STUDYING "ONLINE SOCIALITES" – A UNIFIED FRAMEWORK OF SOCIAL NETWORKING ADOPTION

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ABSTRACT

Using Internet to satisfy social needs is not a recent phenomenon. Although applications like Emails and IM are extensively used to socialize, exponential improvement in technology, infrastructure, and decrease in cost has provided fertile grounds to develop new tools providing richer social environment. One such trend is the use of Social networking websites, which has opened new challenges and avenues for researchers. In this study, we review past research to arrive at a unified model elucidating the antecedents and outcomes for the use of social networking technology.

Keywords: Social networking, adoption, use, online networking, internet

INTRODUCTION

Use of online social networking sites has become a de-facto requirement among young people in general and more so among the students. Instructors are increasingly becoming aware of students logging on to the facebook.com or myspace.com during class. Popularity of such websites are evident from a recent study that estimates 11.9% of the time spent online in the US is at myspace.com [1].

Although the concept of social computing is not new, the latest technological innovations have brought it into the forefront. Owing to innovative application of technology, the field is in the early stage, and various frameworks have been used to study the phenomenon. The intermingling of IT with social and behavioral aspects offers opportunities for both researchers and practitioners, not experienced earlier. Although researchers had utilized various theoretical perspectives in isolation to study this phenomena, such studies provide a limited understanding by ignoring the importance of various influencing factors that work in unison. Statistically, it may not reflect their true role in explaining the variance in the dependent variable. This needs an integration of various fragmented pieces into a unified framework that encompasses both the antecedents and consequences of the use of this technology.

This paper contributes to both IS theory and practice. It advances the stream of research by integrating different perspectives and combining the fragmented pieces to get a unified view of both the antecedents and outcomes of the adoption of such technologies. By simultaneously

combining various relationships in a single model, we expect to gain a richer understanding of the complex motivational issues concerning adoption of a technology that is continually making a greater impact in our daily life. To practitioners, the factors behind the success of online social networking sites provide new fronts to reach their target audience.

To study this emergent phenomenon, we first review the literature on social computing in general, and social networking in particular. Next, we group the variables as either a cause (antecedent) or an effect (outcome) and present various mediating and moderating variables that have potential to alter the relationships. Finally, we arrive at a unified model of the factors leading to adoption, continued usage and consequence of the use of social networking websites.

LITERATURE REVIEW

Though online social networking websites have become popular in the last few years, the concept of social networks using computer networks is not new. Some of the earliest research explored the impact of computers on the society [2]. However, the biggest development is that "Social networking" is now becoming a cultural phenomenon [3]. Advent of computer networks through the Internet has created social networks, giving rise to virtual communities, computer-supported cooperative work, etc. [4]. Internet has spawned variety of social computing technologies. Some of these are virtual communities, blogs, wikis, social browsing, social book marking, file/photo/video sharing, and social networking. Virtual communities are the focus of many research studies and this is evident from two excellent research reviews available in this area [5, 6]. Researchers have explored various facets in the adoption/use of online technologies (For example, Table 1). The current study concentrates on the social networking websites.

Table 1: Adoption/Use of Online Technologies

Concept	Technology	Study
Social perspective, technical perspective	Virtual Communities	Koh et al. (2007) [7]
Need Characteristics Technology features Utilization	Weblog	Kwai Fun (2005) [8]
Social Factors, affect, perceived outcomes	Virtual communities	Li and Lai (2006) [9]
Social identity	Weblog	Moon et al. (2006) [10]
Hedonism	Social networking sites	Rosen and Sharman (2006) [11]

The factors that influence the intention to use can be categorized into behavioral issues such as network effects and social needs and technical issues such as technology characteristics and expected costs and benefits. Based on the Theory of Reasoned Action [12], intention to use will lead to the actual use. Their continued use is tied to the effects of switching costs, sense of belonging effects, and network size. Figure 1 outlines our proposed unified model of the social networking adoption.

