DETERMINANTS OF HEDONIC AND UTILITARIAN FACTORS IN SOCIAL NETWORK SITES ACCEPTANCE MODEL

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This thesis is dedicated to my beloved parents

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ABSTRACT

Social Network Sites (SNS) are a rapidly growing phenomenon. Despite considerable growth in the number of SNS, very few of these sites are successful at retaining membership and confirming behavioural use intention by their members. At the same time, despite remarkable statistics related to the number of users and rate of growth of successful SNS, there has been little research into an explanation on sources of user acceptance on these sites. In particular, though SNS are found to be both hedonic oriented and utilitarian oriented systems, the combined influence of both hedonic and utilitarian factors on acceptance of SNS has been rarely investigated. The purpose of the study is to identify determinants of hedonic and utilitarian factors leading to SNS user use intention. Through the unification of theoretical backgrounds of behavioural use intention, in particular the Technology Acceptance Model and interdisciplinary literature relevant to SNS, comprehensive set of constructs and their interrelationships were formed as the research hypotheses. The research hypotheses guide the development of measurement model which was specified in an instrument. The instrument was applied in two stages of a pilot study and the main study for data gathering. Employing cluster sampling technique, 712 students of 15 faculties as secondary sampling units from three academic institutes as primary sampling units responded to the study in a paper-based questionnaire mode. The study applied Structural Equation Modeling and statistical analysis such as factor analysis, path analysis and regression analysis. The findings demonstrate the relation between various aspects of utilitarian and hedonic factors with use intention through the representative constructs of Perceived Enjoyment and Perceived Usefulness. As a result, four constructs including Social Connectedness, Social Communication, Social Awareness and Subjective Norms were identified to be determinants of Perceived Usefulness in SNS. On the other hand, Interactivity in Use, Curiosity and Novelty were identified as determinants of Perceived Enjoyment. Additionally, the significant relationships between Perceived Enjoyment and Perceived Usefulness with Behavioural Use Intention on SNS were found. The results lead to development of SNS acceptance model including both significant influential hedonic and utilitarian factors. This study provides a theoretical model and an instrument for evaluating the acceptance of SNS and has the potential to guide the implementation and design of new SNS.

ABSTRAK

Laman Media Sosial (SNS) merupakan satu fenomena yang semakin berkembang pesat. Walau Bagaimanapun, hanya sebilangan kecil SNS yang berjaya mengekalkan ahlinya dalam jangka masa panjang dan mengesahkan tingkah laku niat penggunaan ahli-ahlinya. Walaupun kajian lepas menunjukkan statistik bilangan pengguna yang menakjubkan dan kadar pertumbuhan kejayaan SNS yang memberangsangkan, kajian yang menerangkan punca penerimaan pengguna SNS adalah terhad. Khususnya, sehingga kini gabungan faktor-faktor bersifat hedonik dan utilitarian masih kurang dikaji. Matlamat kajian ini adalah untuk mengenal pasti faktor-faktor penentu hedonik dan utilitarian yang membawa kepada niat untuk menggunakan SNS. Dengan merujuk teori-teori berkaitan penggunaan teknologi khususnya Model Penerimaan Teknologi dan kajian ilmiah dari pelbagai bidang yang berkaitan dengan SNS, satu set konstruk yang komprehensif serta hubung kait antara konstruk-konstruk tersebut telah dikenal pasti bagi membentuk hipotesis kajian. Hipotesis tersebut digunakan untuk membangunkan model pengukuran kajian ini yang menghasilkan satu instrumen. Model tersebut merupakan asas untuk membangunkan instrumen kajian bagi pengumpulan data. Kajian ini menggunakan kaji selidik sebagai teknik pengumpulan data. Pengumpulan data telah dijalankan dalam dua peringkat iaitu kajian perintis dan kajian utama. Teknik persampelan kelompok telah digunakan untuk kajian utama yang melibatkan 712 pelajar daripada 15 fakulti yang dipilih melalui persampelan sekunder dan tiga institusi akademik yang dipilih melalui persampelan primer. Pemodelan Struktur Persamaan dan analisis statistik seperti analisis faktor, analisis laluan dan analisis regresi telah digunakan bagi menganalisis data. Analisis menunjukkan hubungan antara pelbagai faktor utilitarian dan hedonik dengan niat penggunaan SNS yang diwakili oleh konstruk *Perceived Enjoyment* dan *Perceived Usefulness*. Hasil kajian ini juga telah menunjukkan bahawa empat konstruk iaitu *Social Connectedness*, *Social Communication*, *Social Awareness* dan *Subjective Norms* telah dikenal pasti sebagai penentu kepada *Perceived Usefulness* untuk penggunaan SNS. Manakala *Interactivity in Use*, *Curiosity* dan *Novelty* telah dikenal pasti sebagai penentu kepada *Perceived Enjoyment*. Hubungan yang signifikan di antara *Perceived Enjoyment* dan *Perceived Usefulness* dengan *Behavioural Use Intention* dalam penggunaan SNS juga telah ditemui dalam kajian ini. Kajian ini menyumbang kepada pembangunan Model Penerimaan SNS yang mengambilkira faktor hedonik dan utilitarian. Kajian menghasilkan model teoretikal dan instrumen untuk menilai penerimaan SNS dan berpotensi untuk menjadi panduan perlaksanaan dan mereka bentuk SNS yang baru.

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LIST OF ABBREVIATIONS

CMC   -   Computer Mediated Communication

HCI   -   Human Computer Interaction

IS   -   Information System

SNS   -   Social Network Sites

EFA   -   Exploratory Factor Analysis

CFA   -   Confirmatory Factor Analyses

AVE   -   Average Variance Extracted

GOF   -   Goodness of Fit

GFI   -   Goodness of Fit Index

AGFI   -   Adjusted Goodness of Fit Index

NFI   -   Normed Fix Index

CFI   -   Comparative Fit Index

RMSEA   -   Root Mean Square Error of Approximation

RMR   -   Root Mean Square Residual

CR   -   Critical Ratio

UI   -   Use Intention

PEOU   -   Perceived Ease of Use

PE   -   Perceived Enjoyment

PU   -   Perceived Usefulness

INT   -   Interactivity in Use

FLW   -   Flow in Use

INS   -   Intensity in Use

NVL   -   Novelty

CUR   -   Curiosity

PRS   -   Presence

CMU   -   Social Communication

CNT   -   Social Connectedness

FCL   -   Social Facilitation

AWR   -   Social Awareness

SPR   -   Self Presentation

NRM   -   Subjective Norms

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CHAPTER 1

INTRODUCTION

1.1   Overview

The purpose of this study is to determine factors leading to use intention on Social Network Sites (SNS) through exploring a combination of hedonic and utilitarian factors in order to develop SNS acceptance model. This chapter introduces the initial step of the research which poses the research questions through the development of the problem statements. The descriptions of various aspects of the research background are discussed in terms of "growth and transformation of internet use", "nature of human and social network sites" and " theoretical backgrounds about intention to use technologies" which taken together express the scope and importance of this research.

The research background guides the study to develop research questions. Consideration of research background and research questions underlines the motivation for conducting this study and directed this research to collect data for the advancement of knowledge about the user and use intention as well as adoption and acceptance of SNS. Therefore, subsequent to discussing the research background and problem statements, an unambiguous set of objectives is defined to illustrate what is intended to be accomplished. This is followed by a discussion of the scope and significance of this study and the structure of the thesis.

1.2   Background of the Study

The growth of Information and Communication Technology (ICT) has led to an evolution in the previous solutions to many predicaments and problems. Such growth has supported users in obtaining various goals and performing a variety of functions which were not possible before. One of the aspects of such growth is commercialization of the Internet which has promoted a novel environment and tools which significantly affect human life.

In the last decade, individuals have increasingly turned to the Internet as their primary source of information, leaving behind many other forms of media (Horrigan, 2008; Purcell, 2010). The Internet has replaced or improved the utilities of various everyday information tools such as maps, magazines and books. The Internet has also replaced or facilitated many individuals' regular procedures such as banking and shopping.

Internet technology like any other class of technology has evolved during its lifecycle. In recent years, the Internet has transformed from a tool for information dissemination to a socially constructed network surrounded by various forms of formal and informal virtual online communities. The ubiquity of electronic networks and the breadth of digital platforms beyond simple forums have led to major economic and social transformations worldwide (Agarwal *et al.,* 2008).

Rather than being a source of information, the Internet has increasingly enabled people to connect with other Internet users. Proliferation of SNS in such an environment is the best representative of this issue. Facebook, for example, connects over a billion users who communicate and interact with each other worldwide (Jin *et al.*, 2013; Marichal, 2013). Understanding the transformation of the user's behavioral intentions and adoption of SNS which allow users to interact with each other can provide a better understanding of users' intent in terms of new streams of Internet applications.

The use of SNS as a tool for computer mediated communication is experiencing remarkable growth. SNS are designed to support social interactions in modern life. Since the popularity of the Internet has increased around the world, SNS such as Facebook have been widely used. The extensive involvement of individuals in these environments has caused SNS to become one of the most popular and supplemental means of human communication (Doğruer *et al.,* 2011; Ross *et al.,* 2009).

