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Frequency of Usage: The Impact of Technology Acceptance Factors versus Social Factors

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ABSTRACT

The social networking population continues to expand at a phenomenal pace. Nevertheless, the question of how an organization gets people to spend long periods of time on a particular social networking website as well as return to its website is becoming an increasingly important question. Is it technological sophistication of the website or the social aspect that is most important? This study addresses both technological and social factors. We examine social network use by employing a survey instrument to gather data about technological factors based upon the technology acceptance model and social factors collecting data on constructs representing social involvement and the sheer enjoyment of using the social networking website. Results of our study suggest that users of social networks are more apt to frequently use a site based upon social/enjoyment factors as opposed to technology related factors.

Keywords

Technology acceptance, social involvement, enjoyment, social networking

INTRODUCTION

The technology acceptance model (TAM) suggests that two key factors, ease of use and usefulness can predict technology usage (Davis, 1989b). In accordance with this argument, we suggest that in addition to TAM-related factors, the social capital dimension of websites be important to consider. Therefore, we argue that both social relationship-based factors as well as technology-based factors may work hand-in-hand to contribute to social network usage. We believe the examination of both dimensions will provide a richer understanding of social network usage. After examining previous research we did not find evidence of both TAM and social capital being evaluated together in one study. Therefore, in this research we examine social network usage by proposing and testing a conceptual model based upon technological and social factors.

This research is valuable to people interested in getting people to not only come to their website, but to continue to come. This research can be useful to businesses, researchers, website designers, analysts and others interested in how humans interact with computers. This research helps by providing insight into factors which may impact the usage of a social networking site. Rosen (2001) states that social network designers need to think about how to build relationships with customers and about methods to help build loyalty.

LITERATURE REVIEW

Behavior and intent to engage in a social relationship online is different from traditional face-to-face networking. Online behavior involves a more integrated approach that focuses on interactions with information, people, and technology. Interaction takes place among a community of online users that develop relationships based on common interests and/or goals where they exchange information and knowledge. Many factors may lead to an individual visiting a social networking website. We suggest that an individual's behavior or intent to utilize a social networking site that they feel is useful and usable may be related to perceptions associated with both technological and social factors. The following literature review provides support for our model by giving an overview of previous literature relating to theory of reasoned action, the technology acceptance model, social capital and socio-technical theory. Previous research supports the argument that the usability of technology can impact an individual's attitude, behavioral intentions and use of technology.

Theory of Reasoned Action (TRA)

TRA provides support in explaining the social-psychological factors that may influence perceived interactivity and the use of a social networking website in terms of actual behavior and behavioral intentions. TRA is based on research and principles inherent in social psychology (Fishbein, 1975) which help make sense of and predict individual behavior in social settings. Ajzen (1980) states that individual beliefs affect actual behavior or behavioral perceptions (Fishbein, 1975). Furthermore, TRA suggests that actual behavior relates to an individual's behavioral intentions (BIs). Behavioral intentions are influenced

by: (a) individual attitude regarding the behavior; and (b) social norms, which are defined as individual perceptions of social demands or pressures. TRA has been used to help understand shopping behavior (Yu, 2007), consumer complaints and purchasing behavior (Oliver, 1985, Sheppard, 1988), and information systems (Davis, 1989b, Hansen, 2004, Venkatesh, 1996, Venkatesh, 2002, Venkatesh, 2000).

Technology Acceptance Model (TAM)

The technology acceptance model, based in part on the theory of reasoned action, provides support in explaining the technological factors that may affect the use of a social networking website. TAM was developed (Davis, 1989b) to help explain why people accept or reject computer technology. TAM is based upon the argument that the individual impact of perceived usefulness and ease of use of technology will influence the attitude of an individual when using a particular technology, and will also have an impact on their behavioral intent to use computer technology. Previous researchers have conducted studies that support TAM and the argument that perceived ease of use and perceived usefulness help predict use of information technologies (Davis, 1989a, Davis, 1989b).

Socio-technical theory

Socio-Technical theory relates to technological systems and the importance of consideration of the fit between the technological and social dimensions (Cherns, 1976, Clegg, 2000). Social networks are socio-technical systems. It is a social environment using information and computer technologies. Therefore the usability and usefulness of the social networking systems will have technical and social aspects that may be important considerations in understanding usage.

