

8-2010

Satisfaction with Social Networking Sites: Effect of Playfulness and Change in Use

Gina Harden

University of North Texas, gina.harden@unt.edu

Follow this and additional works at: <http://aisel.aisnet.org/amcis2010>

Recommended Citation

Harden, Gina, "Satisfaction with Social Networking Sites: Effect of Playfulness and Change in Use" (2010). *AMCIS 2010 Proceedings*. 101.

<http://aisel.aisnet.org/amcis2010/101>

This material is brought to you by the Americas Conference on Information Systems (AMCIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in AMCIS 2010 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

Satisfaction with Social Networking Sites: Effect of Playfulness and Change in Use

Gina Harden

University of North Texas
gina.harden@unt.edu

ABSTRACT

The tremendous growth experienced by social networking sites (SNSs) has introduced a multitude of social phenomena into the study of these online information systems (IS). Such explosive growth can create an evolution in a site's original intended use, giving rise to issues that both enhance and plague the users as well as the developers of such sites. With stories in the news of employees fired or students punished or dismissed outright from their schools' programs, this study introduces a new construct, change in intended use (CIU), to determine possible effects on satisfaction. Using the framework of the expectation-confirmation theory (ECT), this study also incorporates perceived playfulness into the model as a predictor of satisfaction to further the research in understanding satisfaction with a SNS. The survey results indicate that a change in intended use does have a significant negative effect on satisfaction with the SNS.

Keywords

Satisfaction, social network site, perceived playfulness, change in intended use

INTRODUCTION

The use of various social networking sites (SNSs) such as Facebook and MySpace has grown exponentially over the past few years and continues to see an increase in membership and usage. Facebook began in 2004 and had one million users by the end of its first year, over 5 million users by the end of its second year, and over 12 million users by the end of 2006 (Facebook Press Release, Timeline). In 2009, Facebook grew from over 150 million active users in January to over 350 million active users by the end of the year, while MySpace claims over 100 million monthly active users at the same time (Facebook Press Release, Timeline; MySpace Press Release, FactSheet). The digital marketing intelligence group comScore reports that in the month of April 2009 SNSs experienced record growth in the US with an increase of 12% usage, or nearly 140 million users in that month alone, with MySpace leading in US numbers with 71 million visitors followed by Facebook with 67 million visitors (comScore Press Release, 2009). According to comScore, that figure represents nearly three-quarters of the US online population (comScore Press Release, 2009).

Such tremendous growth has given rise to many issues that both enhance and plague the users of SNSs, while providing rich opportunities for research in the area of individual behavior and the use of these online information systems. Issues of privacy and security mix with the ability to interact, share, and extend one's personal network of friends (Dwyer, Hiltz, and Passerini, 2007; Ellison, Steinfield, and Lampe, 2007). At the same time, the increasing rise in the number and demographics of new users creates a changing makeup in the way SNSs are being used. Created in 2004 by Harvard student Mark Zuckerberg and friends, Facebook was originally designed as a tool for college students to stay connected with each other and access was limited to those with approved ".edu" email addresses (Facebook Press Release, Timeline). A year later, the site was expanded to include high school networks and international school networks, eventually going commercial and including company networks in 2006 (Facebook Press Release, Timeline). As mentioned earlier, the site experienced an explosive surge in membership, with the original demographic of 18 – 24 year olds making up only a third of that growth (Facebook Press Release, Statistics). Currently, Facebook's fastest growing demographic is users 35 years and older (Facebook Press Release, Statistics).

MySpace experienced similar extraordinary growth since its inception, growing from one million members in January of 2004 to over 5 million by the end of their first year, and over 100 million users by March 2007 (MySpace Press Release, Timeline). Originally developed to attract disgruntled Friendster users, MySpace grew rapidly in large part due to indie bands working to connect with their fans, largely a younger crowd (Boyd & Ellison, 2007). While the popularity of SNSs is well understood, what warrants further investigation is the impact such enormous growth has on both users and developers of these sites.

Numerous news articles abound reporting such consequences as employees being fired for posting inappropriate pictures, or students being punished for violating their school's conduct policies, discovered through postings on their Facebook or

MySpace pages. One case reports an employee on long-term sick leave for depression being denied benefits after the insurance representative saw pictures on Facebook depicting the employee partying at bars and on vacation in a sunny location (Roberts, 2009). Other situations involve potential employers requesting sites and login information of job applicants for screening purposes. These authorities screen for pictures as well as text postings. Users have been fired from their employment or dismissed from their school programs due to inappropriate postings about their beliefs or activities. Law enforcement officials have browsed Facebook pages to find or confirm evidence against users and press charges as a result.