SNS are not bordered by geographic, financial and time constraints, and offers immense functional potential for transmitting and processing a message or meaning from individuals since it supports more alternatives for reprocessability, synchronicity and symbol sets. Such attributes are the inherent characteristics of these sites which have attracted an enormous number of users worldwide (Jin *et al.*, 2013; Marichal, 2013).

In discussing SNS, the use of SNS is not just based on a result of the attraction and recognition of these sites but based on outstanding statistics related to the number of users, rate of growth and reaching the highest traffic rankings worldwide and within Malaysia. According to Alexa (2013) statistics, Facebook for instance has the highest traffic rank in Malaysia over the last three years and such a pattern is similar to the worldwide website traffic ranks statistics. The total number of Facebook users in Malaysia is approaching 13,000,000 and grew by around 350,000 in the first 6 months of 2012 (Rohaya *et al.*, 2013). This evidence reveals the importance of SNS and the need for further and more in-depth investigation into such tools to understand the significance of why people intend to use these sites.

SNS are used and adopted by various types of users around the world especially younger people. Individuals use SNS for conducting a communicative interpersonal interaction involving a range of contextual discourses within these sites. There are various forms of usages for SNS. While these sites primarily provide an environment for connecting with friends and acquaintances, they also promote an amusing and efficient environment for messaging which enhanced communication (Bumgarner, 2007; Joinson, 2008). On the other hand, SNS are being used as a

directory that enables the tracking of great numbers of users, allowing various forms of broad-based peer-to-peer social observation (Lampe *et al.,* 2006).

Uses of SNS have been investigated by many scholars (Bumgarner, 2007; Joinson, 2008; Valenzuela *et al.,* 2009; Lin and Lu*,* 2013; Ku *et al.,* 2013) by applying use and gratification methodology. These methodologies can be considered as the most common practical methodology in media studies to evaluate motivations of media use. The researches which applied such methodologies found SNS are used as social utility software and its directory enables individual and group participation.

In line with these researches, Valenzuela *et al.* (2009) found four reasons for membership in a SNS which are entertainment, socializing, self-status and information seeking. Using similar approach, Joinson (2008) found people use Facebook primarily for social connection, shared identities, content sharing and social investigation.

While a wide range of study on SNS aimed to explore influential factors on use intention on SNS, there is lack of comprehensive studies on SNS which integrated all essential factors of SNS use intention in a single study (Pornsakulvanich and Dumrongsiri, 2013; Lin and Lu, 2011). Thus, conducting research on SNS to integrate all factors related to SNS use can be a critical step in understanding why people intend to use SNS.

Understanding why people are using SNS requires investigating all factors influencing SNS use. In particular, exploring both utilitarian and hedonic factors related to SNS use can be a potential direction for better and comprehensive understanding of sources of use intention to participate in these sites. Both of these factors have been found to clarify the sources of users' intention to use SNS (Lin and Lu, 2011; Pillai and Mukherjee, 2011; Lee *et al.*, 2012; Ernst *et al.*, 2013; Jin, 2013). Utilitarian factors are related to goal-oriented and reasonable behavior concerned with instrumental value, while hedonic factors are involved in seeking fun and enjoyment in an experience (Babin *et al.*, 1994; Wertenbroch and Dhar, 2000; Voss *et al.*, 2003).

Part of the foundation of this study background is the evidence demonstrating the importance of an in-depth investigation of SNS for understanding SNS users' intentions to use these sites. Subsequently, such an investigation supports the enhanced understanding adoption and acceptance of users in SNS through exploring a combination of hedonic and utilitarian factors in such environments.

With the increased growth in internet use, many scholars have endeavored to understand sources of use intention on online environments. The variety of applications in online environment have led researchers to apply various theories and models regarding different research domains such as e-commerce (Bhattacherjee, 2001), e-learning (Lee *et al.*, 2005) and e-banking (Lai and Li, 2005).

There are various theories and models that discuss important factors influencing behavioral use intention. These studies mostly described factors significant to users in the process of adoption, acceptance and use of technology which can lead to behavioral user intention. The most common theoretical background for exploring use intention regarding technology includes a range of theories and models such as Expectation-Confirmation Theory (ECT) which was presented by Oliver (1977), Information System success Model (ISSM) by DeLone and McLean (1992), Diffusion of Innovations (DOI) theory by Rogers (1995), Theory of Planned Behavior (TPB) by Ajzen (1991) and Theory of Reasoned Action (TRA) by Ajzen and Fishbein (1973).

While all discussed theories are applicable and were applied to explore use intention, most of the study stream relevant to use intention in online environment is drawn from Technology Acceptance Model (TAM) by (Davis, 1989). Furthermore, TAM model more than any other model or theory has been applied and variously extended in different fields to fit various contexts (Venkatesh and Bala, 2008). Thus, the theoretical grounding for the current study also originated from TAM in order to investigate use intention on SNS which has been discussed further in Chapter Two.

TAM has been selected as theoretical grounding of the research for several main reasons. First, extended TAM model is parsimonious with high explanatory

power for the variance in users' behavioral intentions and can be used as a guideline to develop a successful acceptance model (Venkatesh and Davis, 2000) which is the final goal of this study. Second, after much research, TAM has been successfully tested across a wide range of computing technologies and organizational settings (Hasan and Ahmed, 2007). Third, research has supported the robustness of the model across time and populations (Venkatesh and Davis, 2000). Fourth, in line with the application of TAM in a stream of prior studies and based on the fact that SNS was considered as both a utilitarian system (Gómez-Borja, 2012) and hedonic system (Hu *et al.*, 2011), TAM allows this study to investigate both hedonic and utilitarian factors related to SNS usage.

1.3 Statement of the Problems

There has been a vast amount of research on Internet technology. In recent years, a new stream of research in this field has started gaining attention in regard to SNS usage. Research on SNS has been predominantly conducted in fields such as privacy (Mohamed and Ahmad, 2012), education (Karpinski *et al.*, 2013), psychology (Wang *et al.*, 2012), health (Lauckner *et al.*, 2013), marketing (Fuciu and Gorski, 2013), cultural (Al Omoush *et al.*, 2012), social (Lee, 2013) aspects. However, there is a lack of studies (Lu and Yang, 2013; Ku *et al.*, 2013) that have researched user behaviors regarding the adoption and acceptance of SNS. Additionally, the few studies which investigated SNS acceptance and adoption have neglected significant parts of inherent nature of SNS which is related to both hedonic and utilitarian factors of SNS use (Yeh *et al.*, 2011; Lee *et al.*, 2012; Ernst *et al.*, 2013; Jin, 2013).

To understand why people intend to use SNS, it is essential to primarily understand the nature of these sites. While some scholars (Sledgianowski and Kulviwat, 2008; Hu *et al.,* 2011) have described SNS as hedonic in nature, other groups of researchers (Alarcón-del-Amo *et al.,* 2012; Gómez, 2012) described SNS as utilitarian in nature. Based on this fact, it can be concluded that SNS is both

hedonic-oriented and utilitarian-oriented. Additionally, while both hedonic and utilitarian factors are essential in SNS use acceptance and adoption, there is lack of study that integrated both of these factors for understanding SNS (Ernst *et al.*, 2013; Pillai and Mukherjee, 2011).

The hedonic oriented SNS researches (Sledgianowski and Kulviwat, 2008; Boyd and Ellison, 2007; Thambusamy *et al.,* 2010; Harden *et al.,*2012) discussed SNS as a system related to a range of functionalities relevant to fun and enjoyment while participating SNS. The utilitarian oriented research on SNS studies (Raacke and Bonds, 2008; Subrahmanyam et al., 2008; Bonds and Raacke, 2010) discussed SNS as system related to a range of functionalities relevant to external benefits such as the ability to communicate, organize events and stay in touch with friends.

It is variously discussed that individuals adopt and use ICT as they recognize the opportunity of achieving both usefulness and enjoyment from ICT (Teo *et al.*, 1999; Moon and Kim, 2001; van der Heijden, 2004; Kim *et al.,* 2007; Lu and Su, 2009; Lin and Bhattacherjee, 2008). The adoption and use of SNS is also considered to be pertinent to user perceptions about usefulness (Kate *et al.*, 2010) and enjoyment (Shin, 2010). Meanwhile, perceived usefulness and perceived enjoyment are found to be the best representative constructs for hedonic and utilitarian factors on SNS (Pillai and Mukherjee, 2011). However, there is a lack of studies which investigate a combination of these constructs on SNS domains (Yeh *et al.*, 2011; Ernst *et al.*, 2013).

