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Second Life: A Strong Communication Tool in Social Networking and Business

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Abstract: The objective of this study is to present different communication methods in Second Life virtual world, its implication on social networking, business and future scope. The current study is a review of various literatures relating to social networking, virtual community, virtual reality and online business in Second Life. The study has shown the strong and competitive advantages of Second Life among other virtual worlds and the contributions it has made on real life through communication and its impact on social networking and online business opportunities in virtual environment. The outcome of the findings have real world implication and useful to policy makers, managers and leaders for sharing information and decision making. The Second Life virtual environment based on web 2.0 technology has opened a wide platform on social, behavioral and information system research.

Key words: Second Life, virtual world, social networking, online games, virtual reality, business opportunities

INTRODUCTION

Second Life is an online virtual world electronic environment, developed by US based Linden lab in 2003. It is a human centered and latest innovation of Information Communication Technology (ICT). Virtual worlds are creation of mind and a place of our imagination. There are a number of virtual worlds in computer simulated environment such as Active Worlds, Whyville, HiPiHi and Entropia. Second Life is one of the leading and rapidly growing virtual worlds among them. Second Life is also called a Massively Multiplayer Online Role Playing Game (MMORPG) where people have fun and entertainment and play games. The human shaped 3D graphical representation performing all the activities in Second Life is called avatar or resident. All virtual world users have their own avatars. The appearance of the avatar such as body shape, height, weight, hairstyle and clothes can be designed and changed as per desire. One of the interesting features in Second Life is that a male avatar can expose himself as a female and vise versa. Sometimes they can change their avatar to animal form. Residents can move from one place to another, make friends, have interaction with each other, design and create products and services as per their imagination, sell and buy new products and perform numerous social activities. Second Life has wide application on social and behavioral science research.

The virtual world is an electronic environment for computer based communication that enables new ways of communication, collaboration and coordination by internet in three dimensional environments by Voice Over Internet Protocol (VOIP). People interact with each other through email, online games and instant messaging. Nowadays many web 2.0 technologies for social networking such as Myspace, Youtube, Facebook and Twitter have been developed. However, these technologies are limited on their space for communication, collaboration and coordination (O'Reilly, 2005). The development of web 2.0 technology has provided numerous facilities on social system such as wikis, blogs, virtual worlds, podcast and media sharing. O'Reily (2005) stated that the web become a huge source of data and services. Nowadays, a number of social networking software such as instant messaging, text chat, weblogs, wikis and social network services are being used. Many virtual worlds offer plain text and voice, gestures and emotions. The number of users in Second Life is growing everyday. Bass (1969) stated that new users in Second Life are innovators or early adopters.

A limited numbers of research have been performed in communication, social networking and business in the past. Majority of them are focused on online games which are in the stage of fantasy. Nowadays many social interaction games have been developed and the virtual world game is useful to reduce pressure from real life (Reina and Lang, 2008). So, people get involved in virtual world to play games and engage in artistic activity. Owing to this reason, virtual worlds are becoming new frontier performing online business. Virtual presence may be advertisement or product placement and business sponsored virtual activities (Vedrashko, 2006) and

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behavior of the virtual avatars differs with real world in some extent (Clemons, 2008). Users who buy virtual products have less interest to buy real products in material life. The online games are creating huge business and million of users are engaged in this environment. Most of the online games are played for enjoyment. So enjoyment is one of the important factors in gaming behavior (Jiming *et al.*, 2008).

