The Use of Social Media to Enrich Information Systems Field Trip Experiences

Laddawan Kaewkitipong[1], Charlie Chen[2] and Peter Ractham[1]

[1]Department of Management Information Systems, Thammasat Business School, Bangkok, Thailand
[2]Department of Computer Information Systems, Appalachian State University, Boone, North Carolina, U.S.A.

Keywords: Social Media, Field Trips, Continuance Intention, User Satisfaction.

Abstract: A well-designed field trip can promote active learning and reinforce classroom materials (Kisiel, 2006). Few studies examine the potential of using social media to enhance IS field trip experiences by promoting active and collaborative learning. One major barrier to the exploitation of this potential is the adoption of social media by students as a learning tool to enhance field trip experiences. Therefore, the first and foremost task is to understand the motivation and satisfaction of students with the use of social media to enhance IS field trip. The research set to understand factors that could help increase students' satisfaction with the use of social media to enhance IS fieldtrip and an intention to continue to do so in future field trips. The research shows that to help increase user satisfaction with the use of social media to enhance field trip study and an intention to do so, course instructors should ensure that students perceive the use of social media for enhancing field trip study as effortless, useful, and well used and accepted by their peers. Future research may further study how we should incorporate the use of social media to better enhance the field trip learning performance.

1 INTRODUCTION

An information systems (IS) field trip is a planned excursion to non-regular school environment, such as information technology (IT) companies, software vendors, IT centers, and IT expos. Many studies have shown that a well-designed field trip can promote active learning and reinforce classroom materials (Kisiel, 2006). Learning by doing has been proven as an effective pedagogy to acquire information technology skills and concepts (Lahtinen, et al., 2005). The on-site learning experience enables information systems (IS) students not only to learn by hearing and seeing but also to learn by doing. Thus, regardless of learning styles most IS students can benefit from educational field trips. In addition, IS students can better interpret learning materials in a real setting or structure they can feel and touch. For instance, to learn about the ability of robots students can visit an expo to interact with different robot models and test their functions and limitations. As a result, IS students are more likely to have richer learning experiences from field trips than from regular classroom settings.

On the other hand, a growing number of students and instructors consider the time and efforts spent in organizing field trips are not rewarding since information about those sites are easily accessible from online sources, such as vendor website, YouTube, and other social media. Although social media continues seeing its global emergence, the uncertainty of information accuracy and credibility on those social media is mixed at best. Using social media to replace IS field trips may not capture the essence of active learning. How to incorporate social media into the design of IS field trips and promote active learning experiences remains challenging for many IS educators and educational administrators.

Collaborative learning requires a social environment be created so that learners within the environment can converse with each other, present and defend their ideas, expose to diverse beliefs, and engage in the active learning process (Smith and MacGregor, 1992). A successful field trip relies on the sharing and exchange of useful information (e.g. latest product news, tips about visiting each attraction, lesson learned, and webminars, and slides) among participants, including vendors,

attendees, industry experts, etc. Therefore, each field trip itself is a social environment for collaborative learning.

On top of the physical social space, social media could further offer unlimited virtual space for continuous collaborative learning (Gerlach, 1994) before, during and after each field trip. For instance, before attending an information technology expo, attendees can follow the latest news posted by a vendor about its cutting-edge products through live tweeting. During the expo, attendees can re-tweet or rebroadcast to their friends if they like what they see. After the expo, attendees can post pictures and share what they learn on Facebook. In addition, they can connect with industry leaders, social leaders, internship opportunities, professional alumni, and potential employers. All these actions can enforce the learning effectiveness. However, very few studies examine the potential of using social media to enhance IS field trip experiences by promoting active and collaborative learning.

One major barrier to the exploitation of this potential is the adoption of social media by college students as a learning tool to enhance IS field trip experiences. Therefore, the first and foremost task is to understand the motivation of students in this context with regard to their satisfaction with social media-enhanced IS field trip, and intention to do so.

The purposes of this paper are to (1) investigate three primary antecedents, including social influence, perceived usefulness, and effort expectancy, for user satisfaction in IS field trips, and (2) assess which one of them has the strongest influence on user satisfaction, thereby increasing the continuance intention of using social media to enrich IS field trip experiences.