Social Capital (SC)

Although the consideration of the technological aspects of social networks can be important considerations, we argue that a richer understanding can be gained by also looking at the social aspects of social networks. Social networks involve relationships with different levels of privacy and trust, where people are sharing information, knowledge and resources. These relationships can grow and flourish or deteriorate and die. Researchers have explored and defined social capital in various ways. One definition emphasizes social contact and interpersonal communication patterns (Ellison, 2007). Another social capital definition focuses on public and civic engagement (Putnam, 1996). Granovetter (1973) highlights the structural and relational dimensions of social capital. Putnam (2000) characterizes social capital by close-knit ties (bonding) and weak ties (bridging). Nahapiet and Ghoshal, (1998) focus on three dimensions of social capital (structure, relationships and cognition). Social Capital is defined as “the sum of the resources, actual or virtual, that accrue to an individual or group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition” (Bourdieu, 1992). Social capital emphasizes the importance of social relationships and activities and the valuable resources or by-products of the relationships (Baker, 1990, Burt, 1992, Coleman, 1988, Nahapiet, 1998). Interactions within a social structure tend to strengthen social relationships, social capital and use (Nahapiet, 1998). Internet use such as social network use was found to add value to relationships by strengthening political, community and personal relationships of the users in terms of trust and reciprocity (Ellison, 2007, Quan-Haase, 2002).

Drawing from (Nahapiet, 1998) we concentrate on the relationship dimension which highlights the behavioral aspect which might include the following: trust and trustworthiness, norms, identity and expectations. We argue that increased social capital such as enjoyment and social involvement ties may increase usage of the social network site.

We argue that part of the attraction to the social networks relates to the social capital or resources gained from the relationships such as new career or employment connections as well as new friends. (Granovetter, 1973, Paxton, 1999). Previous studies support a positive association between Internet use and social capital (Ellison, 2007, Quan-Haase, 2002).

Constructs

Technology Acceptance — A large body of the information systems literature has revolved around technology usage and acceptance. For purposes of this study, three factors from the technology acceptance model—perceived usefulness, perceived ease of use and attitude — will be incorporated into the research model. Perceived usefulness is defined as “the prospective user’s subjective probability that using a specific application system will increase his or her job performance within an organizational context” (Davis, 1989b). In relation to social networking, the application in question can be associated with the social networking website itself, and the context is the individual’s personal view of usefulness. Perceived ease of use is defined as “the degree to which the prospective user expects the target system to be free of effort” (Davis, 1989b). In a social networking setting on the Web, ease of use is paramount to encourage individuals to spend time on the site and easily connect with others. This perception may be influenced by their attitudes toward social networks. Attitude is defined as “the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question” (Ajzen, 1991). Previous research demonstrates an association between attitude and perceptions about technology (Davis, 1989b). In regard to social

networking, an individual's attitude toward social networks may affect their perceptions regarding its usefulness and perceived ease of use.

Frequency of Usage-Website usage is an indicator that individuals are interested in the content of the site and will navigate through the site. A logical interpretation of usage would be how long on average an individual remains on a particular website (i.e. the *duration* of the visit) as well as how many times the individual returns to the website (i.e. the *frequency*) (Venkatesh and Agarwal, 2006). High levels of both frequency and duration should serve as key indicators that the social networking web environment is sticky, holds the individuals attention and is easy to navigate.

Social Involvement- One form of social capital relates to relationships and valuable resources that are created due to the relationships (Nahapiet, 1998). Social involvement relates to possible by-products from the interaction with other people with similar interests, hobbies and goals. This involvement may include: the types of interactions such as information sharing and advising. These relationships could lead to increased feelings of loyalty, identity and belonging. We argue that the increased social capital from social involvement ties may increase usage of the social network site.

Enjoyment - The Internet medium is quickly becoming a large part of many individual's daily lives. Time spent involved with Internet related activities is time diverted from more established forms of entertainment such as television, sports or other leisure activities such as reading books or outdoor pursuits. As the Internet medium matures, what once was thought of as a source of information has also in some cases provided enjoyment/entertainment value (Eighmey and McCord, 1998). Social networking which began as a means to communicate with friends and colleagues has continued to evolve as an entertainment outlet. As a result, these web 2.0 tools have become what is known as sticky websites (Rosen, 2001). The websites keep their patrons returning and remaining on the website for lengthy periods, which is akin to customer loyalty. Furthermore, enjoyment is a possible by-product (of social capital) resulting from social network relationships. In previous studies of technology use and enjoyment, enjoyment has been found to be a key consideration (van der Heijden, 2004). In one study of mobile technology use and enjoyment, perceived enjoyment was found to be a significant determinant of usage (Dickinger, 2008). Van der Heijden (2004) also investigated the enjoyment factor as perceived enjoyment along with perceived ease of use and found both were strong predictors of use. Therefore, we argue that the increased social capital such as enjoyment may increase usage of the social network site.