Virtual reality bears the concept of presence and telepresence. Presence means sense of being in an environment and telepresence means presence with communication media. Virtual reality is similar to communication medium such as telephone and television. This is a collection of technological hardware, but in communication research, this definition does not suit. Presence can be thought of as the experience of ones physical environment. It refers not to ones surroundings as they exist in the physical world, but to the perception of those surroundings as mediated by both automatic and controlled mental processes (Gibson, 1979). Loomis (1992) stated that presence is closely related to the phenomena of distant attribution or externalization which refer to the referencing of our perceptions to an external space beyond the limits of the sensory organs themselves. Presence is a natural perception whereas, telepresence is mediated perception of environment. In telepresence, mediated environment are created instead of transmitting information directly (Sheridan, 1992). Some examples of telepresence are reading a letter from distant friend, user of multiple online systems such as conference, listening to live recording of music and video game play. Telepresence is referred to as both technology and perceiver. Face to face communication is called interactive communication (Durlak, 1987).

Virtual communities refer the group of people communicating with each other through the electronic media. The attentions of researchers have focused on virtual community due to its growing popularity. Virtual community is a social phenomenon, occurring human computer interaction in an online environment. The virtual communities have shared goals and ideas, some degree of stability, growth and ideas. The key variables that affect individuals decision to join virtual communities are technological, motivational, task and system (Romm *et al.*, 1997). People use communication technology to perform the specified tasks, which has information carrying capacity. Virtual communities have crucial role on supply of knowledge. Two prominent theories, social capital theory and social cognitive theory are used for knowledge sharing. The major constructs on social capital theories are social interactions, trust, norms of reciprocity, identification, shared vision and knowledge (Chiu *et al.*,

2006). People interact with each other through internet to share knowledge, experience and opinion. Word of mouth is an important marketing tool for consumer decision making (Valck *et al.*, 2009). The marketing tool is helpful for marketers, managers and researchers for decision making. Both companies and consumers access online internet 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.

Hemp (2006) stated 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 commerce (Stuart and Brand, 2008). Most of the virtual worlds have their own currency, customization facility of avatars and objects, property ownership and voice and text communication (Castranova, 2005). They provide flexibility in brand building, new product development and testing and advertisement (Vedrashko, 2006). The Second Life virtual world offers more than 100 real life brands. The areas of brands include automobile (e.g., Mercedes, Mazda), electronics (Sony, Dell), Media (AOL, Sony BMG and Reuters), telecommunications (Telus and Vodafone), banking (ABN Amro and ING) and professional services (IBM and PA). The development of brand building in virtual world is new so few studies have been made in this field. Avatars which are 3D graphical representation are responsible to perform all virtual activities and play a pivotal role to perform numerous marketing activities (Chambers, 2005; Kleeberger, 2002; Vedrashko, 2006). Second Life offers an innovative place for real business (Mark and Christoph, 2008). The world is not limited into real world only, so virtual worlds offer unique opportunities. A number of real world organizations have been joining Second Life to promote products and services.

TECHNOLOGICAL DEVELOPMENT AND SOCIAL NETWORKING IN SECOND LIFE

Virtual worlds enable new ways of communication by internet in 3D environments by VOIP. In Second Life avatars interact with each other through instant messaging, voice chat, blogs and email. These communication media are based on web 2.0 technology. Nowadays, many web 2.0 applications for social networking are developed such as Myspace, Youtube, Facebook and Twitter. However, these technologies are limited on their scope for communication, collaboration and coordination (O'Reilly, 2005). Many virtual worlds offer plain text and voice, gestures and emotions. Podcast

is an important communication medium to communicate from Second Life to real life. Machinima is a video created by avatars (Lyn, 2008). Scripting is performed for creating, designing and customizing virtual objects. Moreover, this is useful for generating communication sounds. Second Life is a platform for performing information and communication activities. Bandwidth is a key issue for a better voice and sound. The Second Life technology has broad area of applications in education, commercial and social networking (Steve *et al.*, 2008).