2 LITERATURE REVIEW

2.1 The Efficacy of Learning about Information Technology Concepts and Skills via Field Trips

A successful computer or management information systems (MIS) program needs to develop technical and people skills for students in order to have them excel in industry and government. The acquisition and development of technical and people skills requires that learners not only observe, interpret and model IT technology, but also use different technologies to solve business problems. Field trips provide a wide variety of avenues for learners to

develop technical and people skills, such as first-hand experiencing cutting edge technologies in an IT expo and interacting with chief information officers or system administrators in a company visit to understand new IT applications and implementation challenges. Field trips allow learners to experience, interpret, reflect and develop transferrable skills suited to the workplace (Clark, 1996). As a result, students can learn technical and people skills more effectively via IT field trips than regular classrooms.

From the pedagogical perspective, a field study provides the process of creating meaning in context (Squire and Klopfer, 2007) while the controlled learning environment (e.g. classroom and lab) is considered learning out of context. Learning in context can engage students in reflection (Boud et al., 1985) and learning from experience (Kolb, 1984). Direct guidance from a formal instructor is often missing from the field study setting because learning can take place at any time in anywhere through interaction with peers or any persons in contact during the trip. Therefore, socialization process is often indispensible to the satisfactory completion of a field study for students. The emergence of social technology provides opportunities for educators to incorporate them into IT field trips and enhance the experiential learning experience.

2.2 The Potential Benefits of Using Social Media to Enhance IS Field Trip Experiences

Social media are online applications that enable people to create, collaborate, edit, categorize, exchange, and promote information with each other via wired and wireless devices (Kietzmann, et al., 2011). Information dissemination is bottom-up, not top down. The more people who contribute information the better the content becomes and the more content is shared among community members. In addition, social media has the ability to record images, audios and videos, as well as provide location-based and time-related information (e.g. timeline). The rich content on social media allows users to share what they learn from other places and other people. Therefore, social media could become part of the field experience itself.

These days, most social media are readily available and accessible via mobile technology (e.g. smart phone, tablet and laptop); therefore, they can be useful during the IT field trip. Students can enter and share information on social media immediately after meeting with new people or learning interesting

technologies. Since all students learn different experiences during the trip, sharing with each other can amplify and maximize the learning experiences for all students. All the information collected from field trips can also be posted on social media and then presented in the classroom for reflective learning. This collaborative learning exercise can help students assess whether their collected information is accurate, and whether they had missed any information during the field trip (Whatley and Bell, 2003; Laal and Ghodsi, 2012). Thus, the creative use of social media has the potential of providing reflective and collaborative learning, thereby enhancing field trip experiences.

However, to our knowledge, a very limited number of educators are capitalizing on the potential of using social media to enhance field trip experiences. In order to assess the potential, it is imperative to first assess whether students would be motivated to use social media during and after the field trip. From a user's perspective, social and technical factors could impact their decision in adopting social technology for field trips. The following discussion will be centered on the importance and influence of these factors on user satisfaction with the use of social media in IT field trips.

2.3 The Influence of Social Influence on User Satisfaction with the Use of Social Media in IS Field Trips

User satisfaction is widely adopted to evaluate IS effectiveness or success (Paulemelone, 1990). To enhance user satisfaction, social influence is regarded as one of the critical elements (Lu et al., 2005). Social influence refers to perceived pressure/support from social networks to do or decide on something. It can influence user satisfaction of a new tool or system, because individual users are generally uncomfortable with changes or unsure consequences, therefore, tend to ask/listen to opinions from those in his or her social networks (Burkhardt and Brass, 1990).

Social influence has positive influence on user satisfaction in the case of Facebook (Park et al., 2009). In case of IS field trips, social media is considered a natural place to discover the events/trips and others' experiences of the events/trips (Benson et al., 2011). By identifying all these events/places including opinions and experiences shared by others, we can enable a powerful search, which in turn helps increase user

satisfactions with the use of social media as a search tool (Becker et al., 2009). We therefore propose:

Hypothesis 1: Increasing social influence has positive effect on the increase of user satisfaction with the use of social media in the field trip.