While some of these issues have found their way into the legal system as the parties involved wrangle with what type of use is appropriate (and legal), the question remains: what effect do these actions have on the users' satisfaction with these sites? Specifically, does a change in the intended use of the site by a new demographic of users negatively affect the satisfaction the *intended* users experience with their SNS? The author of this paper experienced the initial displeasure and suspicion of her own college-aged students (ages 18 and 20) when requesting "friend" status in their Facebook networks and noted several other students who had the same request from their parents. While the author's children eventually granted "friend" status, several of their counterparts refused, unwilling to share their personal information with their own parents. The purpose of this preliminary analysis is to examine the level of satisfaction with SNSs of traditional college-aged students' when that site's original intended use changes. The traditional college-aged student is defined as between the ages of 18 – 24. MySpace and Facebook are the only two sites considered in this study, as a result of survey responses listing them as the only SNSs favored by the respondents.

The extreme growth described above can bring an evolution in the makeup of a site's original intended use, oftentimes far beyond what the designer had in mind during development of the system. Just as it does for users, this natural evolution can create issues that both enhance and plague the developers of SNSs. While a widely increasing user base can supply a varied and vast audience for advertisers, making the online site lucrative in terms of both profits and investments, it can have unintended consequences for original users who see the landscape of their preferred "hangout" changing before their eyes. Not only do developers of these online systems have to deal with logistical challenges of rapidly increasing user traffic, but they must also be aware of users' satisfaction with their SNS. If they do not pay close attention to their users' requirements, whether in the form of enhanced services, privacy concerns, or simply the right "environment," developers of SNSs can watch their creation die a death as rapid as some sites' meteoric rise to success.

The Hub, a social networking site created by Wal-Mart for teen users died only a few months after its inception, possibly because of too many blatant advertisements on the site by the giant retailer. There was also a surprising failure of Yahoo's attempt at entering the SNS arena with the decline and eventual failure of Yahoo 360. The failure of two big corporate names, one of them already a leader in providing online services, points to the critical need of SNS providers to understand their users' preferences, requirements, and satisfaction in order to both obtain and retain those users. As documented by Boyd and Ellison (2007), Friendster was another SNS that experienced exponential growth, but then failed to keep up with the demand placed on its servers and databases and ultimately it users' preferences, thus losing its foothold in the U.S. The authors note that "because organic growth had been critical to creating a coherent community, the onslaught of new users who learned about the site from media coverage upset the cultural balance," (Boyd & Ellison, 2007, p. 214).

The surging growth of SNSs like Facebook and MySpace has led to a vastly different demographic of users and consequently, a change in intended use than the sites were originally created to serve. This paper introduces a new construct, change in intended use (CIU), to study the relationship between this new phenomenon and the effect of such a change on students' satisfaction with the SNS. This paper contributes to research by introducing a new construct to continue the effort of understanding user satisfaction with SNSs, and online systems in general. This research proposes that a CIU can have a negative impact on user satisfaction with SNSs. The structure of the remainder of this paper is as follows: the definition of constructs and theoretical model used in hypotheses development, the discussion of methodology and the scale measure used to investigate the research question, analysis and discussion of the findings, along with the limitations of this study and finally, suggestions for further research.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

There has been considerable effort to study users' satisfaction with an information system (Abdinnour-Helm, Chaparro, and Farmer, 2005; Au, Ngai, and Cheng, 2002; Chen 2007; Kim, Ferrin, and Rao, 2009; McKinney, Yoon, and Zahedi, 2002; Wixom and Todd, 2005) largely based on the expectation-confirmation theory (Oliver, 1977). The expectation-confirmation theory (ECT) is based on the premise that expectations along with perceived performance either confirms or disconfirms satisfaction with the product (Oliver, 1977). Early work in IS satisfaction was conducted by Szajna and Scammel (1993), who find in their study an association between a user's expectations and their perception of satisfaction. The authors base their study on cognitive dissonance theory, asserting that expectations are confirmed or disconfirmed, thus affecting performance and perceptions of satisfaction (Szajna and Scammel, 1993).