The social networking concept in online environment was started on 1997 with the launch of six degrees.com. After 1998, the web was used as a business tool based on web 1.0 technology. O'Reilly (2005) stated that the web become a huge source of data and services. Nowadays, a number of social networking software such as instant messaging, text chat, weblogs and virtual worlds are being used. These softwares are used for communication. Some of the popular instant messaging softwares are MSN messenger, Yahoo messenger, AOL instant messenger and Skype. The Skype works on VOIP technology and becoming very popular nowadays. Facebook and Myspace is consumer networking websites. They are commonly used by university students and commercial employers to observe different activities (Wendy, 2008). Social networking site such as Linkedin is used to find jobs, people and business opportunities. By the end of 2011, it was estimated that more than 80% of users will be communicated on Second Life for entertainment and business. If avatar gains some skill in virtual world, they are able to sustain in virtual world for a long period. Without a good social relationship, it is difficult for avatar to live in virtual environment (Castranova, 2001). So social integrity is an important issue in virtual world. People who can not walk and run in real world can freely walk and run in virtual world. They have equality in opportunity as with other people. The reputation of avatar is important factor. People can create as many as avatars they desire. The avatars should compete with others to play a social role. If some one can not compete with other then they will hate him. The Second Life world is amusing and profitable. Due to the establishment of voice technology, virtual world is the suitable place for interaction.

Second Life plays a pivotal role on sharing ideas in the form of information. Face to face meeting in virtual environment is used for transferring knowledge. Facial expressions and body language are shown in graphical form which are the computer mediated non verbal communication. Social presence reveals the strength of Second Life face to face communication. Von *et al.* (2000) made remark that individual face to face interaction is the only way to capture the full range of physical sensations

and emotional reactions that are necessary for transferring tacit knowledge. Body language and appearance are important for face to face communication. To express emotional behavior, avatars mutual gaze, facial expression and body language are most important. Mercalfes law states that the total value of a communications network grows with the square of the number of the devices that it interconnects. Reed states that networks that support the construction of communicating groups create value that scales exponentially with network size. Due to its globalization and virtualization, Second Life is becoming technically, behaviorally and socially strong (Peter *et al.*, 2008).

Voice communication is important than text as it carries emotional data. Birdwhistell (1970) stated that 65% of information takes place through facial expressions and remaining 35% through spoken words. Facial expressions are used to show reactions and these are shown through gestures. In some cases Second Life has technical limitations so the possibility of physical expression is rare. Second Life has limitation on body language in some extent. Residents can walk, run, stand and fly easily but animations and gestures are more sophisticated. Additional features on animations and gestures are frequently uploaded in Second Life. Owing to the limitations of nonverbal communications many users use Skype and other VOIP solutions for voice communication. Unfortunately, there is no actual combination of voice with facial expression and lip movement. So Second Life is still missing actual face to face communication. So as to encourage face to face meeting in Second Life, privacy and trust should be maintained (Lyn, 2008). There is a public domain code in Second Life to encrypt communication for sending sensitive message to protect from the unauthorized users. A peer to peer Instant Messaging (IM) is used for private communication and conference call should also be used for group users for secured communication. In Second Life the distance plays vital role for communication. For example, one must be within 10 m to whisper, 20 m to hear chat and 100 m to hear shout. The Second Life main grid is public and due to this it has low security. Other challenging issues of Second Life communication are speed of the graphic card, bandwidth, server capacity and limited sensory channels.

People interact directly with computer and behaviorally treat the computer as a social actor. The interactivity, language and gestures are simulated in the computer. People automatically resort to human-human interaction but directly to computer (Nass and Moon, 2000; Sundar and Nass, 2000). There are some positive advantages of virtual environment. People found that

virtual life is attractive than real life (Talamasca, 2006). The avatars could establish social network with other avatars (Bennett and Beith, 2007). Many organization enter virtual world to establish business and generate revenue (Lui *et al.*, 2007; Social Research Foundation, 2008). The social networking establishes formation of relationship which is a dynamic process (Ballard and Weigel, 1999). More positive the impression, the relationship will be enhanced and sustain for a long time. If the needs of the individual meet with relationship then the belief on interaction will be increased. The sound relationship among residents is useful for decision making. People make decision with previous knowledge and experience (Bettman and Park, 1980). Social networking in Second Life is increased by online gaming behavior and education.