Figure 1: Unified Model for Online Social Networking Technology Use
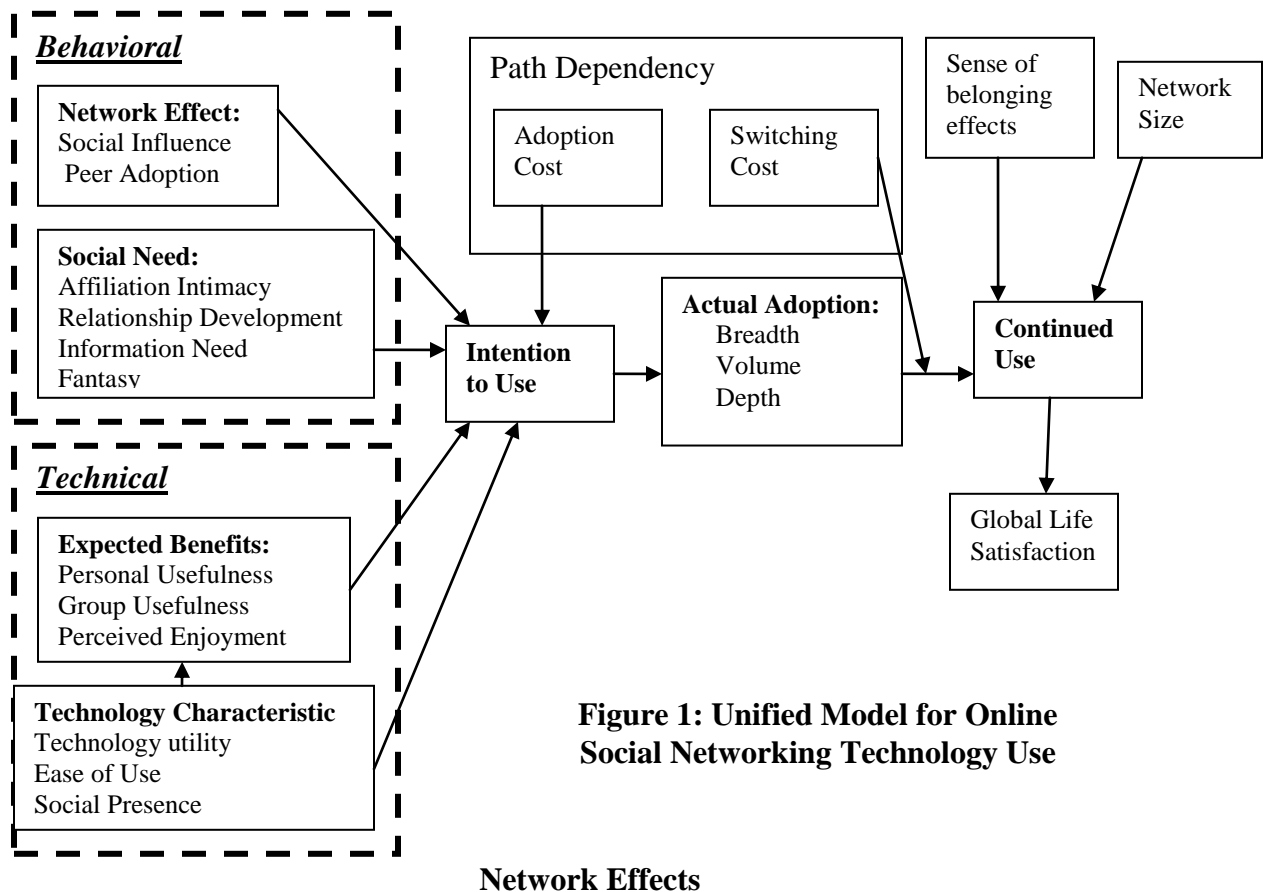
Network Effects

"Network effect theory" states that the benefits gained from a network technology are positively associated with its size [13]. It defines "Network externality" as a change in the benefit that an agent derives from a good when the number of other agents consuming the same kind of good changes. In most of the earlier research, the network was created by the vendors, and the cost of participants in building up the network was minimal [14]. However, the network created in social computing websites is similar to the open source Inter-organizational Information Systems that requires joint efforts from various partners and the benefits depend on the status of network adoption by others in the community [14]. According to Li et al., [15] the "benefit of using a communication technology cannot be achieved by an individual if his or her partners do not use the technology." With more people joining the network, a person will have stronger incentives and motivation to adopt it. The factors contributing to network effects are: "Social Influence" (Expectation of friends from a person to use) and "Peer Adoption" (the extent of diffusion among peers). These combine to form a second-order construct, "Network effects".

Social Need

Needs represents a force that makes a person perform the behavior to fulfill the need [16]. According to McClelland's needs theory there are three fundamental needs : the need for achievement: deriving pleasure from overcoming obstacles; the need for affiliation intimacy: deriving pleasure from socializing and sharing with people; and the need for power: deriving

pleasure from gaining strength or prestige [17]. Social needs are met by online communities and this has been studied in the past [8]. For the social networking site, the closely related need to the intention to adopt is the need for affiliation intimacy. According to Yap and Bock [18], relationship development, information transaction and fantasy are three other needs that drive the formation of a virtual community, and hence they too are included in our model.

Expected Benefits

Expected benefits refer to the benefits an individual expects from using the social networking technology. According to Teo et al.[19], the interest in virtual communities is partly attributed to the benefits and opportunities for individuals. These networks enable individuals to interact easily with others across time and space, to collaborate or gain knowledge [19]. These benefits can be both from a personal and group perspective. Personal outcome expectations "focus on individuals' expectations, such as making more friends, or getting better cooperation in return, whereas group-related outcome expectations are defined as an individual's expectations achieving the goals, enriching knowledge base, or continuing to operate the community" [20]. Such technology can make it easier for a group of friends to exchange information on various movies etc. (besides course/college related information). According to Zhu et al.[14], most existing studies have proposed a direct linkage between network effects and adoption without measuring the impact of network effects on expected benefits. However, in the diffusion of innovations literature greater expected benefits lead to more proactive adoption [21].