2.4 The Influence of Perceived Usefulness on User Satisfaction with the Use of Social Media in IS Field Trips

Perceived usefulness is one of the strongest factors influencing end-user satisfaction (Mahmood, et al., 2000). Users usually form intentions and satisfactions toward an information system based on an appraisal of how it will improve their job performance. In other words, we could call such appraisal a perceived value. Users, who perceive an information system as providing value, are more likely to be satisfied with the system (Bhattacherjee, 2001). Therefore, any information system perceived useful by its users is likely to be accepted. In the case of IT field trip, social media needs to add additional values in order to provide satisfactory experiences for users. Value added activities could be real-time updates about any ongoing events, peer-to-peer experience sharing, latest event announcement, etc. If social media can increase user's perceived usefulness about the use of social media, they are more likely to be satisfied with the social media-enabled field trip experience. We therefore propose:

Hypothesis 2: Increasing users' perceived usefulness has positive effect on the increase of user satisfaction with the use of social media in the field trip

2.5 The Influence of Effort Expectancy on User Satisfaction with the Use of Social Media in IS Field Trips

According to the Unified theory of acceptance and use of technology (UTAUT), effort expectancy is a direct determinant of use (Venkatesh et al., 2003). UTAUT posits that one's effort will help achieve desired performance (e.g. use and satisfaction). When users expect to spend less effort in achieving the same desired outcome, they tend to be more confident and have a higher degree of perceived control over the expected outcomes. In other words, users are more likely to express their satisfaction with the task on hand if its effort expectancy is low.

In the case of using social media to enrich field trip experiences, users need to be convinced that the application is effortless in order to engage in the experience and are satisfied with it. We therefore propose:

Hypothesis 3: Increasing users' low effort expectancy has positive effect on the increase of user satisfaction with the use of social media in IS field trips

2.6 The Effect of User Satisfaction on the Continuance Intention of using Social Media in IS Field Trips

Continuance intention to use is central to the success and survival of an information system (Bhattacherjee, 2001). This is particularly true for the case of electronic commerce and other online tools, because they are at the core of business. For example, user satisfaction with an e-commerce website means a lot to the survival of that e-commerce business. Similarly, user satisfaction with a social network site could impact the survival of that social media. The relationship between user satisfaction and a continuance intention to use information systems is well supported by previous research (Cheung and Lee, 2009; Lin et al., 2005). These studies show a strong positive effect of user satisfaction on a continuance intention to use IS. For example, Lin et al. (2005) find that users' continuance intention to reuse a website is influenced by user satisfaction. Chea and Luo (2006) also confirm that consumer satisfaction has a significant impact on the continuance intention to use an e-service. Similarly, Chiu et al. (2005) find user satisfaction contributes significantly to the user's intention to reuse an e-learning site. In the context of Facebook, user satisfaction appears to be significantly influential on users' continuance intention to use the social media (Shi et al., 2010). When applying social media into the field trip experience, users are more likely to continue to do so if they are satisfied with their previous experience. We therefore propose:

Hypothesis 4: Increasing user satisfaction has positive effect on user's continuance intention with the use of social media in IS field trips

Theoretical model (Figure 1) is proposed based on the literature review.
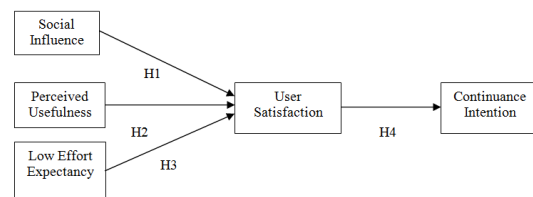

Figure 1: Theoretical model.

3 RESEARCH METHODOLOGY

We conducted a field-experiment with 169 participants, which were all taking an IS course. Their age ranges from 18-22 years old. As mentioned in above section, we believed that by having students learned about IT products through social media channel where they can interact with other potential customers online would enable them to get more information. In addition, by having them physically taken a field trip to an IT fair would also increase their satisfaction with using the social media as a means to learn.

For this purpose, we had designed a two-step field-experiment to enhance the field trip experience and increase participants' satisfaction in regard to learning about IT products. In the first step, the researchers asked the participants to spend 1 week to browse, review and discuss with other potential customers on three popular IT related products and service providers in Thailand. The participants were asked to join the Facebook Fanpage of 1) Sony Electronic, 2) Jabra Accessory and 3) Advance Info Service (AIS), a mobile network operator in Thailand. We gave the following guidelines to the participants: 1) participants were asked to learn about the products and services from the three fan pages 2) participants must inquire at least 3 questions about the product or services they are interested in on the fan page and 3) participants must write a short note of the product impressions they have from the experience on 3 fan pages. Psychologists believe that people can hold around 5 to 7 items in memory for about only 20 to 30 seconds (Cherry, 2014). Thus, these notes can help participants capture as much of their experiential learning experience as possible before they forget.