Online gaming behavior in Second Life: The Second Life online games have been creating huge business and million of users are engaged in this environment. Enjoyment is one of the important factors of gaming behavior (Jiming *et al.*, 2008). People play online games to remove challenges, make friends and spend time but the basic reason is to enjoy (Davis *et al.*, 2005; Kim *et al.*, 2002). Such web based technologies are useful to create new e-commerce for income generation and consumer participation (Holsapple *et al.*, 2005). Second Life is the Massively Multiplayer Online Role Playing Game (MMORPG), played in virtual environment. MMORPG has synchronicity, i.e., people could react with each other promptly. So immediate feedback and interaction takes place resulting prompt decision making (Kevin, 2007). Fun and social interaction is another outcome of MMORPG. The online world is different from offline world or face to face world. People are not able to physically communicate with each other by handshaking, hugging, kissing and patting. Lack of face to face cues has a curious impact about how people interact on online environment.

The gaming environment has player freedom, control and creativity. More than 80% of the gaming contents are created by users (Messinger *et al.*, 2009). So, online games can not be separated from players nor players can be separated from online games. The online games have been growing rapidly nowadays. It keeps interest on researchers and practitioners. The behavioral intentions of the online game players were measured by two variables: trust and enjoyment. A prominent model called Theory of Reasoned Action (TRA) is used to measure attitude, enjoyment and subjective norms of players (Wu and Liu, 2007). The TRA is the general theory of human behavior in social psychology. Attitude means a person likes or dislikes to perform work. If he has belief,

then outcome will be beneficial and likely to perform the activity (Sheppard *et al.*, 1988). A subjective norm means individuals judgment by his friends and coworkers (Franzoi, 2003). Trust is the foundation of ecommerce (Fukuyama, 1995; Morgan and Hunt, 1994; Williamson, 1985). The application of trust is in consumer merchant relationship, having no fear, risk and uncertainty. Moreover, trust is applied in online game websites that the website has ability to provide expected activities such as high quality games. Trust creates positive attitude. The outcome of theory of intrinsic motivation is interest and enjoyment. So, enjoyment has considerable attention to many researchers. Enjoyment is defined as the degree to which performing an activity is performed as providing pleasure and joy in its own right aside from performance consequences (Davis *et al.*, 1989; Venkatesh, 2000). The high speed internet plays a pivotal role to attract a number of users to play online games. The games are generating a huge amount of revenue. It is estimated that by 2011, the gross revenue will be 13 billion dollar and number of users will be 376 million by the end of 2009. In virtual world, players play together via internet. There are a number of massively multiplayer online games which are played in internet. Some of them are World of Warfcraft, Batterfield and Counter Strike. The virtual game world is a best place for interaction. Players intention to play and motivation is important for online games. The online entertainment industry such as Internet Protocol Television (IPTV) and Podcast may benefit from understandings player intention.

The study of online games is performed to know product development. People achieve psychological experiences through digital images and contents (Leo and Kim, 2005). Digital images are also called game items. For instance, armors and swords. The gamers experience play vital role in online games. The digital games help to learn about consumers requirement.

Second Life education: Second Life keeps application in a learning theory framework. This is a part of instructional technology tool of twenty first century. The Second Life virtual world has numerous learning opportunities. The environment has much more freedom. The inhabitants can fly freely and fall on the ground but no death and live for ever. This is the place for culture sharing. Avatars can customize there appearance and create any products of their imagination. There is no feeling of touch with each other and identification of avatar is real (Turkle, 2004). A person may have multiple avatars. Second Life is a new territory economically, legally, socially and philosophically having teaching and learning environment. The education has active, problem based

and experimental. Learning is applicable for knowledge, analyzing, evaluating and creating.