Control Variables—Since it is plausible that individual differences might have some affect on the usage of Web 2.0 tools, factors such as age, gender, education, income, and ethnicity are plausible choices to be included in the research model.

RESEARCH MODEL

The research model depicted in figure 1 below will attempt to explain variance in website usage in a social networking context. The model is specifically put forth to answer the following research question: *How do TAM related factors and non technical factors impact frequency of technology usage.*

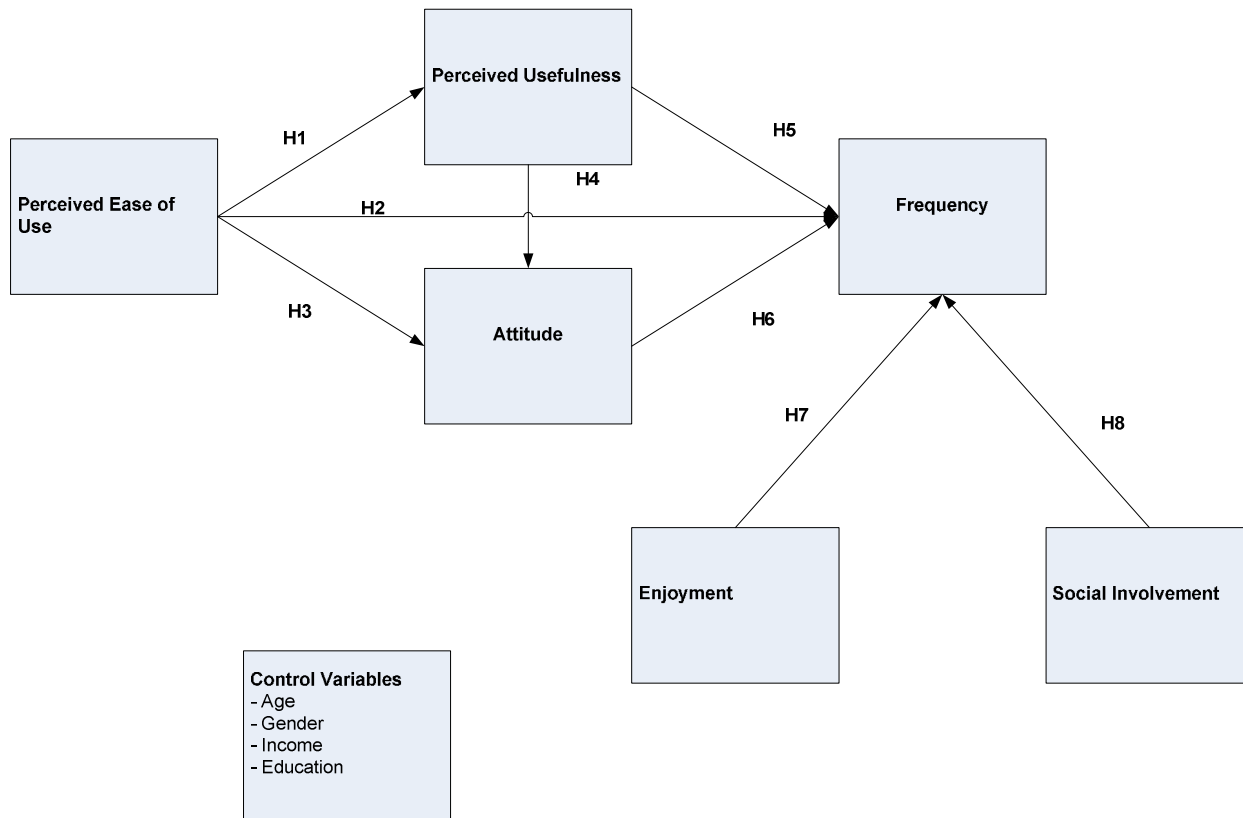


Figure 1. Research Model

The following will present the Hypotheses related to the research model.