After the first step was completed within 1 week period, each participant was asked to visit the three product booths at Commart Thailand 2013, a popular IT fair. Each participant spent at least 10 minutes at each booth and learned about the products and services by asking the representatives who stationed at the booth. They were asked to write

down notes on what they have learned. After the second step was done, the researchers conducted a 3-hour lab experiment where participants were asked to join a group of five and discuss on what they have learned from the field trip. Such a group was formed to familiarize participants with different perspectives and share their learning experience with other participants. In the end, all participants were asked to take an online survey to conclude this study. The survey was aimed to learn whether they were satisfied with the use of social media to learn about the products before, during and after the IT field trip, and what factors could positively affect user satisfaction, which in turn could lead to continuance intention.

After attending the IT fair, students were required to complete an online questionnaire survey. The survey instrument includes questions to measure five constructs in the research model. Items used to measure students' continuance intention and perceived usefulness of using social media to enrich field trip experiences were adapted from Bhattacherjee (2001). Social influence items were adopted from Lu et al. (2005). Effort expectancy items were modified based on Venkatesh et al. (2003)'s study. Satisfaction items were adopted from DeLone and McLean (1992). All questionnaire items were measured on a 1-5 Likert scale: (1) = strongly disagree, (3) = neutral and (5) = strongly agree.

4 DATA ANALYSIS AND RESULTS

We performed two tests, including Kaiser-Meyer-Olkin (KMO) and Bartlett, to assess whether all measurement items yield distinct factors. Table 1 summarizes test results for all five constructs. All KMO values are equal to or higher than 0.5, the minimum acceptable threshold value. The correlation matrix is not an identical matrix since all Barlett's sphere values are statistically significant. These positive test results warrant the Structured Equation Modeling (SEM) test.

The SEM test was performed using the SmartPLS (Partial Least Squares) tool. All hypothesized relationships among these five constructs were analyzed. PLS has minimal restriction on sample size and residual distribution (Chin et al. 2003). Hair et al. (2011) recommend that PLS-SEM minimum sample size should be at least ten times the largest number of structural paths directed at a particular latent construct in the

structural model. Since there are four paths directed to the latent construct in the research model, 40 samples are the minimum sample size. A total of 169 data sets were collected and entered for SmartPLS data analysis.

Table 1: Factor analysis.

Factors	KMO Test	Bartlett's Sphere
Social Influence (SI)	0.718	p=0.00<0.01
Perceived Usefulness (PU)	0.688	p=0.00<0.01
Effort Expectancy (EE)	0.630	p=0.00<0.01
User Satisfaction (US)	0.724	p=0.00<0.01
Continuance Intention (CI)	0.500	p=0.00<0.01

4.1 Measurement Model

Our research instrument was further assessed with regard to the reliability of the items used to measure each construct. Assessment tools used in this study include Cronbach's alpha, composite reliability, convergent, and discriminant tests (Table 2). All Cronbach's alpha values exceed the generally accepted minimum threshold value of 0.7, indicating that all items used to measure each construct have high internal consistency and carry the same weight (George and Mallery, 2003). Composite reliability values are higher than the threshold value of 0.7, indicating that each factor has high internal consistency (Chin, 1998; Chin, et al., 2003).

Table 2: Construct and Composite Reliability Test Results.

Constructs	Composite Reliability	Cronbach's Alpha Values
Social Influence (SI)	0.9280	0.8448
Perceived Usefulness (PU)	0.8384	0.7105
Effort Expectancy (EE)	0.8629	0.7623
User Satisfaction (US)	0.9446	0.9119
Continuance Intention (CI)	0.9091	0.8499

Convergent and discriminant validity tests were performed to assess construct validity. Table 3 shows that the square root of each construct's AVE (Average Variance Extracted) is larger than their correlation with other constructs, and item loadings on hypothesized constructs are greater than 0.5 (Wixom and Watson, 2001). This indicates that the validity of each construct is high because the

variance explained by each construct is larger than the measurement error variance.

Table 3: Convergent and Discriminant Validity Test Results.