Online virtual worlds electronic environments have a great research potential on social, behavioral and economic science. Virtual world is the environment where people can have interaction with each other in the form of human avatar. They are providing challenges for computer and information science with new developments (William, 2007). Second Life offers a place for online laboratory where a number of researches can be conducted. 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. There are different media for online education such as virtual classrooms, videoconferencing and online meetings. There is a favorable environment between teachers and students. Today Video games and communication metaphors in Second Life are the attraction of young people (Lucia *et al.*, 2008). Second Life is largely known for its recreational and business activities. Experts say that better internet connection, reliable graphics and modern video industry are the driving forces to use such environment, especially in classroom. Second Life offers an additional way for students to explore classroom material.

Second Life is a platform for consumer learning about the products in the concept of telepresence and theory of cognitive fit (Kil and Lee, 2004). Second Life has realistic interactive virtual computer environment having 3D images, interactivity and concept of telepresence (Klein, 2001; Jonathan, 1992). Second Life influences consumer learning, their intention to purchase goods which satisfies theory of cognitive fit. The theory identifies a contingent effect of technologies. The virtual environment requires high media richness, interactivity and telepresence to enhance consumer learning about products. Virtual reality is experienced in online environment so, it requires vision and learning for consumers. The feature of interactivity is immediate feedback through mediated environment (Klein, 2001). Almost all rich media has interactivity feature and this is important in organizational communication. The researchers found that a rational theory of media choice has much attention having combination of media richness and social presence theory.

VIRTUAL REALITY

Virtual reality bears the concept of presence and telepresence. Presence means sense of being in an environment and telepresence means presence with communication media (Jonathan, 1992). Virtual reality is similar to communication medium such as telephone and television. This is a collection of technological hardware but in communication research, this definition does not suit. Coates (1992) stated that Virtual reality is electronic simulations of environments experiences via headmounted ege googles and wired clothing enabling the end user to interact in realistic three dimensional situations. Gibson (1979) defined that Presence can be thought of as the experience of ones physical environment. It refers not to ones surroundings as they exist in the physical world, but to the perception of those surroundings as mediated by both automatic and controlled mental processes. Another definition of presence made by Loomis (1992) is presence is closely related to the phenomena of distance attribution or externalization which refer to the referencing of our perception to an external space beyond the limits of the sensory organs themselves.

Telepresence is defined as the experience of presence in an environment by means of a communication medium. In another word, presence is a natural perception, whereas, telepresence is mediated perception of environment. 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 real or simulated environment in which a perceiver experiences telepresence (Held and Durlach, 1992). The definition of communication is transmission of information from sender to receiver. But in the case of telepresence the user may be either sender or receiver. There are two models of communication: traditional media and virtual reality.

Figure 1 shows two models of communication. The first one is traditional media and second one is virtual reality in the sense of telepresence view. The traditional media have no mediated environment whereas, in telepresence mediated environment are created instead of transmitting information directly (Sheridan, 1992). The result that can be achieved from the figure is that virtual reality is more advanced and latest innovation in computer mediated communication technology. The distant participants can show there presence through modern communication media such as voice, instant messaging and video conferencing. Due, its media richness characteristics people can have immediate response and feedback during communication resulting
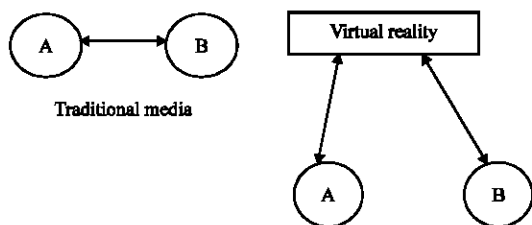
Fig. 1: Communication Model (Source: Jonathan, 1992). Defining virtual reality: dimensions determining telepresence. Journal of communications, 4: 73-93)