Perceived ease of use and perceived usefulness

Consistent with prior technology acceptance literature, the perceived ease of use of a technology should lead to perceptions of its usefulness for users. In a Web 2.0 context, we hypothesize that the same should be true. If a Web 2.0 tool is perceived to be simple to use for the tasks a user would most likely perform, then the usefulness of the Web 2.0 tool should increase for the user. Therefore the following hypothesis is put forth:

Hypothesis 1: *Increases in perceptions of ease of use in a Web 2.0 tool should lead to increased perceptions of usefulness in a Web 2.0 tool.*

Perceived ease of use and frequency of use

Consistent with the technology acceptance literature, the perceived ease of use of a technology should lead to greater usage of a technology. Within a Web 2.0 tool context, the easier an individual finds a particular technology, the more positive the individual should feel toward that technology. Therefore the following hypothesis is put forth:

Hypothesis 2: *Increases in perceptions of ease of use in a Web 2.0 tool should lead to increased frequency of use.*

Perceived ease of use and attitude

Consistent with the technology acceptance literature, the perceived ease of use of a technology should lead to a more positive attitude toward that technology. Within a Web 2.0 tool context, the easier an individual finds a particular technology, the more positive the individual should feel toward that technology. Therefore the following hypothesis is put forth:

Hypothesis 3: *Increases in perceptions of ease of use in a Web 2.0 tool should lead to more positive attitudes in a Web 2.0 tool.*

Perceived usefulness and attitude

Previous researchers have studied attitude and technology from different perspectives such as trust (Lankton, 2008) and usefulness (Rosen, 2001, Yu, 2007). According to previous TAM-related research, attitudes or beliefs about usefulness can

impact website use (Venkatesh and Ramesh, 2006). Ajzen (1980) argues that individual beliefs impact behavioral perceptions toward usefulness and perceived ease of use. Beliefs about technology in terms of perceptions of usefulness have also been shown to influence attitude (Fishbein, 1975, Sheppard, 1988, Steuer, 1992, Yu, 2007). Therefore, consistent with prior literature, an individual's perceived usefulness of a technology should impact the individual's attitude regarding a social networking site. Thus the following hypothesis is put forth:

Hypothesis 4: *Higher levels of perceived usefulness of a Web 2.0 tool will lead to a more positive attitude toward a Web 2.0 tool.*

Perceived usefulness and frequency of use

According to previous TAM-related research, attitudes or beliefs about usefulness can impact website use (Venkatesh and Ramesh, 2006). Ajzen (1980) argues that individual beliefs impact behavioral perceptions toward usefulness and perceived ease of use. Beliefs about technology in terms of perceptions of usefulness have also been shown to influence use (Fishbein, 1975, Sheppard, 1988, Steuer, 1992, Yu, 2007). Thus the following hypothesis is put forth:

Hypothesis 5: *A higher degree of perceived usefulness of a social networking website will have a positive impact on the frequency of usage of a social networking website*

Attitude and frequency of use

Attitude can impact how an individual feels about the usability of a social networking site. Previous research provides evidence for the importance of attitudes in the perception of usability, which can encourage continuous use (Davis, 1989b). Attitude will influence how a user feels about social network usability. Previous research on usability consistently supports the importance of attitude regarding technology use (Davis, 1989b, Fishbein, 1975, Fornell, 1981, Venkatesh, 2002). When social network users feel their interaction with the site is useful in terms of communication, knowledge sharing, and establishing or renewing contacts, then they will perceive the site as useful. This, in turn, will encourage them to continue to return to the social networking site. When social network users feel their interaction with the site is clear and understandable without requiring a high level of effort, they will perceive the site as being easy to use, which will encourage them to continue to return to the social networking site. Thus the following hypothesis is put forth:

Hypothesis 6 *Positive attitudes will have a positive effect on the frequency of usage of a social networking website*

Enjoyment and frequency of usage

Enjoyment of a website should have some impact upon the usage of a social network web site. Given the dimension of enjoyment, when one finds the site entertaining, exciting to use and imaginative, the user will want to continue using the site more frequently and there will be a high degree of usage. Thus the following hypothesis is put forth:

Hypothesis 7: *A higher degree of enjoyment of a social networking website will have a positive impact on the usage of a social networking website*

Social involvement and frequency of usage

Social involvement of a website should have some impact upon an individual's usage of a social network web site. Given the dimensions of social involvement, when one finds their involvement at a level where they enjoy exchanging advice, sharing information and helping one another, then the user will feel more involved. They will want to continue visiting the site more frequently and there will be a high degree of usage. Thus the following hypothesis is put forth:

Hypothesis 8: *A higher degree of social involvement of a social networking website will have a positive impact on the frequency of usage of a social networking website*

METHOD

A survey study was conducted with students at a mid-sized U.S. southeastern university as well as users of Facebook and professionals using LinkedIn. Potential respondents were solicited from 5 different undergraduate management information systems and accounting classes as well as "friends" and LinkedIn colleagues of the authors. The total potential survey population was 577 potential respondents (130 from the students, 240 from Facebook and 197 from LinkedIn). The survey was administered on the Internet using Survey Monkey as a hosting tool. All survey items were measured using 7 point likert scales with the exception of the dependent variable frequency of usage that was measured using a 5 point scale. Survey items included TAM related variables as well as those related to non technology factors and demographic items. Potential respondents were also asked to answer the questions with regard to the social networking site they used the most.