Efforts to validate a scale to measure satisfaction with a web site were tested by Abdinnour-Helm, Chaparro, and Farmer (2005) as the authors studied determinants of satisfaction with a web site from a usability perspective. Similar efforts were

undertaken to develop theoretically sound constructs to measure satisfaction of web site customers by McKinney, Yoon, and Zahedi (2002). Further, in a review of the literature on satisfaction, Au, Ngai, and Cheng (2002) find that ECT is the dominating theory used to research IS satisfaction. The authors note the extensive use of satisfaction as a key determinant of IS success, and its interchangeable use as a measure of effectiveness or success (Au et al., 2002). Thus, following the dominant research stream in the IS literature, this study focuses on ECT to guide the conceptual framework.

The current research on SNS user satisfaction, predominantly hedonic in context rather than utilitarian, focuses on perceived playfulness rather than perceived usefulness. The efforts to investigate user behaviors and attitudes such as satisfaction and perceived enjoyment provide the theoretical foundations that guide the current research framework for this study (Lin, Wu, and Tsai, 2005; Sledgianowski and Kulviwat, 2009; van der Heijde, 2004). These studies focus on the effect of independent variables such as perceived enjoyment or perceived playfulness (which are used interchangeably), perceived ease of use, confirmation (or disconfirmation), and the social influence that independent variables of normative pressure, critical mass and trust have on the dependent variables of individual users' behaviors regarding their satisfaction with specific online computer systems (Sledgianowski and Kulviwat, 2009; van der Heijde, 2004).

Chen (2007) finds empirical support for the theoretical framework of ECT when looking at a professional virtual network, which is similar to a SNS. The study finds a positive relationship between confirmation of expectations and satisfaction (Chen, 2007). The research is conflicting, however, with Brown, Venkatesh, Kuruzovich, and Massey (2008) finding no support for the disconfirmation model of ECT when comparing three different expectation confirmation models. However, the authors find a strong relationship exists between the independent variables of expectations and experiences and the dependent variable of satisfaction, especially when looking at an IS implementation (Brown, Venkatesh, Kuruzovich, and Massey, 2008), further supporting the current author's use of ECT as a basis for examining user satisfaction with a SNS.

This paper extends the research stream in satisfaction of online IS users by recognizing that the particular situation of hedonic system usage introduces new elements that must be considered in the investigation. The research initiated by van der Heijden (2004) investigates user acceptance of hedonic systems and finds that the predictors vary depending on the context in which the system is used, being either utilitarian or hedonic. His findings show that when determining the predictors for user acceptance of hedonic information systems, perceived enjoyment and perceived ease of use are stronger determinants of intention to use than perceived usefulness (van der Heijden, 2004). When looking at the use of a hedonic system such as a SNS, Sledgianowski and Kulviwat (2009) find that the intrinsic motivator of perceived playfulness or enjoyment one finds by using the system has the strongest impact on intent to use.

Lin et al. (2005) find empirical support for the measure of perceived playfulness as a determinant of satisfaction with a web site. The results of the study show that the relationship between perceived playfulness and satisfaction provide a much better fit than a direct path between perceived usefulness and satisfaction (Lin et al., 2005). The theoretical model in this paper will therefore use the construct of perceived playfulness identified by users of a SNS as a determinant of satisfaction with that site.

CONCEPTUAL MODEL AND HYPOTHESES

The conceptual model for this study is based on an adaptation of ECT, replacing perceived usefulness with the more appropriate construct of perceived playfulness. In addition, the introduction of the new construct, change in intended use (CIU) is added. Though myriad independent variables have been used in attempts to determine satisfaction, it is this author's belief that adherence to parsimonious theoretical model building will further enhance the exploratory nature of the new construct presented in this paper, CIU, and give a clearer interpretation of the results. Figure 1 below presents the SNS Satisfaction Model.