In addition to perceived usefulness and perceived enjoyment which are rarely discussed in previous studies of SNS, many other factors such as relationship maintenance, social presence and curiosity have significantly determined hedonic or utilitarian outcomes for SNS use (Xu *et al.*, 2012; Lallmahomed *et al.*, 2013; Choi *et al.*, 2013) which consequently lead to use intention on SNS. However, many of these factors are not tested or included as evidence for SNS use intention into an integrated model for understanding use acceptance of these sites. This leaves open the question about determinants of hedonic and utilitarian factors on SNS in relationship with acceptance of these sites.

On the other hand, despite extensive growth in the number of SNS, very few of these sites have been successful in retaining members and ensuring continued usage by their members (Ma and Agarwal, 2007; Kaplan and Haenlein, 2010). Meanwhile, a few of the SNS that have been able to garner high membership are among the most visited websites worldwide. Based on the fact that many SNS fail and a few rise to the top, this poses the question of which factors cause users to intend to use these SNS which consequently lead to acceptance and adoption of these SNS. This fact elicits the necessity to understand the relationship between the influencing factors to theory and model SNS acceptance model.

Based on the above discussion, there is a lack of empirical studies which assessed use intention on SNS while considering both hedonic and utilitarian factors on these sites. This is a significant gap in previous SNS studies. Furthermore, there are no studies that have comprehensively theorized and modeled the acceptance and adoption in SNS, particularly regarding intention to use these sites through understanding both hedonic and utilitarian factors of usage. In fact, there is limited understanding of the patterns of acceptance and adoption of SNS. These are the circumstances that motivated the conduct of this research.

The problem statements of this research can be expressed in three main parts. The first part concerns the lack of reflection on the use intention on SNS with consideration of both hedonic and utilitarian factors relevant to SNS use based on the nature of social network environment. The second part concerns the lack of practical instruments for measuring such factors in such a context. The third part concerns the possibility of modeling acceptance of SNS through a framework of constructs relevant to both hedonic and utilitarian factors which exist in the dynamic social network environment.

1.4   Research Questions

While many scholars have sought to investigate the causes, applications, and motivators of user participation in SNS, this research proposes a new practice for the empirical exploration of essential factors in relationship with SNS use intention. Such practice aims to integrate both hedonic and utilitarian factors influencing SNS use intention. Accordingly, this study's effort would help to clarify how to theorise a new model of SNS acceptance model.

Based on the fact that SNS was considered as both a utilitarian system (Gómez-Borja, 2012) and hedonic system (Hu *et al.*, 2011), the current study investigates SNS use intention through exploring both hedonic and utilitarian factors in order to develop SNS acceptance model. Thus, the core question can be declared as "*how to model SNS use acceptance regarding hedonic and utilitarian influential factors on use intention?*" for this study. Based on the research core question, the research questions can be fragmented into smaller inter-connected problems. These problems can be phrased as research questions as follows:

(i)   What are the hedonic and utilitarian determinants of SNS use?

(ii)   What is the interrelationship between hedonic and utilitarian factors and use intention on SNS?

(iii)   How to develop SNS acceptance model based on both hedonic and utilitarian factors?

1.5   Research Objectives

The main objective of this study is to contribute to a theoretical understanding that allows for the development of SNS acceptance model. Reflection on the study's core question and research questions led to the identification of the following set of defined research objectives to guide the direction of this study:

(i)   To identify the hedonic and utilitarian determinants of SNS use.

(ii)   To identify the interrelationship between hedonic and utilitarian factors and use intention on SNS.

(iii)   To develop SNS acceptance model through both hedonic and utilitarian factors.

1.6   Research Scope

Based on the research questions and research objectives discussed above, the aim of the current study is on the development of SNS acceptance model through relevant hedonic and utilitarian factor in SNS use. Thereby, this research focuses on developing a reliable and validated measurement model for SNS to understand determinants of hedonic and utilitarian factors in SNS and consequently modeling use intention through hedonic and utilitarian factors of SNS use.

SNS fall under a broad category known as online communities which allow the members to have public or semi-public profile while creating specific types of relationships between users. Since there are a variety of SNS encompassing many attributes of online technologies, Facebook was selected in this study to gather information for some noteworthy reasons. First, Facebook includes most of the attributes of SNS relevant to the context of the study and thus can be used to make assumptions about general purpose SNS. Second, since Facebook is the most popular SNS, most of the target populations were members of this site.

On the other hand, since SNS users differ by age range and other demographics including social, economic or cultural background, this study targeted only university students aged 18 to 34 who are members of Facebook within Malaysia. It is based on the fact that the age distribution of SNS users is significantly spread between the ages of 18 to 34 in Malaysia (Rohaya *et al.*, 2013) as well as worldwide and students at this age are the most frequent users of SNS. Additional details on the sampling frame of this study are illustrated in Chapter Three.

1.7   Importance of the Study

The role of the Internet user has been transformed during the last decade from atomic and passive users to active and dynamic users which are more involved and participating in social online environments. This necessitates more exploration of factors influencing users in such environments. At the same time, SNS are growing remarkably which highlights the need for further investigation of these sites. Hence, the importance of this study primary relies on understanding why individuals intend to use SNS based on outcomes of various empirical and statistical analysis.

Furthermore, this study contributes to the understanding of SNS use intention through exploring hedonic and utilitarian factors which provide insights into social and active users by discussing such existing factors on SNS context. Such exploration supports the development of SNS acceptance model through hedonic and utilitarian factors which was not investigated in previous studies of SNS. Such a model is an important deliverable which provides the foundation for prospect evaluation, artifact design and system implementation of future SNS.

The findings of this study also contribute to the body of ideas and knowledge about SNS use which is accompanied by the development of justified constructs and verified measurement model for SNS use. Such findings are a practical step which is critical for future research studies on SNS, whether those researches are about building and evaluation or theorizing and justification.

1.8   Organization of the Study

The main reflections of this thesis can be summarized in several main stages. The primary stages involve an extensive review of the literature to propose a research conceptual framework and subsequently develop research hypotheses. Next stage is through identifying and developing relevant constructs pertinent to the proposed

structural model on SNS. Subsequently, validated and reliable instruments are developed based on the constructs. Consequently, the relationships between the constructs are theorized based on analysis of empirical gathered data.

The study is reported in six chapters. Each chapter starts with an overview which explains the aims and intentions of each chapter. The current chapter outlined the research questions, objectives and scope. It is followed by a broad literature review presented in Chapter Two. The literature review starts with an overview of SNS and continues with a systematic review of interdisciplinary research on SNS. Hedonic and utilitarian factors related to SNS are discussed. Theoretical background relevant to use intention is also reviewed which led to selection of TAM as the theoretical grounding for this research. As a result, essential domains of the research are identified, leading to the development of the research hypotheses and research conceptual framework at the end of the literature review.

Following the literature review, the explanation of research methodology is demonstrated in Chapter Three which is used as a guideline for the research process. A combination of various methods and tools are described in order to ensure that research obtains validated and reliable deliverables in each stage. Consequently, the research operational framework is developed in detail at the end of that chapter.

The other critical phase of this research is development of measurement model which is covered in Chapter Four. The development of instrument is essential for evaluation of measurement model and final research model. This chapter demonstrates the process of development of constructs in the context of study as well as development of instruments. The procedure of instrument evaluation regarding accuracy and consistency is also demonstrated, leading to development of a refined instrument as measurement model. Chapter Four also shows the result of empirical analysis which is performed on the pilot study gathered data in order to estimate and evaluate the measurement model.

In Chapter Five, the outcomes of various statistical analysis on the main sample frame are illustrated which covers the achieved research objectives. These

results are based on an extensive empirical data gathering which determined the relations of identified constructs. Accordingly the accepted and rejected research hypotheses are discussed based on practical analysis and the final validated model is presented.

The combination of the described results posed the research main contributions which are covered in Chapter Six. Furthermore, the highlights of achievements, limitation of the research and recommended directions for further research are covered in that chapter.

REFERENCES

Abdinnour H., Sue F, Chaparro, B. S. and Farmer, S. M. (2005). Using the end user computing satisfaction (eucs) instrument to measure satisfaction with a web site. *Decision Sciences*, 36(2), 341-364.

Aczel, D. A. and Soundarapandian, J. (2005). *Complete business statistics*. The McGraw-Hill Companies.

Agarwal, R. and E. Karahanna (2000). Time flies when you're having fun, cognitive absorption and beliefs about information technology usage. *MIS quarterly* 24(4), 665-694.

Agarwal, R., Gupta, A. K. and Kraut, R. (2008). Editorial overview - The interplay between digital and social networks. *Information Systems Research,* 19(3), 243-252.

Ahmed, S. (2009). *Methods in Sample Surveys, Cluster Sampling*, The Johns Hopkins University.

Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes,* 50(2), 179-211.

Ajzen, I. and M. Fishbein (1973). Attitudinal and normative variables as predictors of specific behavior. *Journal of Personality and Social Psychology,* 27(1), 41.

Al Omoush, Khaled Saleh, Yaseen, Saad Ghaleb and Atwah Alma'aitah, Mohammad. (2012). The impact of Arab cultural values on online social networking, The case of Facebook., *Computers in Human Behavior*, 28(6), 2387-2399.