Sample Characteristics

A total of 164 respondents provided complete and usable surveys resulting in a 28% overall response rate. The sample contained 103 student responses (i.e. 63% of the survey respondents), 16 responses from Facebook users (i.e. 10% of the survey respondents) and 44 responses from LinkedIn (i.e. 27% of the survey respondents). Sample characteristics are as follows. There were 81 male respondents, (49%) and 83 female respondents, (51%). Ninety-six (58.5%) of the respondents were in the 18 – 24 age category, while 32 (19.5%) of the respondents were in the 25 – 35 category. Twenty-six (16%) respondents were in the 36 – 45 category and 9 (6%) were between 46 – 55. There was one respondent over 55 years of age. Ethnicity of the respondent population is as follows. One hundred and eleven (68%) respondents were African American, 6 (4%) of the respondents were Asian, 42 (26%) of the respondents were Caucasian, and 4 (2%) of the respondents were Indian. With regard to which social networking sites they used the most, the majority of the respondents, approximately 68%, used Facebook while 10% used LinkedIn the most and 22% used Twitter the most.

RESULTS

Measurement Model

Due to the modest nature of the sample size Partial Least Squares (PLS) is used to evaluate the model. PLS assesses reliability and validity by calculating the internal composite reliability (ICR) and the average variance extracted (AVE). The ICR is interpreted in the same manner as Cronbach's Alpha. An ICR of 0.7 is an indicator of sufficient reliability (Fornell, 1981). ICRs reported in Table 1 indicate sufficient reliability for all constructs (lowest = 0.83). The AVE measures variance explained relative to measurement error. A valid construct has an AVE greater than 0.50 (Chin, 1998), which indicates the construct items consistently measure what is intended. Results in table 1 show that all of the constructs have AVEs greater than 0.50, evidence of convergent validity.

	Mean	S.D.	ICR	Attitude	PEOU	PU	Frequency	Enjoyment	Social Involvement
Attitude	5.50	1.02	.93	.88					
PEOU	5.50	1.01	.92	.61	.89				
PU	5.78	1.01	.87	.65	.58	.80			
Frequency	2.13	1.15	.89	.31	.21	.20	.89		
Enjoyment	4.88	1.16	.94	.57	.45	.42	.40	.89	
Social Involvement	4.68	1.28	.83	.42	.44	.36	.37	.44	.79
AVE				0.78	0.80	0.64	0.80	0.79	.63

Note: 1. Diagonal elements are the square root of the Average Variance Extracted (AVE). Means & standard deviations are calculated based upon 7 point likert scales (with the exception of the Frequency construct which is calculated based upon a 5 point scale).

Table 1

Discriminant validity requires that constructs be distinct from one another. The test for discriminant reliability requires that the square roots of the AVEs for two latent variables must each be greater than the correlations between those two variables (Fornell, 1981). An examination of the correlations among constructs in Table 1 shows that the data pass this requirement, demonstrating adequate discriminant validity.

Structural Model

The PLS structural model is interpreted like regression results. The path coefficients represent standard betas while the R² amount shown represents the variance explained. Given the research model, the following are the hypothesis testing results (see Figure 2).