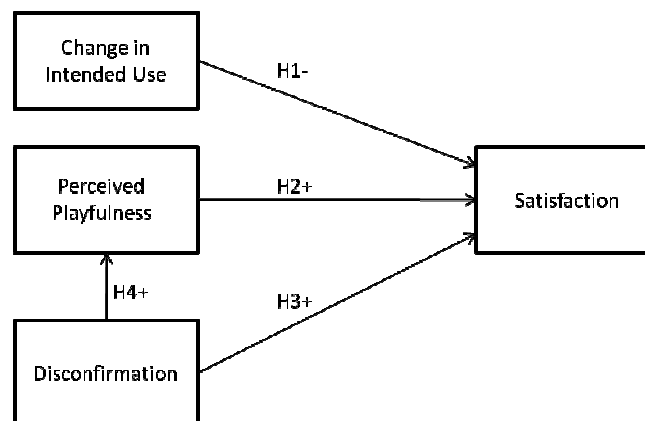


Figure 1. SNS Satisfaction Model

To measure change in intended use, a new scale was developed and validated to effectively measure this exploratory construct. This study examines the extent to which a change in intended use (CIU) of a SNS affects user satisfaction. CIU is defined as the site being used for a different purpose than originally intended. For instance, Facebook was originally intended to allow college students and eventually high school students to stay connected, share their networks of friends and activities only among other such students. As noted above, it is now used by parents, school administrators, employers and even law enforcement officials to aid in their respective interests. This research proposes that CIU will have a negative effect on satisfaction with the SNS and presents the following hypothesis:

H1: A change in intended use will have a negative effect on a user's satisfaction with a SNS.

Following the research of van der Heijden (2003) and Sledgianowski and Kulviwat (2009), perceived playfulness is defined as the level of enjoyment a user of a SNS believes using that site gives him/her. As mentioned previously, when investigating the use of a SNS, the measurement of intrinsic motivators in a hedonic context is appropriate rather than looking at utilitarian influences (van der Heijden, 2003; Sledgianowski and Kulviwat, 2009). The research of this study will therefore focus on perceived playfulness, and proposes that:

H2: Perceived playfulness will have a positive effect on a user's satisfaction with a SNS.

Disconfirmation is a construct which Oliver (1977) emphasized in his original ECT model. According to Oliver (1977), it is a rare occurrence when an expectation is precisely confirmed, or when a consumer gets exactly what was expected. Rather, it is more common that expectations are disconfirmed, and found to be either better or worse than what was expected and the disconfirmation can be either positive (the experience was better than expected) or negative (worse than expected), resulting in either a positive or negative effect on satisfaction (Oliver, 1977). This research will follow the example of Oliver (1977) in using disconfirmation as a construct which measures the extent to which a user's expectations were met and proposes the following hypothesis:

H3: Positive disconfirmation will have a positive effect on a user's satisfaction with a SNS.

Bhattacharjee (2001) finds positive disconfirmation is positively associated with perceived usefulness. Theory suggests that as a user actually has the chance to interact with a particular IS, their original perceptions can be increased or lowered based on whether their actual experience was confirmed or disconfirmed (Bhattacharjee, 2001). As this study replaces the construct of perceived usefulness with perceived playfulness, the following hypothesis is proposed:

H4: Positive disconfirmation will have a positive effect on perceived playfulness.

Satisfaction has also been conceptualized by many researchers, with varying degrees of concurrence. Kim et al. (2009) and Bhattacharjee (2001) use a similar view of satisfaction in their respective studies on e-commerce, defining satisfaction as being a cognitive and affective state of fulfillment post-purchase. In reviewing the literature on end-user system satisfaction, Au et al. (2002, p. 453) define satisfaction as being "the overall affective and cognitive evaluation of the pleasurable level of consumption-related fulfillment experienced with the IS." This paper evaluates the overall satisfaction of SNS users, in which no purchase is made, but rather the site is used for hedonic purposes. Therefore, this study defines satisfaction as being the cognitive and affective state of emotion achieved by evaluating the experience with using a SNS as being pleasurable.

METHODOLOGY

The data collected in this research were obtained from a survey instrument administered to college undergraduate students, primarily between the ages of 18-24, in a large, American-southwest university. The students provide an appropriate context for this study, as the research question focuses on the effect a change in use of a SNS has on the original users of a SNS, in this case college-aged students. The respondents were selected from a convenience sample of one hundred and forty-six students, drawn over a one-week time period with four of the responses being thrown out because of identical answers for each question and one being thrown out because of identical answers given for two reverse coded items, indicating a violation of reliability of the answers given by that respondent.

The resulting collection of usable responses was one hundred and forty-one, or a 96% usable response rate. The students were given a brief explanation of the purpose of the study, to measure their satisfaction with their preferred SNS and some were offered extra credit at the discretion of their instructor. Some instructors chose not to offer any extra credit and some did. The response rate from the various classes was relatively high regardless of the offer.