Ancu, M. and Cozma, R. (2009). MySpace Politics, Uses and Gratifications of Befriending Candidates. *Journal of Broadcasting and Electronic Media,* 53(4), 567-583.

Andreassen, T. W. and Streukens, S. (2009). The adoption of technology-based customer complaining. *Journal of Service Management.*

Ary, D., Jacobs, L. C. and Razavieh, A. (1996). *Introduction to research*. New York, Harcourt Brace College Publishers.

Au, N., E. W. Ngai and T. Cheng (2002). A critical review of end-user information system satisfaction research and a new research framework. *Omega,* 30(6), 451-478.

Babin, B. J., W. R. Darden and M. Griffin (1994). Work and/or fun, measuring hedonic and utilitarian shopping value. *Journal of consumer research*, 644-656.

Baek, K., A. Holton, D. H. and Yaschur, C. (2011). The links that bind, Uncovering novel motivations for linking on Facebook. *Computers in human behavior* 27(6), 2243-2248.

Bagozzi, R. and Edwards, J., (1998). A General Approach for Representing Constructs in Organizational Research. *Organizational Research Methods*, 1(1), 45-87.

Bagozzi, R. and Yi, Y., (1988). On the Evaluation of Structural Equation Models. *Journal of the Academy of Marketing Science*, 16(1), 74-94.

Bagozzi, R., (1980). *Causal Modeling in Marketing*. Wiley, New York.

Bagozzi, R., (1994). *Measurement in Marketing Research, Basic principles of questionnaire design. in Principles of Marketing Research*. Massachusetts, USA, Basil Blackwell Ltd.

Baker, R. K. and K. M. White (2010). Predicting adolescents' use of social networking sites from an extended theory of planned behaviour perspective. *Computers in Human Behavior,* 26(6), 1591-1597.

Bardram J. E. and Hansen, T. R. (2004). The AWARE Architecture, Supporting Context-Mediated Social Awareness in Mobile Cooperation. *Proceedings of the ACM Conference on Computer Supported Cooperative Work (CSCW'04)*, pp. 192-201.

Bargh, J. A. and K. Y. A. McKenna (2004). The Internet and social life. *Annual Review of Psychology,* 55, 573-590.

Barker, V. (2009). Older adolescents' motivations for social network site use, The influence of gender, group identity and collective self-esteem. *Cyberpsychology and Behavior,* 12(2), 209-213.

Baumgartner, J. C. and Morris, J. S. (2010). MyFaceTube Politics. *Social Science Computer Review,* 28(1), 24-44.

Beardsely, M. (1982). *The aesthetic point of view*. Ithaca, NY, Cornell University Press.

Bender, J. L., Maria-Carolina, J. and Alejandro, R. J. (2011). Seeking support on facebook, A content analysis of breast cancer groups. *Journal of Medical Internet Research,* 13(1).

Bhattacherjee, A. (2001). An empirical analysis of the antecedents of electronic commerce service continuance. *Decision Support Systems,* 32(2), 201-214.

Bhattacherjee, A. (2001). Understanding information systems continuance, An expectation-confirmation model. *MIS quarterly*, 25(13), 351-370.

Bhattacherjee, A. and G. Premkumar (2004). Understanding changes in belief and attitude toward information technology usage, a theoretical model and longitudinal test. *MIS quarterly,* 28(2), 229-254.

Biocca, F. and C. Harms (2002). Defining and measuring social presence, Contribution to the networked minds theory and measure. *Proceedings of PRESENCE 2002*, 1-36.

Bonds-Raacke, J. and Raacke, J. (2010). MySpace and Facebook, Identifying Dimensions of Uses and Gratifications for Friend Networking Sites. *Individual Differences Research* 8(1).

Bosch, T. E. (2009). Using online social networking for teaching and learning, Facebook use at the University of Cape Town. *Communication* 35(2), 185-200.

Boudreau, M., Gefen, D. and Straub, D., (2001). Validation in Information Systems Research, A State-Of-The-Art Assessment. *MIS Quarterly,* 25(1), 1-16.

Boyd, D. M. and Ellison N. B. (2007). Social network sites, Definition, history and scholarship. *Journal of Computer-Mediated Communication,* 13(1).

Boyd, D. and Heer, J. (2006). Profiles as conversation, Networked identity performance on Friendster. System Sciences. *HICSS '06. Proceedings of the 39th Annual Hawaii International Conference*, 59-69, IEEE.

Boyd, D. M. and Ellison, N. B. (2007). Social Network Sites, Definition, History and Scholarship. *Journal of Computer-Mediated Communication*, 13 (2008) 210–230

Boyer, K. K., Olson, R. J., Calantone, R. J. and Jackson, E. C. (2002). Print versus electronic surveys, a comparison of two data collection methodologies. *Journal of Operations Management*, 20(4), 357-373.

Brandtzæg, P. and J. Heim (2009). Why People Use Social Networking Sites Online Communities and Social Computing. A. Ozok and P. Zaphiris, *Lecture Notes in Computer Science*, Volume 5621, Springer Berlin / Heidelberg, 143-152.

Brown, S. A., Venkatesh V., Kuruzovich J. and Massey, A. P. (2008). Expectation confirmation, An examination of three competing models. *Organizational Behavior and Human Decision Processes*, 105(1), 52-66.

Brubaker, J. R. and Hayes, G. R. (2011). We will never forget you [online], An empirical investigation of post-mortem MySpace comments. *CSCW '11 Proceedings of the ACM 2011 conference on Computer supported cooperative work.* 123-132

Bruce H. R., (2006). The user as social actor, a focus on systems development methodology enactment. *Proceedings of the 2006 ACM symposium on Applied computing (SAC '06)*, ACM, New York, NY, USA, 1540-1545.

Bumgarner, B. A. (2007). You have been poked, Exploring the uses and gratifications of Facebook among emerging adults. *First Monday,* 12(11), 3-4.

Burchell, B. and Marsh, C. (1992). The Effect of Questionnaire Length on Survey Response. *Quality and Quantity,* 26(3), 233-244.

Burgess, K. R. (2009). Social networking technologies as vehicles of support for women in learning communities. *New Directions for Adult and Continuing Education* 2009(122), 63-71.

Burke, M., Marlow, C. and Lento, T. (2009). Feed me, motivating newcomer contribution in social network sites. *CHI '09 Proceedings of the SIGCHI conference on Human factors in computing systems,* 945-954. ACM.

Burke, M., Marlow, C. and Lento, T. (2010). Social network activity and social well-being. *Proceedings of the 28th international conference on Human factors in computing systems,* 1909-1912. Atlanta, Georgia, USA, ACM.

Byrne, B. M. (2010). *Structural Equation Modeling With AMOS, Basic Concepts, Applications and Programming*, (2nd). New York, Taylor and Francis Group.

Byrne, B. M. (2013). Structural equation modeling with AMOS, *Basic concepts, applications and programming*, Routledge.

Campbell, D. and Fiske, D., (1959). Convergent and Discriminant Validity by the MultitraitMultimethod Matrix. *Psychological Bulletin*, 56(2), 81–105.

Cattell, R. B. (1978). *The Scientific Use of Factor Analysis*. New York, Plenum Press.

Chang, C. -C. (2013). Examining users′ intention to continue using social network games, A flow experience perspective. *Telematics and Informatics,* 30(4), 311-321.

Chang, C. -C., S. -W. Hung, M. -J. Cheng and C. -Y. Wu (2014). Exploring the intention to continue using social networking sites, The case of Facebook. *Technological Forecasting and Social Change.*

Chang, Y. P. and Zhu, D. H. (2012). The role of perceived social capital and flow experience in building users' continuance intention to social networking sites in China. *Computers in Human Behavior,* 28(3), 995-1001.

Chen, C. -F. and P. -C. Chen (2011). Applying the TAM to travelers' usage intentions of GPS devices. *Expert Systems with Applications* 38(5), 6217-6221.

Chen, H., Wigand, R. T. and Nilan, M. (2000). Exploring web users' optimal flow experiences. *Information Technology and People,* 13(4), 263-281.

Chen, I. Y. (2007). The factors influencing members' continuance intentions in professional virtual communities—a longitudinal study. *Journal of Information Science,* 33(4), 451-467.

Chen, Q. and Wells, W. D. (1999). Attitude toward the site. *Journal of Advertising Research*, 39(5), 27-37.

Chen, Q., Clifford, S. J. and Wells, W. (2002). Attitude toward the site II, New information. *Journal of Advertising Research*, 42(3), 33-45.

Chen, R. (2013). Member use of social networking sites, an empirical examination. *Decision Support Systems,* 54(3), 1219-1227.

Cheung, C. M. K., Chiu, P. Y. and Lee, M. K. O. (2011). Online social networks, Why do students use facebook. *Computers in Human Behavior*, 27(4), 1337-1343.

Cheung, G. W. and R. B. Rensvold (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural equation modeling,* 9(2), 233-255.

Childers, T. L., C. L. Carr, J. Peck and S. Carson (2002). Hedonic and utilitarian motivations for online retail shopping behavior. *Journal of retailing,* 77(4), 511-535.