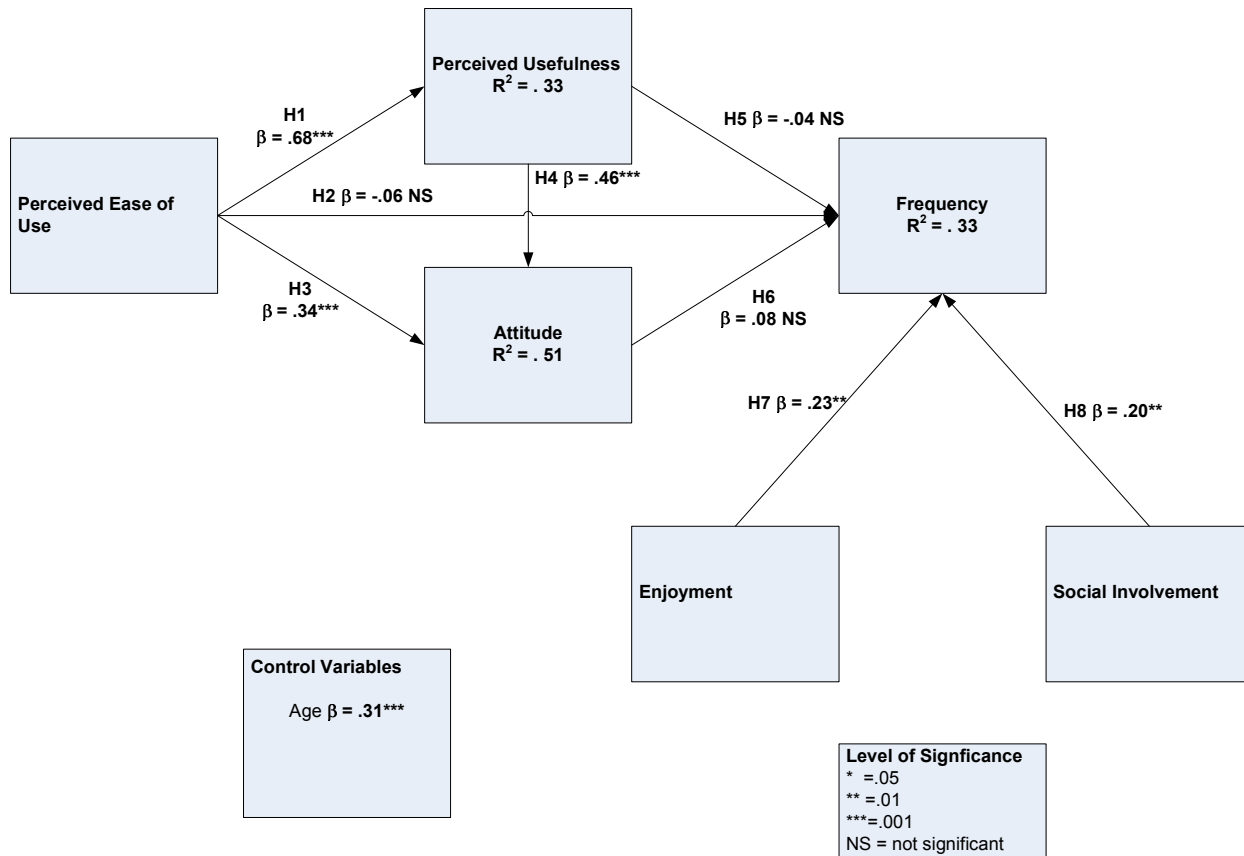


Figure 2. Research Model Results

In general the model is supported by the data. The following will give an overview of each hypothesis.

Hypothesis 1 Perceived ease of use and Perceived usefulness

Consistent with the TAM model, perceived ease of use is found to significantly impact perceived usefulness whereas $\beta = .68$, $p < .001$, $R^2 = .33$. This finding suggests that users in a web 2.0 environment are similar to those in other computing environments.

Hypothesis 2

Hypothesis 2 was not found to be significant. Perceived ease of use did not have a significant impact on the frequency of use of a web 2.0 tool. Also surprising is the direction of the effect. The path coefficient for hypothesis 2 is negative (i.e. $\beta = -.06$). This finding suggests that although a web 2.0 tool might be easy to use, there are other factors that facilitate the usage of such tools.

Hypothesis 3

Consistent with the TAM model perceived ease of use is found to significantly impact attitude whereas $\beta = .34$ $p < .001$, $R^2 = .51$. This finding suggests that a user's attitude in a web 2.0 environment is significantly impacted by a web 2.0 tool that is perceived to be easy to use.

Hypothesis 4

Perceived usefulness consistent with the TAM model significantly impacts attitude whereas $\beta = .46$, $p < .001$, $R^2 = .51$. This finding suggests that users are concerned with what the web 2.0 tool can possibly do for them with regard to social networking (both personal and professional), gaming or other activities.

Hypothesis 5

Hypothesis 5 was *not* found to be significant. Perceived usefulness did not have a significant impact on the frequency of use of a web 2.0 tool. Similar to hypothesis 2 the direction of the effect is negative (i.e. $\beta = -.04$ $p < .NS$, $R^2 = .33$). It would seem logical that users that found an artifact useful would use it more however this is not the case in the current sample. Again other non technology related factors facilitate the frequency of usage of such tools.