prompt decision making and information sharing. Traditional media are offline so have no computer mediated environment. Virtual reality has opened the door for the development of communication technology. It has implication in real life practice for policy makers, managers and leaders for providing a reliable and quick decision making. In this connection, virtual reality bears concept of presence and telepresence. Some examples of telepresence are reading a letter from distant friend, user of multiple online systems such as conference, listening of live recording of music and video game play. Telepresence is referred to as both technology and perceiver. In the contrary, face to face communication is called interactive communication. The determinants of telepresence are vividness and interactivity. Vividness refers to the ability of a technology to produce a sensorially rich mediated environments and interactivity refers to the degree to which users of a medium can influence the form of content of the mediated environment. Interactivity is variable characteristics of communication and has great concern to researchers (Heckel, 1991; Laurel, 1986; Norman, 1988). The three important factors that contribute to interactivity are speed, range and mapping. The speed of time or response time is very important in communication. Range can be defined as the amount of change that can be affected to the mediated environment. Mapping is referred to as the way in which human actions are connected to actions within a mediated environment (Norman, 1988). Multimedia, computer technologies and high speed data networks cause development of global village through the help of interaction. Media is an example of telepresence and all mediated interactions such as telephone, e-mail, online chat, video conferencing and immersive virtual reality fall under communication research.

Presence and reality judgment are other important variables of virtual reality. Reality judgment has less attention than presence. Both have mutual relationships with each other but have difference in domains. The

definition of virtual reality according to Jonathan (1992) is a virtual reality is defined as a real or simulated environment in which a perceiver experiences telepresence. Presence has been defined as the experience a person has when in a virtual environment of being there (Rizzo *et al.*, 1998) or the subjective experience of being in one place or environment, even when you are physically located in another (Witmer and Singer, 1998).

Virtual reality has relationship with involvement and immersion. Interest and motivation are two variables of involvement. Immersion has been defined as a psychological state characterized by perceiving oneself to be enveloped by, included in and interacting with an environment that provides a continuous stream of stimuli and experiences (Witmer and Singer, 1998). Immersion is not an objective description of the virtual reality but is the individual experiences. Brickman defined two types of experiences: internal correspondence which is related to behavior with feeling and includes involvement. External correspondence includes behavioral correspondences with consequences (immersion).

VIRTUAL COMMUNITY

Human avatar relationship plays a crucial role to build interpersonal relationship in virtual world. Today, different virtual communities such as Second Life, Active World, Yahoo and Facebook are come into existence as social friendly interface in a social environment. Due to the rapid development of virtual communities, formation of virtual worlds is becoming easier but some of them are declining (Kazmer, 2007). If the individual has strong relationship with avatars, then there will be less possibility of declining from virtual world (Bruckman and Jensen, 2002). People directly interact with computer and behaviorally treat the computer as a social actor. The interactivity, language and gestures are simulated in the computer (Nass and Moon, 2000; Sundar and Nass, 2000). There are some positive advantages of virtual environment. People found that virtual life is attractive than real life (Talamasca, 2006). The avatars could establish network with other avatars (Bennett and Beith, 2007). Many organizations enter Second Life to establish business and they are generating good revenue (Lui *et al.*, 2007). The formation of relationship between community members is a dynamic process (Ballard and Weigel, 1999). More positive the impression the relationship will be increased and sustain for a long time. If the needs of the individual meet with relationship then the belief on interaction will be increased resulting enjoyable and frequency of interaction. All community system has rules, norms and values and considered as a

part of the group knowledge. Two salient stands can be sketched on virtual communities: Optimistic and pessimistic. On optimistic part, Rheingold (1995) considers that virtual communities are a real phenomenon, contributing to reconstituting solidarity links. On pessimistic side, opinions range from mere refusal of the existence of such communities (Fernback and Thompson, 1995; Weinreich, 1997) to a discourse on the dangers of destroying authentic human relationships (Turkle, 1996; Fernback and Thompson, 1995).