Chin, W. W. (1998). The partial least squares approach to structural equation modeling. In, Marcoulides, G. A. (ed.). *Modern Methods for Business Research*. London, Lawrence Erlbaum.

Chin, W., Peterson, R. and Brown, S., (2008). Structural Equation Modeling In Marketing, Some Practical Reminders. *Journal of Marketing Theory and Practice*, 16(4), 287-298.

Chin, Y. L. and Ibrahim, A. (2005). Determinants of intention to use an online bill payment system among MBA students. *E-Business*(9), 80-91.

Choi, G. and H. Chung (2012). Elaborating the technology acceptance model with social pressure and social benefits for social networking sites. *Proceedings of the American Society for Information Science and Technology,* 49(1), 1-3.

Choi, J., Jung, J. and Lee, S. -W. (2013). What causes users to switch from a local to a global social network site? The cultural, social, economic and motivational factors of Facebook's globalization. *Computers in Human Behavior,* 29(6), 2665-2673.

Chong, A. Y. (2012). A two-staged SEM-neural network approach for understanding and predicting the determinants of m-commerce adoption. *Expert Systems with Applications*.

Chong, A. Y., Chan, F. T. and Ooi, K. B. (2012). Predicting consumer decisions to adopt mobile commerce, Cross country empirical examination between China and Malaysia. *Decision Support Systems,* 53(1), 34-43.

Chu, K. -M. and B. J. Yuan (2013). The effect pf preceived interactivity on e-trust and e-consumer behavior. *Journal of Electronic Commerce Research,* 14(1).

Churchill, G. A., Jr. (1979). A Paradigm for Developing Better Measures of Marketing Constructs. *Journal of Marketing Research*, 16 (2), 64–73.

Clark, L. A. and Watson, D. (1995). Constructing validity, Basic issues in objective scale development. *Psychological assessment*, 7(3), 309.

Coenen, T., Kenis, D., Van Damme, C. and Matthys, E. (2006). Knowledge sharing over social networking systems, Architecture, usage patterns and their application. *Lecture Notes in Computer Science*, Volume 4277, pp 189-198

Coleman, J. S. (1988). Social capital in the creation of human capital. *American journal of sociology,* 95-120.

Comery A. L. and Lee H. B. (1992). *A First Course in Factor Analysis*. Hillsdale, NJ, Erlbaum.

Cook, T. D. and Campbell, D. T. (1979). *Quasi Experimentation, Design and Analytical Issues for Field Settings*. Rand McNally, Chicago.

Costello, A. B. and Jason, O. (2005). Best practices in exploratory factor analysis, four recommendations for getting the most from your analysis. *Practical Assessment Research and Evaluation*, 10(7).

Cronbach, L. and Meehl, P. (1955). Construct Validity in Psychological Tests. *Psychological Bulletin*, 52(4), 281-302.

Csikszentmihalyi, M. (2000). *Beyond boredom and anxiety*. Jossey-Bass.

Cyr, D., Hassanein, K., and A. Ivanov (2007). The role of social presence in establishing loyalty in e-Service environments. *Interacting with Computers,* 19(1), 43-56.

Cyr, D., M. Head and A. Ivanov (2009). Perceived interactivity leading to e-loyalty, Development of a model for cognitive–affective user responses. *International Journal of Human-Computer Studies* 67(10), 850-869.

Dabbish, L. and Kraut, R. (2008). Research Note—Awareness Displays and Social Motivation for Coordinating Communication. *Information Systems Research* 19(2), 221-238.

Dabholkar, P. A. and Bagozzi, R. P. (2002). An Attitudinal Model of Technology-Based Self-Service, Moderating Effects of Consumer Traits and Situational Factors, *Journal of the Academy of Marketing Science*, 30(3), 184–201.

Daniel, Johnnie. (2011). *Sampling essentials, practical guidelines for making sampling choices*. Sage Publications.

Davies, J. (2012). Facework on Facebook as a new literacy practice. *Computers and Education* 59(1), 19-29.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use and user acceptance of information technology. *MIS quarterly*, 319-340.

Davis, F. D., Bagozzi, R. P. and Warshaw P. R., (1992). Extrinsic and intrinsic motivation to use computers in the workplace. *Journal of Applied Social Psychology*, 22(14), pp. 1111-1132.

de Kraker, J., R. Cörvers, P. Valkering, M. Hermans and J. Rikers (2013). Learning for sustainable regional development, towards learning networks 2. 0?. *Journal of Cleaner Production,* 49(0), 114-122.

Debatin, B., Lovejoy, J. P., Horn, A. K. and Hughes, B. N. (2009). Facebook and Online Privacy, Attitudes, Behaviors and Unintended Consequences. *Journal of Computer-Mediated Communication*, 15(1), 83-108.

Delone, W. H. (2003). The DeLone and McLean model of information systems success, a ten-year update. *Journal of management information systems* 19(4), 9-30.

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

Delone, W. H. and McLean, E. R. (2003). The DeLone and McLean model of information systems success, A ten-year update. *Journal of management information systems*, 19(4), 9-30.

Delone, W. H. and Mclean, E. R. (2004). Measuring e-commerce success, Applying the DeLone and McLean information systems success model. *International Journal of Electronic Commerce*, 9(1), 31-47.

DeVellis, R. F. (2007). *Scale Development Theory and Applications*. (2nd ed.), SAGE Publications, Inc

Dholakia, U. M., R. P. Bagozzi and L. K. Pearo (2004). A social influence model of consumer participation in network-and small-group-based virtual communities. *International journal of research in marketing,* 21(3), 241-263.

Dillon, W., White, J., Rao, V. and Filak, D., (1997). Good Science' Use Structural Equation Models to Decipher Complex Customer Relationship. *Marketing Research*, 9(4), 22-31.

Doğruer, N., Meneviş, I. and Eyyam, R. (2011). What is the motivation for using Facebook?. *Procedia - Social and Behavioral Sciences*, 15(0), 2642-2646.

Donath, J. (2007). Signals in social supernets. *Journal of Computer-Mediated Communication,* 13(1), 231-251.

Donath, J. and D. Boyd (2004). Public displays of connection. *BT Technology Journal,* 22(4), 71-82.

Draugalis J. R. and Plaza C. M. (2007). Best practices for survey research reports revisited, implications of target population, probability sampling and response rate. *American Journal of Pharmaceutical Education,* 73(8),Article 142.

Dwyer, C. (2007). Digital Relationships in the"MySpace. Generation, Results From a Qualitative Study. *In Proceedings of the 40th Annual Hawaii International Conference on System Sciences*, 19-26, IEEE Computer Society.

Dwyer, C., Hiltz, S. and Passerini, K. (2007). Trust and Privacy Concern Within Social Networking Sites, A Comparison of Facebook and MySpace. *In AMCIS.*

Ellison, N. B., C. Lampe and C. Steinfield (2009). FEATURE, Social network sites and society, current trends and future possibilities. *interactions* 16(1), 6-9.

Ellison, N. B., J. Vitak, C. Steinfield, R. Gray and C. Lampe (2011). Negotiating privacy concerns and social capital needs in a social media environment. *Privacy online*, Springer, 19-32.

Ellison, N., R. Heino and J. Gibbs (2006). Managing impressions online, Self presentation processes in the online dating environment. *Journal of Computer Mediated Communication,* 11(2), 415-441.

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), 1143-1168.

Ernst, C. -P. H., J. Pfeiffer and F. Rothlauf (2013). Hedonic and Utilitarian Motivations of Social Network Site Adoption. Johannes Gutenberg University Mainz.

Everitt, B. S. (1975). Multivariate Analysis, The Need for Data,and Other Problems. *British Journal of Psychiatry,* 126(2), pp. 237-240.

Farrow, H. and Y. C. Yuan (2011). Building Stronger Ties With Alumni Through Facebook to Increase Volunteerism and Charitable Giving. *Journal of Computer-Mediated Communication,* 16(3), 445-464.

Felfernig, A., M. Mandl, J. Tiihonen, M. Schubert and G. Leitner (2010). Personalized user interfaces for product configuration. *Proceedings of the 15th international conference on Intelligent user interfaces*, ACM.

Fincham J. E. (2008). Response rates and responsiveness for surveys, standards, American. *Journal of Pharmaceutical Education,* 72(2), 43-51.

Fink, A. (1995). The survey handbook. Thousand Oaks. CA, Sage Publications.

Fishbein, M. and I. Ajzen (1975). *Belief, attitude, intention and behavior, An introduction to theory and research*. Reading, MA, Addison-Wesley.

Flanagin, A. J. and M. J. Metzger (2001). Internet use in the contemporary media environment. *Human Communication Research,* 27(1), 153-181.

Fornell, C. and Larcker, D. F. (1981). Evaluating structural equation models with unobservabl e variables and measurement error. *Marketing Research,* 18 (1), 39–50.

