee on sales of Linden dollar. The 15-20% of its revenue comes from enterprises and educational institutions. The Linden Lab CEO says 250 companies, including IBM, Intel and Northrop Grumman use SL for collaboration, training, meetings and conferencing, simulation and product design. The immersive workplaces allow companies to conduct meetings or host virtual events in Second Life. Virtual worlds can save companies time, money and productivity.

RESULTS AND DISCUSSION

Summary of the results: Communication plays pivotal role in Second Life. People communicate within Second Life virtual environment for performing social activities, sharing culture and information among the people around the globe. The purpose of professional people to enter Second Life is to make online revenue through effective communication which is the major outcome of the current research. The most commonly used communication media in Second Life is instant messaging. The instant messaging is secured having high privacy of the message. Some new people in Second Life were not familiar with voice communication, so they do not use. Majority of them use local chat. Video conferencing were used for online meetings and conferences. During conversation with Second Life users, it was found that a majority of people have satisfaction with Second Life technology, its communication system, social networking behavior and e-business environment.

Table 1 presents summary of findings on Second Life communication. The result shows that Second Life communication is highly reliable and effective to socialize and conduct online events. Due to its synchronicity feature, immediate feedback can be received which is useful for decision making. In this connection, Second Life has real world implication to managers, policy makers and IT researchers. Second Life reduces real world cost as people around the world can gather in one place. Communication is highly efficient for training and education to Second Life users. Instant messaging was considered best as it bears security and privacy of information.

Thus, Second Life is considered as an experimental place for real world events.

Virtual worlds enable new ways of collaboration and coordination through communication in 3D environment

Table 1: Summary of findings on communication in Second Life

Communication in Second Life	<p>Participant 1: Safe and effective source of interaction. The reliability should be improved further</p> <p>Participant 2: Social side is much more effective and place for remote training and education. Working in a team is efficient. Found Second Life as an experimental place</p> <p>Participant 3: Communication system has been facilitating global participants to gather in one platform for participating on e-business events</p> <p>Participant 4: Problems on business communication should be focused more. Business owners are the professional people to whom we can communicate</p> <p>Participant 5: He uses Second Life voice and skype at one time. However, Second Life communication is more preferred. It saves time and effort to meet real life people</p> <p>Participant 6: Immediate feedback can be received. Second Life lacks emotional cues and body language, as it lacks face to face communication</p> <p>Participant 7: Online broadcast in Second Life should be focused. Besides infohubs, Second Life bears a number of islands for communication and social networking. He provided some landmarks to visit</p> <p>Participant 8: Second Life events do not affect real life. The virtual world is bound by rules and community standards. Second Life enables people to socialize but some people are greatly addictive</p> <p>Participant 9: Communication quality and server capacity of Linden Lab should be expanded to avoid lagging and crashing problem</p> <p>Participant 10: Satisfied with Second Life communication media. IM is the best for communication as it is secured and business secrecy can be maintained</p>
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Table 2: Summary of findings on e-business in Second Life

E-business opportunities in Second Life	<p>Participant 1: Online events such as video conference are effective for e-business promotion. He frequently participates in business events through meeting and conferences</p> <p>Participant 2: Second Life is on growing stage. She found e-business not enough effective as she could not attract customers. Some real world companies are using Second Life for brand promotion</p> <p>Participant 3: Real world companies should be brought in Second Life for business promotion. However, there are some challenges to survive companies in Second Life and establish real brand</p> <p>Participant 4: It takes a lot of efforts to get real profit in Second Life. There are numerous residents in Second Life having no real experience of business. They visit from one location to another and try to use new products</p> <p>Participant 5: Initial investment, multiple and updated products as well as after sales service is required to attract customers. Second Life has an excellent future on e-business</p> <p>Participant 6: She is making good money at her own island. However, it is time consuming and one has to forget about real life activities</p> <p>Participant 7: Few places in Second Life have useful business environment. Some islands are public, so they lack privacy and secrecy</p> <p>Participant 8: People have creativity freedom. They can create virtual products and sell them to make real currency. The creativity skill facilitates to survive in the virtual world as well as in real world</p> <p>Participant 9: Residents can have their own sandbox to build products. They can rez objects and deliver products for sale. Sandbox is a private place for developing and building objects</p> <p>Participant 10: Majority of people spend time in fun and entertainment. So, they create immersive and distracting environment. His priority is to engage in e-business activities</p>
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by Voice over Internet Protocol (VOIP) (Mark and Christoph, 2008). People interact with each other through web 2.0 applications such as voice, IM and video conferencing. Many virtual worlds offer plain text, voice, gestures and emotion for communication. Second Life has become an interactive, collaborative and commercial platform for users, marketers and researchers (Stuart and Brand, 2008). In this connection, there is a huge opportunity to perform virtual e-commerce. The virtual worlds provide flexibility in brand building, advertisement and new product development (Vedrashko, 2006).