Hypothesis 6

Attitude of the web 2.0 user toward the artifact is found *not* to significantly impact the frequency use of the social networking website whereas $\beta = .08$, $p < .NS$, $R^2 = .33$. This is counter to TAM in the sense that the TAM model suggests that behavior (or intent to use) can be impacted by attitude. The current results suggest that behavior in terms of perceptions of frequency of use are not significantly impacted by attitudes toward the web 2.0 tool.

Hypothesis 7

Hypothesis 7 is found to be significant. Users find that enjoying the use of a web 2.0 tool significantly impacts the frequency of use of the web 2.0 tool whereas $\beta = .23$, $p < .01$, $R^2 = .33$.

Hypothesis 8

Hypothesis 8 is found to be significant. Social involvement with others via a web 2.0 tool is a significant predictor of the frequency of use of a web 2.0 tool whereas $\beta = .20$, $p < .01$, $R^2 = .33$.

Overall the findings suggest that the sheer enjoyment of using a web 2.0 tool and involvement with others significantly impacts the frequency of usage. Although this is a logical conclusion a priori for these variables, these findings are counterintuitive for the TAM related variables. Previous research would suggest that attitude would impact frequency of usage as well as perceived usefulness and perceived ease of use. Nevertheless TAM related variables do not have a significant impact upon frequency of usage suggesting that use of web 2.0 tools is driven more so by the value of the network and not by the technology itself.

Control Variables

Although controls for, income, gender, age and ethnicity were collected, Only the age variable was a significant predictor of frequency of usage where $\beta = .31$, $p < .001$, $R^2 = .33$. For those users over 25, usage was 2 hours or less per day (approximately 84% of the respondents. For users 18 – 24, approximately one third were using web 2.0 tools 2 hours or less per day, 30% 2 – 4 hours per day and 20% 4 – 6 hours per day.

CONCLUSION

Limitations

The study is cross sectional in nature. All the constructs were collected in one survey instrument introducing the possibility of common methods variance. The majority of the sample were college student users. Nevertheless the results of the study give researchers and practitioners alike insight into why users spend time on certain websites above and beyond the technical aspects.

As social networks continue to grow, the question of how to attract and keep users becomes central to not only attracting but to holding on to users so that they will want to continuously return to the site. The results from our research suggest that technology and social factors are important considerations. The results indicate that user's enjoyment of the site and the user's level of involvement on the website contributes to website usage. This suggest that usage may go up as users feel

more connected to the site, have more of a sense of belonging and identity and become more trusting of friends as they develop more relationships or stronger relationships.

Although the TAM variables were not directly significant with the dependent variable, usage, we feel that it does help in understanding usage. The results suggest that the TAM variables for perceived ease of use and perceived usefulness were not significantly related to use, possibly because they may relate more to initial visits based upon perceptions and attitude toward social networks. However, the significance of the independent variables, social involvement and enjoyment with the dependent variable, frequency suggests that social capital gained may help explain repeated visits or frequency of use.

This research helps by providing insight into factors which may impact the usage of social networking websites. It can be useful for people who seek to understand websites by first focusing on expected outcomes from the relationships. This study provides support for recognizing technology as well as the social relationships.

Future studies might focus on examining specific types of social capital for specific areas such as marketing or political organizations. Another interesting area of future study maybe to further examine the TAM variables and the social capital variables in relation to initial visit versus repeated visits in more detail.