Preece (2000) stated that a virtual community consists of people who interact together socially on a technical platform. The community is built on a common interest, a common problem or a common task of its members that is pursued on the basis of implicit and explicit codes of behavior. The technical platform enables and supports the communities interaction and helps to build trust and a common feeling among the members. Virtual communities help to build personal relationship among the members. Romm *et al.* (1997) stated that virtual communities refer the group of people communicating with each other through the electronic media. The attention of researchers has focused on virtual community due to its growing popularity. Virtual community is a social phenomenon, occurring human computer interaction in online environment. There are three distinct variables which characterize the major stages in the life cycle of virtual communities. They are: (1) Variables that affect individuals decision to join virtual communities, (2) Variables that explain how members of virtual communities affect their immediate environment and (3) Variables that describe how virtual communities are transforming society. The virtual communities have shared goals and ideas, some degree of stability, growth, loyalty and commitment. The key variables that affect individuals decision to join virtual communities are: Technological, motivational, task and system. People use communication technology to perform the specified tasks which has information carrying capacity. The rich communication media provides immediate feedback whereas, lean media provides late response. Daft *et al.* (1987) states that face to face communication is the rich media having multiple cues. Written media are considered as lean media. Email and fax communication falls in between rich and lean media. This is called media richness theory.

Multi User Domain (MUD) and MOO (MUD Object Oriented) offer a network based distributed environment for collaboration in virtual community. Both are shared virtual environment for having interaction and play a pivotal niche for communication. MUD can work both synchronously and asynchronously (Churchill and Sara, 1999). MUDs are multiuser, end-user, extensible with low bandwidth and distributed network in virtual world. The MUD is light weighted and has text description. The text contains the virtual object and organizes information. Unlike synchronous communication such as telephone and asynchronous such as email, the MUD supports real time interactions. Traditionally the MUD had been used for multi user internet gaming, social chat and interactions. Nowadays, it has majority of use in collaboration and communication in virtual world. The drawback of MUD is that it has no shared graphical information. MUD is used for maintaining relationships across distance and time.

Sense of virtual community is affected by four important factors such as leaders enthusiasm, perceived similarity, offline activities and playfulness (Joon and Young, 2001). As the growth of internet has been speeding up, the topic of virtual community is becoming interest of IT professionals and management researchers. Virtual community is also stated as a community extended via emerging technologies. It has three dimensions: (1) Membership in which people has feeling of belonging (2) Influence to motivate participating in virtual activities and (3) Immersion – state of flow during virtual community navigation. The origin of virtual community is categorized into online originated and offline originated.

Virtual communities are taken as a marketing perspective. 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 (Valck *et al.*, 2009). This tool is helpful for marketers, managers and researchers for decision making. Both consumers and companies access online internet 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 have 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 review opinion of experts can be collected. Information is exchanged through other social networking sites such as Myspace, Youtube, Facebook and Wikipedia. Virtual communities play important role for new product development and motivating consumers.

Virtual communities have crucial role on supply of knowledge. Two theories, social capital theory and social cognitive theory have application on knowledge sharing. The major constructs on social capital theories are social interactions, trust, norms of reciprocity, identification, shared vision and knowledge (Chiu *et al.*, 2006). Individual behavior is the product of their social network. Through the close social interaction, the individual is able to increase depth, breadth and efficiency of mutual knowledge exchange.