Fuciu, M. and H. Gorski (2013). Marketing Research Regarding the Usage of Online Social Networking Sites by High School Students. *Procedia Economics and Finance 6*(0), 482-490.

Fulk, J., C. W. Steinfield, J. Schmitz and J. G. Power (1987). A social information processing model of media use in organizations. *Communication Research,* 14(5), 529-552.

Gangadharbatla, H. (2010). Facebook Me, Collective Self-Esteem, Need to Belong,and Internet Self-Efficacy as Predictors of the iGeneration's Attitudes toward Social Networking Sites. *journal of interactive advertising,* 8(2), 5-15.

Gay, L. R. and Airasian, P. (2000). *Educational research*. (6th ed.). Columbus, OH, Merrill.

Gerbing, D. and Anderson, J., (1988). An Updated Paradigm for Scale Development Incorporating Unidimensionality and its Assessment. *Journal of Marketing Research*, 25(2), 186-192.

Gilbert, E. and Karahalios, K. (2009). Predicting tie strength with social media. *CHI '09 Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 211-220, ACM.

Glanz, K. and D. B. Bishop (2010). The role of behavioral science theory in development and implementation of public health interventions. *Annual review of public health* 31, 399-418.

Glasford, D. E. (2008). Predicting voting behavior of young adults, The importance of information, motivation and behavioral skills. *Journal of Applied Social Psychology,* 38(11), 2648-2672.

Glesne, C. and Peshkin, A. (1992). *Becoming qualitative researchers, An introduction*", Longman White Plains, NY.

Goh, S. and T. Yoon (2011). If you build it will they come? An empirical investigation of facilitators and inhibitors of hedonic virtual world acceptance. System Sciences (HICSS), *2011 44th Hawaii International Conference on, IEEE*.

Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The qualitative report*, 8(4), 597-607.

Gómez Borja, M. -Á. (2012). Analysis of acceptance of social networking sites. *African Journal of Business Management,* 6(29), 8609-8619.

Gonzales, A. and J. Hancock (2008). Identity Shift in Computer-Mediated Environments. *Media Psychology,* 11(2).

Grant, J. S. and Davis, L. L. (1997). Selection and use of content experts for instrument development. *Research in Nursing and Health,* 20(3), 269-274.

Green, S. and J. P. T. Higgins, Eds. (2008). Cochrane Handbook for Systematic Reviews of Interventions. John Wiley and Sons, Ltd.

Greenhow, C. and B. Robelia (2009). Old Communication, New Literacies, Social Network Sites as Social Learning Resources. *Journal of Computer-Mediated Communication,* 14(4), 1130-1161.

Gross, Tom, Gulliksen, Jan, Kotzé, Paula, Kotz, Paula, Oestreicher, Lars, Palanque, Philippe. Winckler, Marco. (2009). Human-Computer Interaction. *12th IFIP TC 13 International Conference*, Uppsala, Sweden, August 24-28, 2009, Proceedigns (Vol. 1), Springer.

Gu, L. and Reckase, M. D. (2007). Designing optimal item pools for computerized adaptive tests with Sympson-Hetter exposure control. In D. J. Weiss (Ed.), *Proceedings of the 2007 GMAC Conference on Computerized Adaptive Testing.*

Gutwin, C., S. Greenberg and M. Roseman (1996). Workspace Awareness in Real-Time Distributed Groupware, Framework, Widgets and Evaluation. *Proceedings of HCI on People and Computers* XI, Springer-Verlag, 281-298.

Ha, I., Y. Yoon and M. Choi (2007). Determinants of adoption of mobile games under mobile broadband wireless access environment. *Information and Management,* 44(3), 276-286.

Ha, S. and L. Stoel (2009). Consumer e-shopping acceptance, Antecedents in a technology acceptance model. *Journal of Business Research,* 62(5), 565-571.

Haans, A. and W. IJsselsteijn (2006). Mediated social touch, a review of current research and future directions. *Virtual Reality,* 9(2-3), 149-159.

Hair, J. F., Black, W. C., Babin, B. J. and Anderson, R. E. (2010). *Multivariate Data Analysis, A Global Perspective.* (7th). New Jersey, Pearson Education Inc.

Hair, J., Black, W., Babin, B. anderson, R. and Tatham, R., (2005). *Multivariate Data Analysis.* 6th Edition. Pearson Education Inc, Prentice Hall, Upper Saddle River,New Jersey.

Hancock, G. R. and R. O. Mueller (2006). *Structural equation modeling.* A second course, Iap.

Hancock, J. T., Toma, C. L. and Fenner, K. (2008). I know something you don't, the use of asymmetric personal information for interpersonal advantage. *proceedings of the 2008 ACM conference on Computer supported cooperative work*, 413-416, ACM.

Harden, G., S. D. Ryan and V. R. Prybutok (2012). Social Networking Site Continuance, The Paradox of Negative Consequences and Positive Growth. *Informing Science* 15(1).

Hart, J., C. Ridley, F. Taher, C. Sas and A. Dix (2008). Exploring the facebook experience, a new approach to usability. *Proceedings of the 5th Nordic conference on Human-computer interaction, building bridges*. Lund, Sweden, ACM, 471-474.

Hasan, B. and M. U. Ahmed (2007). Effects of interface style on user perceptions and behavioral intention to use computer systems. *Computers in Human Behavior,* 23(6), 3025-3037.

Hassanein, K. and M. Head (2007). Manipulating perceived social presence through the web interface and its impact on attitude towards online shopping. *International Journal of Human-Computer Studies* 65(8), 689-708.

Hassenzahl, M. (2004). The interplay of beauty, goodness and usability in interactive products. *Human-Computer Interaction*, 19(4), 319-349.

Hassenzahl, M. (2007). *The hedonic/pragmatic model of user experience*. Towards a UX Manifesto,

Hassenzahl, M. and Tractinsky, N. (2006). User experience-a research agenda. *Behaviour and Information Technology*, 25(2), 91-97.

Haynes, S. N., Richard, D. C. S. and Kubany, E. S. (1995). Content Validity in Psychological Assessment, A Functional Approach to Concepts and Methods. *Psychological ssessment*(7,3), pp. 238-247.

Haythornthwaite, C. (2005). Social networks and Internet connectivity effects. *Information, Communication and Society,* 8(2), 125-147.

Heath, C., Svensson, M., Hindmarsh, J., Luff, P., vom Lehn, D. (2002). Configuring Awareness. *Computer Supported Cooperative Work*, 11(3-4), pp. 317-347.

Heijden, H. (2004). User acceptance of hedonic information systems. *MIS Quarterly*. 28(4), 695-704.

Helgeson, J. G. and Ursic, M. L. (1994). The Role Of Affective and Cognitive Decision-Making Processes During Questionnaire Completion. *Public Opinion Quarterly,* 11(5), 493-510.

Hennington, A., Janz, B. and Poston, R. (2011). I'm just burned out, Understanding information system compatibility with personal values and role-based stress in a nursing context. *Computers in Human Behavior,* 27 (3), 1238-1248.

Herring, S. C. (2002). Computer-mediated communication on the Internet. *Annual review of information science and technology,* 36(1), 109-168.

Hersberger, J. A., Murray, A. L. and Rioux, K. S. (2007). Examining information exchange and virtual communities, an emergent framework. *Online Information Review*, 31(2), 135-147.

Hevner, Alan R, March, Salvatore T, Park, Jinsoo and Ram, Sudha. (2004). Design science in information systems research. *MIS quarterly*, 28(1), 75-105.

Hoffman, D. L. and T. P. Novak (2009). Flow online, lessons learned and future prospects. *Journal of Interactive Marketing,* 23(1), 23-34.

Holsapple, C. W. and J. Wu (2007). User acceptance of virtual worlds, the hedonic framework. *ACM SIGMIS Database* 38(4), 86-89.

Hong, S. -J. and Tam, K. Y. (2006). Understanding the adoption of multipurpose information appliances, The case of mobile data services. *Information Systems Research*, 17(2), 162–179.

Hong, S. -J., J. Y. L. Thong and K. Y. Tam (2006). Understanding continued information technology usage behavior, a comparison of three models in the context of mobile internet. *Decis. Support Syst*em, 42(3), 1819-1834.

Horrigan, J. (2008). The Internet as a resource for news and information about science. Pew Internet and American Life Project. *Pew Internet and American Life Project.*

Hossain, L. and A. de Silva (2009). Exploring user acceptance of technology using social networks. *The Journal of High Technology Management Research,* 20(1), 1-18.

Hsu, C. -L. and H. -P. Lu (2004). Why do people play on-line games? An extended TAM with social influences and flow experience. *Information and management,* 41(7), 853-868.

Hu, T., R. S. Poston and W. J. Kettinger (2011). Nonadopters of Online Social Network Services, Is It Easy to Have Fun Yet. *Communications of the Association for Information Systems,* 29(1), 25.

Huang, J. -W. and C. -P. Lin (2011). To stick or not to stick, The social response theory in the development of continuance intention from organizational cross-level perspective. *Computers in Human Behavior,* 27(5), 1963-1973.