	CI	EE	PU	US	SI
CI	0.9304				
EE	0.4581	0.7964			
PU	0.5174	0.5816	0.8229		
US	0.5204	0.4909	0.4861	0.9222	
SI	0.4986	0.4586	0.4731	0.4070	0.8772

4.2 Structural Equation Model and Hypothesis Testing

SEM test was performed to calculate the estimated path coefficients, path significance and R^2 values. Table 4 shows the SEM test results, including path coefficients and their respective t-statistics. Figure 2 depicts path coefficients and variance, indicating that all hypotheses were supported at p<0.01. Hypothesis 1 (H1) was supported, indicating that social influence has a significant positive influence on satisfaction with the use of social media to enhance IT field trip experiences. H2 was supported, indicating that perceived usefulness has a significant influence on the increase of user satisfaction with the use of social media to enhance their IT field trip experiences. H3 was supported, indicating that low effort expectancy has a significant influence on the increase of user satisfaction with the use of social media to enrich their field trip experiences. All these three constructs together explain approximately 32% of variation in user satisfaction (R^2=0.321). A closer look at the explanative power of these three constructs for the variation in user satisfaction. Low effort expectancy has the highest influence on user satisfaction, followed by perceived usefulness and social influence. H4 was supported, indicating that increasing user satisfaction with the use of social media during and after IT field trip experiences has positive influence on continuance intention. User satisfaction can explain approximately 27% of variation in continuance intention (R^2=0.271).

Table 4: Structural Equation Modeling Test Results.

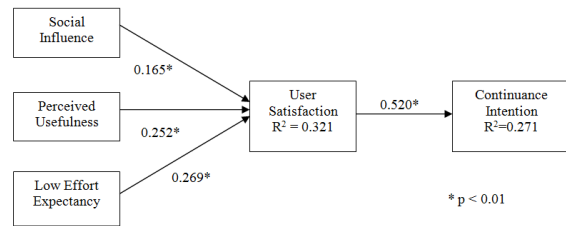| Hypothesized Paths	Path Coefficients	T-statistics
H1: SI → SAT	0.165	2.147
H2: PU → SAT	0.252	3.312
H3: EE → SAT	0.269	2.992
H4: SAT → CI	0.520	8.096

Figure 2: Path Analysis Results.

5 DISCUSSION

The statistic results show that the students seemed to be satisfied with the use of social media to learn about products before, during and after the IT field trip. Besides, they tended to continue to use social media as a means of learning about products/services. As mentioned earlier, it is important that we first understand what affects students satisfaction with the use of social media to enhance their field trip experience. This paper, thus, shows an interesting step of how to encourage user satisfaction and continuance intention on the use of social media.

First, low effort expectancy appears to have the highest effect on user satisfaction. Therefore, the easier it is to use social media to search and learn about IT products as well as to interact with providers or those who share common interest in the products, the more likely it is that the students will be satisfied and continue to use social media as a tool to enhance their field trip learning. In terms of acceptance theory, the finding extends the UTAT theory (Venkatensh et al., 2003) as the original work only states that effort expectancy affects use but not user satisfaction.

Second, usefulness of social media to enhance IT field trip learning should be delineated. If students perceive social media useful for their learning purposes, they are likely to be satisfied with the use. The effect of perceived usefulness on user satisfaction has been proven in various context of IT use (Mahmood, et al., 2000; Bhattacherjee, 2001), and it is also held true in this context.

Third, social influence is proven to yield positive effect on user satisfaction with the use of social media to enhance IT field trip learning. Therefore, perceived pressure/support received from peers as well as teachers can help increase students' satisfaction with the use of social media. This is consistent with other studies (e.g. Park et al., 2009) that find social influence positively affects user satisfaction of social media, such as Facebook.

Although this study does not show or measure an impact of the use of social media to enhance field trip study, it shows that students are satisfied with the use and intend to use social media again for future field trips. From the pedagogical perspective, field trips provide an opportunity to learn and socialize with the particular context (Squire and Klopfer, 2007). Since social media allows users to form groups, share common interest, exchange ideas and thus create good environment for learning (Dalsgaard, 2006; Ractham et al, 2012), this study is relevant and useful as we learned how to encourage the satisfaction with the use of social media to enhance field trip studying.