REFERENCES

- Ajzen, I. (1991) "Theory of planned behavior," *Organizational Behavior and Human Decision Processes* (50) 1, pp. 179 - 211.
- Ajzen, I., Fishbein, M. (1980) *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice Hall.
- Baker, W. (1990) "Market networks and corporate behavior," *American Journal of Sociology* (96pp. 589 - 625).
- Bourdieu, P., Wacquant, L. (1992) *An invitation to reflexive sociology*. Chicago: University of Chicago Press.
- Burt, R. S. (1992) *Structural holes: The social structure of competition*. Cambridge, MA: Harvard University Press.
- Cherns, A. (1976) *Human Relations* (29) 10, pp. 905 - 910.
- Chin, W. W. (1998) The Partial Least Square Approach of Structural Equation Modeling, in G. A. Marcoulides (Ed.) *Modern Methods for Business Research*, Mahwah, NJ: Lawrence Erlbaum, pp. 295 - 336.
- Clegg, C. W. (2000) "Sociotechnical principles for system design," *Applied Ergonomics* (31pp. 463 - 477).
- Coleman, J. S. (1988) "Social capital in the creation of human capital," *American Journal of Sociology* (94pp. 95 - 120).
- Davis, F. D. (1989a) "Perceived Usefulness, Perceived ease of use, and User Acceptance of Information Technology," *MIS Quarterly* (13) 3, pp. 319 - 340.
- Davis, F. D., Bagozzi, R.P., Warshaw, P.R. (1989b) "User acceptance of computer technology," *Management Science* (35) 8, pp. 982 - 1003.
- Dickinger, A., Arami, M., Meyer, D. (2008) "The role of perceived enjoyment and social norm in the adoption of technology with network externalities," *European Journal of Information Systems* (2008) 17, pp. 4 - 11.
- Eighmey, J. and L. McCord (1998) "Adding value in the information age: Uses and gratifications of sites on the World Wide Web," *Journal of Business Research* (41) 3, pp. 187.
- Ellison, N. B., Steinfield, C., Lampe, C. (2007) "The benefits of facebook "Friends": Social capital and college students' use of online social network sites," *Journal of Computer-Mediated Communication* (12pp. 1143 - 1168).
- Fishbein, M., Ajzen, I. (1975) *Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research*. Reading, MA: Addison-wesley.
- Fornell, C., Larcker, D. (1981) "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error," *Journal of Marketing Research* (18) 3, pp. 39-50.
- Granovetter, M. S. (1973) "The strength of weak ties," *American Journal of Sociology* (78) 6, pp. 1360 - 1380.
- Hansen, T., Jensen J.M., Solgaard, H.S., (2004) "Predicting Online Grocery buying Intention: A Comparison of The Theory of Reasoned Action and The Theory of Planned Behavior," *International Journal of Information Management* (24) 6, pp. 530-550.
- Lankton, N., McKnight, D, H. (2008) Do People Trust Facebook as a Technology or as a "Person"? Distinguishing Technology Trust from Interpersonal Trust. *Fourteenth Americas Conference on Information Systems, Toronto, ON, 2008*.
- Nahapiet, J. G., S. (1998) "Social capital, intellectual capital and the organizational advantage," *Academy of Management Review* (23) 2, pp. 242 - 266.
- Oliver, R. L., Bearden, W.O. (1985) "Crossover Effects in the Theory of Reasoned Action: A Moderating Influence Attempt" *The Journal of Consumer Research* (12) 3, pp. 324 - 340.
- Paxton, P. (1999) "Is social capital declining in the United States? A multiple indicator assessment," *American Journal of Sociology* (105) 1, pp. 88 - 127.
- Putnam, R. D. (1996) "The strange disappearance of civic america," *The American Prospect* (24pp. 34 - 48).
- Putnam, R. D. (2000) *Bowling alone: The collapse and revival of American community*. New York, NY: Simon & Schuster.

- Quan-Haase, A., Wellman, B., Witte, J., Hampton, K. (2002) Capitalizing on the Internet: Social contact, civic engagement and sense of community, in B. Wellman, Haythornthwaite, C. (Ed.) *Internet and Everyday*, Oxford: Blackwell.
- Rosen, S. (2001) "Sticky website is key to success," *Communication World* (18) 3, pp. 36.
- Sheppard, B. H., Hartwick, J., & Warshaw, P. R. (1988) "The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research," *Journal of Consumer Research* (15) 3, pp. 325 - 343.
- Steuer, J. (1992) "Defining Virtual Reality: Dimensions Determining Telepresence," *Journal of Communication* (42) 4, pp. 73 - 93.
- van der Heijden, H. (2004) "User acceptance of hedonic information systems," *MIS Quarterly* (28) 4, pp. 695 - 704.
- Venkatesh, V. and R. Agarwal (2006) "Turning Visitors into Customers: A Usability-Centric Perspective on Purchase Behavior in Electronic Channels," *Management Science* (52) 3, pp. 367.
- Venkatesh, V., Davis, F.D (1996) "A Model of the Antecedents of Perceived Ease of Use: Development and Test," *Decision Sciences* (27pp. 451-481.
- Venkatesh, V. and V. Ramesh (2006) "Web and Wireless Site Usability: Understanding Differences and Modeling Use," *MIS Quarterly* (30) 1, pp. 181.
- Venkatesh, V., Speier, C. and Morris, M.G. (2002) "User Acceptance Enablers in Individual decision Making About Technology: Toward An Integrated Model," *Decision Sciences* (33) 2, pp. 297-316.
- Venkatesh, V. a. S., C. (2000) "A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. ," *Management Science* (46pp. 186 - 204.
- Yu, T., Wu, G. (2007) "Determinants of Internet Shopping Behavior: An Application of Reasoned Behaviour Theory," *International Journal of Management* (24) 4, pp. 744-762.