Huang, M. -H. (2003). Designing website attributes to induce experiential encounters. *computers in Human Behavior,* 19(4), 425-442.

Huang, Y. -C., S. J. Backman, K. F. Backman and D. Moore (2013). Exploring user acceptance of 3D virtual worlds in travel and tourism marketing. *Tourism Management,* 36, 490-501.

Jackson, D. L., J. A. Gillaspy Jr and R. Purc-Stephenson (2009). Reporting practices in confirmatory factor analysis, an overview and some recommendations. *Psychological methods,* 14(1), 6.

JC, Nunnally. (1994). *Psychometric Theory*. Bernstein IH. New York, McGraw-Hill.

Jelenchick, L. A., J. C. Eickhoff and M. A. Moreno (2013). Facebook Depression?. Social Networking Site Use and Depression in Older Adolescents. *Journal of Adolescent Health,* 52(1), 128-130.

Jin, C. H. (2013). The perspective of a revised TRAM on social capital building, The case of Facebook usage. *Information and Management*.

Jin, L., Y. Chen, T. Wang, P. Hui and A. V. Vasilakos (2013). Understanding user behavior in online social networks, A survey. *IEEE Communications Magazine*, 145.

Johar, M. G. M. and J. A. A. Awalluddin (2011). The role of technology acceptance model in explaining effect on e-commerce application system. International *Journal of Managing Information Technology* (IJMIT), 3(3), 1-14.

Joinson, A. N. (2003). Understanding the psychology of Internet behaviour virtual worlds, real lives. *Revista iberoamericana de educación a distancia,* 6(2), 190.

Joinson, A. N. (2008). Looking at, looking up or keeping up with people?, motives and use of facebook. *Proceedings of the twenty-sixth annual SIGCHI conference on Human factors in computing systems*. Florence, Italy, ACM, 1027-1036.

Jones, Q., Ravid, G. and Rafaeli, S. (2004). Information overload and the message dynamics of online interaction spaces, A theoretical model and empirical exploration. *Information Systems Research*, 15(2), 194-210.

Kaiser H. (1958). The Varimax criterion for analytic rotation in factor analysis. *Psychometrica,* 23. 187-200.

Kaplan, A. M. and M. Haenlein (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business horizons,* 53(1), 59-68.

Karahan, E. and G. Roehrig (2013). Designing Social Networks to Promote Student Motivation and Engagement in Alternative School Environments. *Society for Information Technology and Teacher Education International Conference.*

Karpinski, A. C., P. A. Kirschner, I. Ozer, J. A. Mellott and P. Ochwo (2013). An exploration of social networking site use, multitasking and academic performance among United States and European university students. *Computers in Human Behavior,* 29(3), 1182-1192.

Kate, S., S. Haverkamp, F. Mahmood and F. Feldberg (2010). Social network influences on technology acceptance, A matter of tie strength, centrality and density. *BLED 2010 Proceedings*, Paper 40.

Kenny, D. A. (2012). Measuring model fit. *Sociological Methods and Resarch* 29.

Kenny, D. A., Kaniskan, B. and McCoach, D. B. (2011). The performance of RMSEA in models with small degrees of freedom. *Sociological Methods and Resarch*, in press.

Kerlinger W. F. (1978). *Foundations and Behavioral Research*. New Delhi, Sarjeet Publications.

Kerlinger, F. N. and Lee, H. B. (2000). *Foundations of Behavioral Research.* Harcourt College Publishers.

Kijsanayotina, B., Pannarunothai, S. and Speedie, S. M. (2009). Factors influencing health information technology adoption in Thailand's community health centers,Applying the UTAUT model., *International journal of medical informatics,* 78, 404-416.

Kim, B. (2010). An empirical investigation of mobile data service continuance, Incorporating the theory of planned behavior into the expectation–confirmation model. *Expert Systems with Applications,* 37(10), 7033-7039.

Kim, D. J., D. L. Ferrin and H. R. Rao (2009). Trust and satisfaction, two stepping stones for successful e-commerce relationships, A longitudinal exploration. *Information Systems Research,* 20(2), 237-257.

Kim, E. and B. Lee (2007). An economic analysis of customer selection and leveraging strategies in a market where network externalities exist. *Decision Support Systems,* 44(1), 124-134.

Kim, H. -W., H. C. Chan and S. Gupta (2007). Value-based adoption of mobile internet, an empirical investigation. *Decision Support Systems* 43(1), 111-126.

Kim, Y. (2011). The contribution of social network sites to exposure to political difference, The relationships among SNSs, online political messaging and exposure to cross-cutting perspectives. *Computers in Human Behavior,* 27(2), 971-977.

Klopping, I. M. and E. McKinney (2004). Extending the Technology Acceptance Model and the Task-Technology Fit Model to Consumer E-Commerce. *Information Technology, Learning and Performance Journal,* 22(1).

Köbler, F., C. Riedl, C. Vetter, J. M. Leimeister and H. Krcmar (2010). Social Connectedness on Facebook-An Explorative Study on Status Message Usage. *Proceedings of AMCIS 2010.*

Koolstra, C. M. and M. J. Bos (2009). The development of an instrument to determine different levels of interactivity. *International Communication Gazette* 71(5), 373-391.

Kraut, R. E. and P. Resnick (2012). *Building successful online communities.* The MIT Press.

Kraut, R., M. L. Maher, J. Olson, T. W. Malone, P. Pirolli and J. C. Thomas (2010). Scientific foundations, A case for technology-mediated social-participation theory. *Computer,* 43(11), 22-28.

Ku, Y. -C., R. Chen and H. Zhang (2013). Why do users continue using social networking sites? An exploratory study of members in the United States and Taiwan. *Information and Management,* 50(7), 571-581.

Kuhn, T. S. (1996). *The structure of scientific revolutions.* University of Chicago press.

Kwon, O. and Y. Wen (2010). An empirical study of the factors affecting social network service use. *Computers in Human Behavior,* 26(2), 254-263.

Lai, V. S. and H. Li (2005). Technology acceptance model for internet banking, an invariance analysis. *Information and management,* 42(2), 373-386.

Lallmahomed, M. Z., N. Z. Ab Rahim, R. Ibrahim and A. A. Rahman (2013). Predicting different conceptualizations of system use, Acceptance in hedonic volitional context (Facebook). *Computers in Human Behavior,* 29(6), 2776-2787.

Lampe, C., Ellison, N. and Steinfield, C. (2006). A face(book) in the crowd, social Searching vs. social browsing. *Proceedings of the 2006 20th anniversary conference on Computer supported cooperative work*. 167-170. Banff, Alberta, Canada, ACM.

Lampe, C., Wohn, D. Y., Vitak, J., Ellison, N. B. and Wash, R. (2011). Student use of Facebook for organizing collaborative classroom activities. *International Journal of Computer-Supported Collaborative Learning*, 6(3), 329-347.

Lane, M. and P. Coleman (2012). Technology ease of use through social networking media. *Journal of Technology Research,* 3(1), 1-12.

Larose, R., Mastro, D. and Eastin, M. S. (2001). Understanding Internet Usage. *Social Science Computer Review*, 19(4), 395-413.

Lauckner, Oh, Hyun Jung, Carolyn, Boehmer, Jan, Fewins-Bliss, Ryan and Li, Kang. (2013). Facebooking for health, An examination into the solicitation and effects of health-related social support on social networking sites., *Computers in Human Behavior*, 29(5).

Laura J. Burton. (2011). Survey Instrument Validity Part I, Principles of Survey Instrument Development and Validation., *Athletic Training Education Journal*, 6(1), 27-35.

Ledbetter, A. M., Mazer, J. P., DeGroot, J. M., Meyer, K. R., Mao, Y. and Swafford, B. (2011). Attitudes Toward Online Social Connection and Self-Disclosure as Predictors of Facebook Communication and Relational Closeness. *Communication Research*, 38(1), 27-53.

Lee, Doo Young. (2013). The role of attachment style in building social capital from a social networking site, The interplay of anxiety and avoidance., *Computers in Human Behavior*, 29(4).

Lee, G., Lee, J. and Kwon, S. (2010). Use of Social-Networking Sites and Subjective Well-Being, A Study in South Korea. *Cyberpsychology, Behavior and Social Networking*, 14(3), 151-155.

Lee, H. and Chang, E. (2011). Consumer attitudes toward online mass customization,An application of extended technology acceptance model. *Journal of Computer Mediated Communication*, 16(2), 171–200.

Lee, J. -S., H. Cho, G. Gay, B. Davidson and A. R. Ingraffea (2003). Technology acceptance and social networking in distance learning. *Educational Technology and Society,* 6(2), 50-61.

Lee, M. J. W. and C. McLoughlin (2008). Harnessing the affordances of Web 2. 0 and social software tools, Can we finally make"student-centered. learning a reality?. *World Conference on Educational Multimedia, Hypermedia and Telecommunications*. J. Luca and E. R. Weippl. Vienna, Austria, AACE, 3825-3834.