Previously validated scales were used where possible to measure the individual constructs on the questionnaire. Some of the scale items were used exactly as given, while some were adapted with slight modifications to better fit the context of this study. As mentioned above, one of the constructs is exploratory in nature, CIU, and was measured by asking questions such as "An increasing rate of parents using my SNS makes me want to quit using my SNS" or "...school administrators..." etc. Different subgroups were substituted separately to determine if the increasing use of the SNS by different groups had an effect on the college students' satisfaction with their preferred site. All items were rated on a Likert scale of 1 = Strongly

Agree to 5 = Strongly Disagree. The survey instrument and a corresponding list of sources for scale items are presented in Table 1.

SCALE ITEM	SOURCE
PP1) Using my SNS gives me enjoyment.	Sledgianowski & Kulviwat 2009
PP2) Using my SNS is fun for me.	Sledgianowski & Kulviwat 2009
PP3) Using my SNS makes me happy.	Sledgianowski & Kulviwat 2009
PP4) Using this website is entertaining to me.	Sledgianowski & Kulviwat 2009
CIU1) An increasing rate of parents using my SNS makes me want to quit using my SNS.	Developmental
CIU2) An increasing rate of school administrators using my SNS makes me want to quit using my SNS.	Developmental
CIU3) An increasing rate of law enforcement officials using my SNS makes me want to quit using my SNS.	Developmental
CIU4) An increasing rate of potential employers using my SNS makes me want to quit using my SNS.	Developmental
D1) My experience with using my SNS was better than I expected.	Bhattacharjee 2001
D2) The benefits provided to me by my SNS are better than what I expected.	Bhattacharjee 2001
D3) Overall, most of my expectations from using my SNS were confirmed.	Bhattacharjee 2001
S1) I feel very satisfied with my overall experience using my SNS.	Bhattacharjee 2001
S2) I feel very pleased with my overall experience of using my SNS.	Bhattacharjee 2001
S3) I feel very contented with my overall experience using my SNS.	Bhattacharjee 2001

Table 1. Survey Item and Source

ANALYSIS AND RESULTS

Because a new construct was developed as part of this research, Exploratory Factor Analysis (EFA) using principal component analysis with varimax rotation was conducted, following the finding that this method is used most often in an assessment of research evaluation methods (Costello and Osborne, 2005). Convergent validity is shown for each of the constructs with the resulting factor loadings, corresponding Cronbach's alpha, and average variance extracted (AVE) values summarized in Table 2. The rules of thumb used to support construct validity include all factor loadings 0.5 or higher, and ideally 0.7 or higher (Hair, Black, Babin, Anderson, and Tatham, 2006).

All factor loadings in this model are well above 0.7. Internal reliability of the scale items is supported by Cronbach's alpha values that range from .85 to .96, well above 0.8 as recommended in a meta-analysis of the use of Cronbach's alpha (Hair et al., 2006). In addition, AVE, which measures the amount of variance explained by the construct values, should be above 0.50. In this study, the AVE of all constructs exceeds 0.50 indicating good measures of reliability and validity for the constructs in this model. This strong construct validity supports proceeding with the testing of the structural model, despite the small sample size of this preliminary analysis.

Scale Item	Standardized Loadings	Cronbach's alpha	AVE	Factor Correlations			
				CIU	PP	DC	SAT
CIU1	.890	.95	.87	1.00			
CIU2	.958						
CIU3	.920						
CIU4	.898						
PP1	.908	.94	.84	-.316**	1.00		
PP2	.940						
PP3	.905						
PP4	.872						
DC1	.870	.85	.77	-.293**	.698**	1.00	
DC2	.903						
DC3	.854						
SAT1	.968	.96	.91	-.365**	.704**	.738**	1.00
SAT2	.968						
SAT3	.939						

Table 2. Factor Analysis, Cronbach's Alpha and Correlation: ** is significant at the 0.01 level (2-tailed).

The next step of the analysis involved testing the structural model to determine what evidence exists in the data to support the hypotheses. Because of the small sample size, Partial Least Squares (PLS) was the appropriate tool for testing the model. The exploratory construct of change in intended use shows a significant negative effect on satisfaction as suggested by the model and thus **H1** is supported with a -0.11 coefficient. Focusing on perceived playfulness rather than perceived usefulness, as appropriate for the use of an online IS in a hedonic context, the data show a significant positive relationship between perceived playfulness and satisfaction with a coefficient of 0.344, and thus support **H2**.