6 CONCLUSIONS

This paper posits that field trip experiences, such as a visit to an IT expo, is beneficial to students, and social media is a useful virtual space where students can learn and share information about their fieldtrips. However, virtual space to learn could not and should not replace a real field trip; rather, it can be very useful for preparing before and revising after a real field trip (Spicer and Stratford, 2001). Therefore, in this research we have IS students tried to use social media to enhance IT field trip experiences. The research set to understand factors that could help increase students' satisfaction with the use of social media to enhance IS fieldtrip and an intention to continue to do so in future field trips.

In summary, the research shows that to help increase user satisfaction with the use of social media to enhance field trip study and an intention to do so, course instructors should ensure that students perceive the use of social media for enhancing field trip study as effortless, useful, and well used and accepted by their peers. This is consistent with several studies that previously researched on adoption and acceptance of IT (Bhattacherjee, 2001; Venkatesh, et al., 2003; Park, et al., 2009).

Besides, the research shows that when we created the social environment for the students to learn, they were happy to use it and tended to continue using it as a learning tool to enhance a field trip. However, it is important to note that our field trip learning design (the way to apply social media into fieldtrip) was not proven its fitness or its performance to aid learning. Also we did not measure any learning outcome or learning performance, but we show that students were satisfied with the use of social media as a tool to aid their field trip learning. Therefore, implication

should be carefully made, and future research may conduct an experiment to examine how we should incorporate the use of social media to better enhance the field trip learning performance. In addition, learning performance should be compared between students who only attend an IT field trip and students who both attend an IT field trip and use social media to enhance their field trip study.

ACKNOWLEDGEMENTS

If any, should be placed before the references section without numbering.

REFERENCES

Becker, U.J., Greve, G., Albers, S., 2009. The impact of technological and organizational implementation of CRM on customer acquisition, maintenance, and retention. International Journal of Research in Marketing, 26 (3), 207–215.

Benson, E., Haghighi, A., arzilay, R., 2011. Event Discovery in Social Media Feeds. In Proceedings of the 49th Annual Meeting of the Association for Computational Linguistics: Human Language Technologies, HLT '11,Portland, Oregon, USA, June 19-24, 2011.

Bhattacherjee, A., 2001. Understanding Information Systems Continuance: An Expectation-Confirmation Model. MIS Quarterly, 25 (3), 351 – 370.

Boud, D., Keogh, R., Walker, D., 1985. What is reflection in learning? In Reflection: Turning experience into learning (Boud, D., Keogh, R. and Walker, D. Eds.), Nichols Publishing Company, New York, USA.

Burkhardt, M. E., Brass, D. J., 1990. Changing patterns or patterns of change: The effect of a change in technology on social network structure and power. Administrative Science Quarterly, 35, 104–127.

Chea, S., Luo, M.M., 2006. E-Service Customer Retention: The Roles of Negative Affectivity and Perceived Switching Costs. Journal of Information Science and Technology, 3 (2), 5-22.

Cherry, K., 2014. 10 Facts About Memory, available at http://psychology.about.com/od/memory/ss/ten-facts-about-memory_3.htm, accessed July 5, 2014.

Cheung, C.M.K., Lee, M.K.O., 2009.Understanding the Sustainability of a Virtual Community: Model Development and Empirical Test. Journal of Information Science, 35 (3), 279-298.

Chin, W.W., 1998. The partial least squares approach to structural equation modeling. In Modern Methods for Business Research (Marcoulides, G. A. Ed.), pp. 295–358, Lawrence Erlbaum Associates, NJ.

Chin, W. W., Marcolin, B. L., Newsted, P. N., 2003. A partial least squares latent variable modeling approach

for measuring interaction effects: Results from a monte carlo simulation study and an electronic-mail emotion/adoption study. Information Systems Research, 14(2), 189–217.

Chiu, C.M., Hsu, M.H., Sun, S.Y., Lin, T-C., Sun, P-C., 2005. Usability, Quality, Value and E-Learning Continuance Decisions. Computers & Education, 45 (4), 399-416.

Clark, D., 1996. The changing national context of fieldwork in geography. Journal of Geography in Higher Education, 20 (3), 385 - 391.

Dalsgaard, C., 2006. Social software: E-learning beyond learning management systems. European Journal of Open, Distance and E-Learning, http://www.eurodl. org/materials/contrib/2006/Christian_Dalsgaard.htm.