BUSINESS OPPORTUNITIES IN SECOND LIFE

Second Life has becoming an important place for marketing and brand promotion of real life products and services. Hemp (2006) stated that virtual worlds have future importance for marketers. They become interactive, collaborative and commercial platform for all. Virtual world is stable so there is a low risk of investment. In this connection, there is a huge opportunity of v-commerce or virtual commerce. Most of the virtual worlds have their own currency. The currency of Second Life is called Linden Dollar which is convertible to US Dollar. Second Life provides flexibility in brand building, new product development and advertisement (Vedrashko, 2006). Virtual worlds are designed not only for entertainment and business opportunities but for achieving experience. So, virtual environment is an effective, emotional and simulating environment for users. The Second Life virtual world offers more than 100 real life brands. The area of brand includes automobile (e.g., Mercedes, Mazda), electronics (Sony, Dell), Media (AOL, Sony BMG and Reuters), telecommunications (Telus and Vodafone), banking (ABN Amro and ING) and professional services (IBM and PA). Some advantages that IBM obtained from Second Life adoption are: resource management, technology management, business opportunity creation, corporate culture enhancement and business strategy. The development of brand building in virtual world is new so few studies have been made in this field. The virtual world game is useful to reduce pressure from real life. So, people get involved in virtual world to play games, engage in artistic activities. Owing to this, virtual worlds are becoming new frontier for performing online business. Virtual presence may be advertisement or product development and business sponsored virtual activities. Behavior of the virtual avatars differs with real world in some extent (Clemons, 2008). Users who buy virtual products have less interest to purchase real products in material life.

Traditional advertising media are loosing their impact due to the disability of revenue generation. Modern advertising media such as online social networks including Second Life are playing pivotal role in making money, exchange information and entertainment. In this connection, social networks have been replacing traditional advertisement media (Clemons, 2008).

The Second Life virtual environment keeps relationship between producers and consumers. The firms design, produce and distribute products. The consumers in another hand, buy the products as per their interest and budgetary limitations. The communication establishes collaboration between producers and consumers. The firms have challenges to produce goods as per the consumer demand. An appropriate designing process and decision making is required to fulfill consumer demands. Some of the firms developed online digital computer network, an outcome of information technology for product development. Nowadays, video game industries have been providing the consumer designed products. Games are played online and multiple users can participate in it. Thus, video games establish a favorable collaborative environment between producers and consumers (Reina and Lang, 2007). Massively multiplayer online games are technically feasible, economically suitable for both producers and consumers thus, establishing a favorable collaborative environment. Online games on virtual world are able to generate a good amount of money in real life. Due to this reason, virtual worlds are important source of emotional and material benefit (Castronova, 2001). Such web based technologies are useful to create new online business for income generation and users participation. Virtual worlds bear the future scope for the development of e-commerce and internet.

CONCLUSION AND FUTURE STUDIES

Virtual worlds have wide application in business, education and social networking. In Second Life, online social networking and electronic gaming are more popular phenomena. The 3D representation called avatars are responsible to communicate, interact and teleport from one location to another. Virtual world is the right place for entertainment, education and exploration. Second Life virtual world is able to create a virtual community. Virtual community is a social phenomenon occurring human computer interaction in a computer mediated environment. The communication can be established through text, voice, blogs and instant messaging. People can express their communication behavior through facial expression, gesture and emotions. The video game is able to create marketing opportunities and favorable source for generating revenue. Virtual worlds are online social networks run by internet and called information super highway. In this connection, Second Life has a bright future in the development of information and communication technology. The virtual environments are globally shared and the key features are social and economic interaction. The Second Life communication system is based on web 2.0 technology and communication is preformed for socializing and content sharing. The technical platform enables and supports to build trust and common feeling among the community

members. The growing participation in virtual world is due to online games, education and numerous opportunities to conduct online business. Moreover, due to innovation of virtual reality, the social networking in Second Life has been becoming stronger. Virtual reality has realistic and interactive virtual computer environment with concept of telepresence so, it influences consumer learning and their intention to purchase goods. Besides these, the continual drop in personal computer price, increasing computer capacity and broadband internet access have attracted many people to enter virtual world. The Second Life online social network is playing pivotal role in making real revenue, exchange information and socializing people. Comparing to other social networking sites such as Facebook, Myspace, Twitter and Youtube, Second Life has a feature of media richness and strong communication, cooperation and coordination facilities. So, there is a good future scope of Second Life for researchers, marketers and managers. Future studies will be made with online data collection from Second Life residents to investigate new findings on communication behavior and significance of Second Life in e-business management.

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