Positive disconfirmation is shown to have a significant positive relationship with satisfaction, supporting **H3** with a coefficient of 0.468. Following the findings of Bhattacharjee (2001), positive disconfirmation has a significant positive effect on perceived playfulness with a coefficient of 0.707, and therefore **H4** is supported as well. All relationships were significant with p-values between .001 and .025. Using PLS, the resulting model with corresponding coefficient and R^2 values is shown in Figure 2.

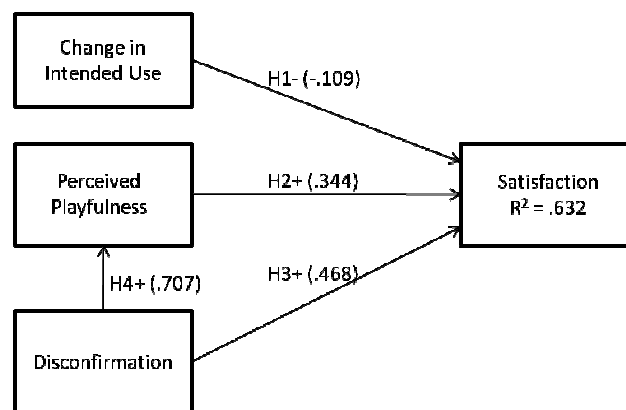


Figure 2

The overall model shows 63% (R^2 value) of the variance being explained by perceived playfulness, disconfirmation, and a change in use as predictors of satisfaction. This suggests other salient variables remain which can account for a user's satisfaction. The inclusion of other predictive factors was beyond the scope of this preliminary analysis, however, focusing instead on establishing a new construct, CIU, as an indicator of satisfaction.

CONCLUSION

The goal of this study was to determine if a change in intended use of a SNS has an effect on the satisfaction of the sites' original users. One of the most substantial findings of this study is that when looking at a change in use of a SNS that includes school administrators, potential employers, and law enforcement officials using the SNS for efforts far beyond the

original intention of the IS, a negative relationship with satisfaction exists. This is an important finding that developers of SNSs, as well other online information systems, should be aware of when evaluating the implications of changes made to the uses of their sites as they experience significant growth.

This study extends the research using ECT in determining satisfaction with an online IS. In addition, this research supports the findings of others that perceived playfulness is a significant predictor when studying the use of an online IS in a hedonic context (Sledgianowski and Kulviwat 2009; van der Heijden 2004). A future research effort might undertake a more in depth examination of other factors that influence not only satisfaction, but also continuance intentions, as studies by Bhattacharjee (2001) and Sledgianowski & Kulviwat (2009) have done.

Limitations of this study include the use of students when measuring level of satisfaction with the SNS. This was appropriate in the context of this study, as this particular demographic was the original intended audience for Facebook and largely for MySpace as well. However, better generalizability could be gained by performing the same study on a more diverse group of participants, perhaps original users of eBay who have seen their site used more frequently by commercial businesses rather than individual sellers. Future research efforts that explore other possible determinants of satisfaction, combined with a change in intended use of other specific online systems is encouraged to delve more deeply into the possible effects that such a change can have on user satisfaction with an online IS.

ACKNOWLEDGMENTS

The author would like to thank the University of North Texas ITDS Department faculty, specifically Dr. Sherry Ryan, Dr. Victor Prybutok and Dr. Anna Sidorova for their generous guidance, as well as the Ph.D. student colleagues. Without the support of these people, this research would not have been possible.