Perceived Enjoyment: Traditional IS adoption research concentrated on the adoption of technologies that provide instrumental value to the user. TAM relies on the usefulness of technology [22]. Recently, researchers have started exploring the adoption of special class of information systems called "Hedonic Information Systems". These systems provide self-fulfilling rather than instrumental value to the user [23]. Hedonic systems provide fun to the user and the perception of enjoyment dominates the perceived usefulness of such systems [24]. Hedonism is also studied with regard to household personal computer usages [25]. Social networking websites had been studied as hedonic information systems [11], where perceived enjoyment has replaced perceived usefulness of TAM.

Technology Characteristics

Technology characteristics are one of the important factors in the adoption of any online community. Depth of provided features contributes towards the acceptance of the technology. A good fit between the technology and the task at hand leads to higher chances of acceptance.

Technology utility: It defines the users' perception of the usefulness of the system as it has functions that are not available from other systems. It measures the usefulness due to technical features and functionalities present in the technology chosen by the user as compared with other competing technologies. According to Wang et al. [26], "Technology utility (TU) is unrelated to user size and is used to describe utility not arising from the network externality effect".

Social presence: Social presence theory explains how the communication media affects user's awareness of the presence of an interaction partner [27]. General assumption is that computer

mediated environments do not allow verbal cues and hence enable less social presence [28]. Social networking sites allow varying levels of interactions among its participants. Some of them directly enhance the level of social presence. For instance, users can have photos, videos, avatars, emoticons, etc., that enhance the level of social presence.

Perceived Ease of Use: Davis [22] perceived ease of use is defined as "the degree to which a person believes that using a particular system would be free of effort." TAM relies on this construct as one of the primary belief in the intention to use any technology. Social networking websites that are easy to use will have direct impact on the intention to use these websites. Rosen et al. [11] used this construct on the behavioral intention to use social networking websites.

Path Dependency

According to the Path dependency theory, an actor's ability and motivation to adopt a newer technology depends on its related experience with prior technologies [14]. It consists of two components: Adoption costs and switching costs, each having impact at different stages in the adoption/continued use of technology.

Adoption Cost: In the social networking context, the adoption cost refers to the time and effort required to use the system. In case of complex, and not easy to use systems, the adoption cost will be high. The characteristics of the technology will have an impact on the adoption cost. It has recently been found that the prospective employers are looking at the social-network profile of an individual before making a hiring decision. If a user is afraid of such issues, it may prohibit the user to actively and honestly participate in such communities.

Switching Cost: Switching costs are incurred when users decide to discontinue the use of social networking website to satisfy his/her social needs. It may happen because of other available option or because of the emergence of some new technology in today's dynamic environment. For instance, users may maintain archived blog entries in one of the social networking website and importing the same in another competitive social networking website/ new technology may not be feasible or be very difficult. Also the presence of close friends in a community act as a barrier to shift and results in continued use of a particular community. Concepts of switching costs have been widely studied in the research on supply chain networks.

Intention to Use

Intention to use is the behavioral intention to use the social networking website. Behavioral intention precedes the actual use and this construct is widely used in the research on the adoption of innovations. Again, technology acceptance model utilizes this construct. In the context of the use of social networking websites, Rosen et al.[11] utilized this construct in their research study.

Actual Adoption

Actual Adoption is conceptualized to include three interrelated dimensions: breadth, volume, and depth [29]. Breadth refers to the number of tasks the user can perform on the networking site (for example: picture sharing, blog, etc.). Volume refers to the extent (percentage) to which each of

these activities is conducted by the users. Depth refers to the extent various features of this social networking websites are integrated into the online behavior of the user. For instance, blogs that are present in a website can be offered as service for subscription by friends of the focal user.

Continued Use

Continued use refers to the continual use of these websites over time. Study of adoption of social networking alone is not sufficient and continued use of these websites is important too. In the research on information systems adoption, researches have highlighted the importance of continued use of IS innovation [30]. Proposed model uses the continued use of social networking websites as a dependent variable.

Other Variables

Based on past research, we expect the following variables to moderate the relationship between use and continued use of social networking websites.

Sense of belonging effects: Sense of belonging is considered a very important factor for participation in the community [19]. If the user lacks the sense of belongingness after adopting, it is unlikely that he/she is going to continue using social networking technology.

Network Size: Because users join the network with some needs and expectations and expect other members to fulfill those needs, the overgrowing size and presence of lurkers results in the decline in participation level by the member [18]. Once the size become big and unmanageable, it plays a negative role and has a negative impact on the continued usage.

Outcomes of using these systems

There are very few studies that have examined the actual social impacts of these systems [31]. The sharing of knowledge, opinions and feelings that takes place between members help them to develop relationships and constitute social interaction [10]. According to Moon [10] "the usage and enhanced social interaction will motivate people to expand their online social networks which will result in their global life satisfaction".

Conclusion and Future Research Directions

In this study, we propose a unified model for the adoption of social networking technology based on past research. Empirical evaluation of the proposed model will help to gain valuable insights. This study not only provides researchers a framework for future studies, but also provides practitioners intent on exploiting this new phenomenon with an exploratory study about its nature.

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