DeLone, W.H., McLean, E.R., 1992.Information systems success: The quest for the dependent variable. Information Systems Research, 3 (1), 60– 95.

George, D. and Mallery, P., 2003. SPSS for Windows step by step: A simple guide and reference, 11.0 update (4th ed.). Allyn and Bacon, Boston.

Gerlach, J. M., 1994. Is this collaboration? In Collaborative Learning: Underlying Processes and Effective Techniques (Bosworth, K. and Hamilton, S. J. Eds.), New Directions for Teaching and Learning.

Hair, J. F., Ringle, C. M., Sarstedt, M., 2011. PLS-SEM: Indeed a silver bullet. Journal of Marketing Theory and Practice, 19 (2), 139-152.

Kietzmann, J. H., Hermkens, K., McCarthy, I. P., Silvestre, B. S., 2011. Social media? Get serious! Understanding the functional building blocks of social media. Business Horizons, 54 (3), 241–251.

Kisiel, J., 2006. More than Lions and Tigers and Bears – Creating Meaningful field trip lessons. Science Activities: Classroom Projects and Curriculum Ideas, 43 (2), 7-10.

Kolb, D., 1984. Experiential learning: experience as the source of learning and development. Prentice Hall, Englewood Cliffs, New Jersey.

Laal, M., Ghodsi, S. M., 2012. Benefits of collaborative learning. Procedia – Social and Behavioral Sciences, 31, 486-490.

Lahtinen, E., Ala-Mutka, K., Järvinen, H. M., 2005. A study of the difficulties of novice programmers. ACM SIGCSE Bulletin, 37 (3), 14-18.

Lin, C.S., Wu, S., Tsai, R.J., 2005. Integrating Perceived Playfulness into Expectation-Confirmation Model for Web Portal Context. Information & Management, 42 (5), 683-693.

Lu, J., Yao, J.E., Yu, C-S., 2005. Personal innovativeness, social influences and adoption of wireless Internet services via mobile technology. Journal of Strategic Information Systems, 14 (3), 245–268.

Mahmood, M.A., Burn, J.M., Gemoets, L.A., Jacquez, C., 2000. Variables affecting information technology end-user satisfaction: a meta-analysis of the empirical literature. International Journal of Human-Computer Studies, 52, 751-771.

Park, N., Kee, K.F., Valenzuela, S., 2009. Being Immersed in Social Networking Environment: Facebook Groups, Uses and Gratifications, and Social Outcomes. CYBER PSYCHOLOGY & BEHAVIOR, 12 (6), 729 – 733.

Paulemelone, N., 1990. A Theoretical Assessment of the User-Satisfaction Construct in Information Systems Research, Management Science, 36 (1), 76-91.

Ractham, P., Kaewkitipong, L., Firpo, D., 2012. The Use of Facebook in an Introductory MIS Course: Social Constructivist Learning Environment. Decision Sciences Journal of Innovative Education, 10 (2), 165-188.

Spicer, J.I., Stratford, J., 2001. Student perceptions of a virtual field trip to replace a real field trip. Journal of Computer Assisted Learning, 17 (4), 345-54.

Shi, Na., Lee, M.K.O., Cheung, C.M.K., Chen, H., 2010. The Continuance of Online Social Networks: How to Keep People Using Facebook? In Proceedings of the 2010 43rd Hawaii International Conference on System Sciences, p.1-10, January 05-08, 2010.

Smith, B. L., MacGregor, J. T., 1992. What is collaborative learning? In Collaborative Learning: A Sourcebook for Higher Education (Goodsell, A. S., Maher, M. R. and Tinto, V. Eds.), National Center on Postsecondary Teaching, Learning, & Assessment, Syracuse University.

Squire, K., Klopfer, E., 2007. Augmented Reality Simulations on Handheld Computers. Journal of the Learning Sciences, 16 (3), 371-413.

Venkatesh, V., Morris, M.G., Davis, G.B., Davis, F.D. 2003. User Acceptance of Information Technology: Toward a Unified View. MIS Quarterly, 27 (3), 425 - 78.

Whatley, J., F. Bell, 2003. Discussion Across Borders: Benefits for Collaborative Learning. Educational Media International, 40 (1-2), 139-152.

Wixom, B.H., Watson, H.J., 2001. An Empirical Investigation of the Factors Affecting Data Warehousing Success, *MIS Quarterly,* 25 (1), 17-41.