REFERENCES

1. Abdinnour-Helm, S., Chaparro, B., and Farmer, S. (2005) Using the end-user computing satisfaction (EUCS) instrument to measure satisfaction with a web site, *Decision Science*, 36, 2, 341-364.
2. Au, N., Ngai, E., and Cheng, T. (2002) A critical review of end-user system satisfaction research and a new research framework, *Journal of Management Science*, 30, 451-478.
3. Bhattacharjee, A. (2001) Understanding information systems continuance: An expectation-confirmation model, *MIS Quarterly*, 25, 3, 351-370.
4. Bhattacharjee, A., and Premkumar, G. (2004) Understanding changes in belief and attitude toward information technology usage: A theoretical model and longitudinal test," *MIS Quarterly*, 28, 2, 229-254.
5. Boyd, D., and Ellison, N. (2007) Social network sites: Definition, history, and scholarship, *Journal of Computer-Mediated Communication*, 13, 1, 210-230.
6. Brown, S., Venkatesh V., Kuruzovich, J., and Massey, A. (2008) Expectation confirmation: An examination of three competing models, *Organizational Behavior and Human Decision Processes*, 105, 52-66.
7. Chen, I. (2007) The factors influencing members' continuance intentions in professional virtual communities – a longitudinal study, *Journal of Information Science*, 33, 4, 451-467.
8. comScore Press Release (2009) Media metrix ranks top 50 U.S. web properties for April 2009, Available online: [http://www.comscore.com/Press Events/Press Releases/2009/5/Social Networking Category Has Record Month Led by Gains at Twitter and Facebook/\(language\)/eng-US](http://www.comscore.com/Press%20Events/Press%20Releases/2009/5/Social%20Networking%20Category%20Has%20Record%20Month%20Led%20by%20Gains%20at%20Twitter%20and%20Facebook/(language)/eng-US)
9. Costello, A., and Osborne, H. (2005) Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis, *Practical Assessment Research & Evaluation*, 10, 7, Available online: <http://pareonline.net/getvn.asp?v=10&n=7>
10. Davis, F. (1989) Perceived usefulness, perceived ease of use, and user acceptance of information technology, *MIS Quarterly*, 13, 3, 319-340.
11. Dwyer, C., Hiltz, S., and Passerini, K. (2007) Trust and privacy concern within social networking sites: A comparison of Facebook and MySpace, *Proceedings of the Thirteenth Americas Conference on Information Systems*, August 9-12, Keystone, CO, USA, Colorado State University, 1-12.
12. Ellison, N. B., Steinfield, C., and Lampe, C. (2007) The benefits of Facebook "friends:" Social capital and college students' use of online social network sites, *Journal of Computer-Mediated Communication*, 12, 4, article 1. Available online: <http://jcmc.indiana.edu/vol12/issue4/ellison.html>
13. Facebook Press Release, Timeline, Available online: <http://www.facebook.com/press/info.php?timeline>
14. Facebook Press Release, Statistics, Available online: <http://www.facebook.com/press/info.php?statistics>

15. Hair, J., Black, W., Babin, B., Anderson, R., and Tatham, R. (2006) *Multivariate Data Analysis*, Sixth Edition, Pearson Education, New Jersey.
16. Kim, D., Ferrin, D., and Rao, H. (2009) Trust and satisfaction, two stepping stones for successful e-commerce relationships: A longitudinal exploration, *Information Systems Research*, 20, 2, 237–257.
17. Lin, C., Wu, S., and Tsai, R. (2005) Integrating perceived playfulness into expectation-confirmation model for web portal context, *Information & Management*, 42, 5, 683-693.
18. McKinney, V., Yoon, K., and Zahedi, F. (2002) The measurement of web-customer satisfaction: An expectation and disconfirmation approach, *Information Systems Research*, 13, 3, 296-325.
19. MySpace Press Release, Timeline, Available online: <http://www.myspace.com/pressroom?url=/fact+sheet/>
20. Oliver, R. (1977) Effect of expectation and disconfirmation on postexposure product evaluations: An alternative interpretation, *Journal of Applied Psychology*, 62, 4, 480-486.
21. Roberts, S. (2009) Nathalie Blanchard loses benefits over Facebook beach photos, *NY Daily News.com*, November 22nd 2009, Available online: http://www.nydailynews.com/news/world/2009/11/22/2009-11-22_nathalie_blanchard_loses_benefits_over_facebook_beach_photos.html#ixzz0gV6OetmL
22. Sledgianowski, D., and Kulviwat, A. (2009) Using social network sites: The effects of playfulness, critical mass and trust in a hedonic context, *The Journal of Computer Information Systems*, 49, 4, 74-84.
23. Szajna, B., Scamell, R. (1993) The effects of information system user expectations on their performance and perceptions, *MIS Quarterly*, 17, 4, 493-516.
24. van der Heijden, H. (2004) User acceptance of hedonic information systems, *MIS Quarterly*, 28,4, 695-704.
25. Vatanasombut, B., Igarria, M., Stylianou, A., and Rodgers, W. (2008) Information systems continuance intention of web-based applications customers: The case of online banking, *Information & Management*, 45, 419–428.
26. Wixom, H., and Todd, P.A. (2005) A theoretical integration of user satisfaction and technology acceptance, *Information Systems Research*, 16, 1, 85–102.