The summary of results on e-business opportunities in Second Life is provided in Table 2. The result highlights that second life has wide scope for e-business. Video conferences are highly successful to perform business events. Most of the renowned companies such as IBM, Dell, Toyota and Cisco have entered Second Life to promote their real world brand and services. Some challenges for companies are initial investment, time and customer traffic. Moreover, the multiple and updated products with new design and after sales service is important for customer attraction. Most of the business activities are similar with real life. The

professional people spend less time in real world. Many users in Second Life are new, so the companies should provide them knowledge about their products and services. In addition, privacy and security plays crucial role in e-business promotion. Second Life offers strategies on B2B, B2C and C2C businesses. Since, the virtual market is stable, hence there is low risk of investment (Wei and William, 2007). Virtual world is the hot resource for communication, socialization, collaboration and participation in different activities. Virtual world has an effective, emotional and simulating environment for users. The customer participation may be active or passive and environmental relationship may be immersive and absorptive. The virtual world is becoming a target place for marketing (Hemp, 2006).

Second Life offers a place for online laboratory to test and develop new products and services (William, 2007). It offers scripting and graphic tools for designing, creating and customizing virtual objects and services. The residents have intellectual property right and sociotechnical implication of online behavior. It provides richness and potential of advertisement. Advertisements are the reliable source of revenue for organization and

communication plays a pivotal role for establishing collaboration between producer and consumer to generate e-business value. Word of mouth is an important marketing tool for consumer decision making. The consumer is an active participant in an interactive exercise of multiple feedback loops and highly immediate communication (Hoffman and Novak, 1996). Word of mouth is an important tool for consumer decision making and useful for marketers, managers and researchers.

Contributions and implications: This study shows that Second Life is an appropriate place for communication, social networking and business promotion. The popularity of Second Life has been increasing every day. A range of e-business activities such as buying and selling land, leasing them and other services such as scripting, architecture and advertisement take place in virtual environment. There is both real and virtual economy. Moreover, Second Life has education as well as training opportunities through effective communication. Second Life offers several marketing opportunities for real world products and services. They are able to generate sustained consumer engagement with a brand. Second Life is emerging as a test place for new ideas, where real world products can be released at low cost with direct feedback from users. There are many opportunities for innovation and profit making in Second Life and a lot of e-business opportunities. A number of residents are making part or all of their real life income from Second Life businesses. Second Life real estate market provides opportunities for residents to establish their own communities and business locations.

This study tests the theory of communication and social system and media richness theory. Communication helps to establish social relation. The outcome of these theories is communication, public distribution and networking. Media richness has importance to make prompt decision on real world practice. Moreover, synchronous communication is needed for organizations, managers and policy makers. The current study is motivated by a need to understand the roles of effective communication in business. The study follows the world of mouth communication being a platform for consumer learning. The research has key implications for practice. First, the findings suggest that Second Life bears high social and e-business responsibility than other social networking websites such as Facebook, Myspace and Youtube. Hence, it helps to make decision to companies and individual for real life implication of their creation. Second, this study shows that the communication is a key part that confers standing and existence of virtual worlds.

Problems and limitations: There are a number of problems that was found during observation and interview which are threats to users who are conducting business in Second Life. Unlike general website, Second Life contains lots of 3D content, so a good performance of computer system and high speed Internet connection are required in both residents' computer and Second Life's servers. However, the statistics showed that Second Life servers are not stable enough and most residents still use low performance computer system. On average, twenty percent of all sessions were crashed at a time which is high and fifty percent of users have frame rates from 0-12 FPS which is low that makes residents difficult to interact and communicate each other. From observation, less than one hundred users can be in one place at a time which is very low compared with a website that could handle thousands of users at a time. This problem decreases revenue from potential customers that could not access to the place. The only way for business owners is to purchase more islands which increase the cost. Next problem is high learning curve, which requires quite some time until residents get familiar with the navigation control and building tools in Second Life. It is not simple as a website where users just move the cursors around the page and click buttons. It depends mostly on how sensitive the residents are. Language is also a problem because residents come from every part of the world.

The limitation of the current study is that Second Life is still in the stage of development. A limited numbers of studies have been performed in communication. Customer survey is very important to learn their communication behavior and e-business skills. Better the relationship with customer, easier to offer products, receive feedback and create business. Thus, Second Life research is time consuming. The system may encounter instability which effects to collect research information. A large number of residents are game focused and professional business practitioners are quite busy. So, interaction with professional people takes a lot of effort. Regarding companies, the challenging issue is that they should invest some amount of capital in Second Life to start business and spend a lot of time for marketing. Businesses in Second Life involve designing and create products, real estates, marketing, advertisement and customer service. Moreover, it includes promotion and communication, seeking candidates and hiring people inworld.

CONCLUSION

Second Life is becoming an important communication tool for social networking, entertainment, collaboration

and business development. Individual and big companies use virtual worlds as a bridge to their current real world business. Their e-business concept and strategies in virtual worlds are worth investigating. Social side in Second Life is interesting but business side takes a lot of effort and time. Some companies have dropped their projects in Second Life due to lack of investment and they consider Second Life only as a place for experiment. For some companies and individual it's a new way of e-business to reach customers. As a consequence, it has direct effect on real life economy. The findings have important implications for researchers and business practitioners. Moreover, communication and collaboration are crucial for the development and assessment of virtual worlds. Our findings are also important for companies entering virtual worlds and make Second Life as a new channel to interact with customers using new communication technologies. Second Life is a part of the solution to communication and organizational challenges. With its VOIP capabilities, Second Life has proven to be an excellent tool in building and maintaining cultures within a team. In this connection, Second Life has become a regular tool for maintaining trust and connections among residents. The creation of trust and culture at a distance is an advantage over conventional outsourcing and communication technology. Since, second life is still in the developing stage, further research on communication should be performed with online survey.

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