Lee, M. K. O., C. M. K. Cheung and Z. Chen (2005). Acceptance of Internet-based learning medium, the role of extrinsic and intrinsic motivation. *Information and Management,* 42(8), 1095-1104.

Lee, Xiong W. L. and Hu C. (2012). The effect of Facebook users' arousal and valence on intention to go to the festival, Applying an extension of the technology acceptance model. *International Journal of Hospitality Management,* 31(3), 819-827.

Legris, P., J. Ingham and P. Collerette (2003). Why do people use information technology? A critical review of the technology acceptance model. *Information and management* 40(3), 191-204.

Lei, P. W. and Q. Wu (2007). Introduction to structural equation modeling, Issues and practical considerations. *Educational Measurement, Issues and Practice,* 26(3), 33-43.

Leidner, D. E. and S. L. Jarvenpaa (1995). The use of information technology to enhance management school education, a theoretical view. *MIS Quarterly*, 19(3), 265-291.

Lenhart, A. and M. Madden (2007). Teens, privacy and online social networks, How teens manage their online identities and personal information in the age of MySpace, *Pew Internet and American Life Project*.

Lewis, B., Templeton, G. and Byrd, T. (2005). A Methodology for Construct Development in MIS Research. *European Journal of Information Systems,* 14(4), 388-400.

Lewis, J. and A. West (2009). 'Friending', London-based undergraduates' experience of Facebook. *New Media and Society,* 11(7), 1209-1229.

Lewis-Beck, M., A. E. Bryman and T. F. Liao (2004). *The Sage encyclopedia of social science research methods*. (Vol. 1), Sage.

Li, D. and G. J. Browne (2006). The role of need for cognition and mood in online flow experience. *Journal of Computer Information Systems,* 46(3).

Liao, C. -H., Tsou, C. -W. and Huang, M. -F. (2007). Factors influencing the usage of 3G mobile services in Taiwan. *Online Information Review*, 31(6), 759–774.

Lievrouw, L. A. and S. Livingstone (2002). *Handbook of new media, Social shaping and consequences of ICTs*, Sage.

Lin, A. C. H., W. D. Fernandez and S. Gregor (2012). Understanding web enjoyment experiences and informal learning, A study in a museum context. *Decision Support Systems,* 53(4), 846-858.

Lin, C. S., S. Wu and R. J. Tsai (2005). Integrating perceived playfulness into expectation-confirmation model for web portal context. *Information and Management,* 42(5), 683-693.

Lin, C. -P. and A. Bhattacherjee (2008). Elucidating individual intention to use interactive information technologies, The role of network externalities. *International Journal of Electronic Commerce,* 13(1), 85-108.

Lin, Julian; Chan, Hock; and Jin, Yang, (2004). Instant Messaging Acceptance and Use Among College Students. *PACIS 2004 Proceedings*. Paper 15.

Lin, K. -Y. and H. -P. Lu (2011). Why people use social networking sites, An empirical study integrating network externalities and motivation theory. *Computers in Human Behavior,* 27(3), 1152-1161.

Ling, K., G. Beenen, P. Ludford, X. Wang, K. Chang, X. Li, D. Cosley, D. Frankowski, L. Terveen and A. M. Rashid (2005). Using social psychology to motivate contributions to online communities. *Journal of Computer□Mediated Communication,* 10(4).

Liu, C. and Arnett, K. P. (2000). Exploring the factors associated with web site success in the context of electronic commerce. *Information and Management,* 38, 23-33.

Liu, H. (2007). Social network profiles as taste performances. *Journal of ComputerMediated Communication,* 13(1), 252-275.

Liu, S. -H., H. -L. Liao and J. A. Pratt (2009). Impact of media richness and flow on e-learning technology acceptance. *Computers and Education,* 52(3), 599-607.

Liu, Y. and L. J. Shrum (2002). What is Interactivity and is it Always Such a Good Thing? Implications of Definition, Person and Situation for the Influence of Interactivity on Advertising Effectiveness. *Journal of Advertising,* 31(4), 53-64.

Lombard, M. and T. Ditton (1997). At the heart of it all, The concept of presence. *Journal of ComputerMediated Communication,* 3(2).

Long, J., (1983). *Confirmatory Factor Analysis, A Preface to LISREL*. Sage, Beverly Hills, CA.

Lowry, P. B., T. Spaulding, T. Wells, G. Moody, K. Moffit and S. Madariaga (2006). A theoretical model and empirical results linking website interactivity and usability satisfaction. System Sciences, 2006. *HICSS'06. Proceedings of the 39th Annual Hawaii International Conference*, IEEE.

Lowry, P., Lowry, N. T., James G. , Bryan H. (2007). Proposing the Interactivity-Stimulus-Attention Model (ISAM) to explain and predict enjoyment, immersion and adoption of purely hedonic systems. *Special Interest Group on Human-Computer Interaction Pre-ICIS Workshop*.

Lu, H. -P. and P. Y. -J. Su (2009). Factors affecting purchase intention on mobile shopping web sites. *Internet Research,* 19(4), 442-458.

Lu, H. -P. and Yang, Y. W. (2013). Toward an understanding of the behavioral intention to use a social networking site, An extension of task-technology fit to social-technology fit.,*Computers in Human Behavior*, 34(2).

Luarn, P. and H. -H. Lin (2005). Toward an understanding of the behavioral intention to use mobile banking. *Computers in human behavior,* 21(6), 873-891.

Lunneborg, C. E. (1979). Psychometric Theory, Secon d Edition Jum C. Nunnally New York, McGraw-Hill, Book Review. *Applied Psychological Measurement,* 3(2), 279-280.

Ma, M. and R. Agarwal (2007). Through a glass darkly, Information technology design, identity verification and knowledge contribution in online communities. *Information Systems Research,* 18(1), 42-67.

MacCallum, R. C. and Austin, J. T. (2000). Applications of Structural Equation Modeling in Psychological Research. *Annual Review of Psychology,* (51,1), pp. 201-226.

MacKenzie, S. B., P. M. Podsakoff and N. P. Podsakoff (2011). Construct measurement and validation procedures in MIS and behavioral research, integrating new and existing techniques. *MIS quarterly,* 35(2), 293-334.

MacKenzie, S., (2003). The Dangers of Poor Construct Conceptualization. *Journal of the Academy of Marketing Science,* 31(3), 323-326.

Magni, M., M. Susan Taylor and V. Venkatesh (2010). 'To play or not to play', A cross-temporal investigation using hedonic and instrumental perspectives to explain user intentions to explore a technology. *International Journal of Human-Computer Studies,* 68(9), 572-588.

Maleske, R. T. (1995). Foundations for gathering and interpreting behavioral data. Pacific. Grove, CA, Brooks/Cole Publishing Company.

Malhotra, Y. and Galletta, D. F. (1999). Extending the technology acceptance model to account for social influence, Theoretical bases and empirical validation. *Proceedings of the 32nd Hawaii International Conference on System Sciences*, 1999.

Mäntymäki, M. and J. Salo (2011). Teenagers in social virtual worlds, Continuous use and purchasing behavior in Habbo Hotel. *Computers in Human Behavior,* 27(6), 2088-2097.

March, S. T. and G. F. Smith (1995). Design and natural science research on information technology. *Decision support systems,* 15(4), 251-266.

Marichal, J. (2013). Political Facebook groups, Micro-activism and the digital front stage. *First Monday,* 18(12).

Martin, J. (1985). *Fourth-Generation Languages* (1 ed.), Prentice Hall.

Mazman, S. G. and Y. K. Usluel (2010). Modeling educational usage of Facebook. *Computers andamp; Education,* 55(2), 444-453.

McCarthy, J. and P. Wright (2004). Technology as experience. *Interactions,* 11(5), 42-43.

Mehdizadeh, S. (2010). Self-Presentation 2. 0, Narcissism and Self-Esteem on Facebook. *Cyberpsychology, Behavior and Social Networking,* 13(4), 357-364.

Men, L. R. and W. -H. S. Tsai (2012). Beyond liking or following, Understanding public engagement on social networking sites in China. *Public Relations Review.*

Meng H. Hsu, C. M. C., Teresa L. Ju. (2004). Determinants of continued use of the WWW, an integration of two theoretical models., *Industrial Management and Data Systems*, 104 (9), 766 - 775.

Mohamed, N. and I. H. Ahmad (2012). Information privacy concerns, antecedents and privacy measure use in social networking sites, Evidence from Malaysia. *Computers in Human Behavior,* 28(6), 2366-2375.

Moon, J. -W. and Y. -G. Kim (2001). Extending the TAM for a World-Wide-Web context. *Information and management,* 38(4), 217-230.

Mortensen, T. (2004). Flow, seduction and mutual pleasures., *Proceedings of the Other Players Conference*, Copenhagen, December.

Nadkarni, A. and S. G. Hofmann (2012). Why do people use Facebook?. *Personality and Individual Differences,* 52(3), 243-249.

Negahban, A. and C. -H. Chung (2013). Discovering determinants of users perception of mobile device functionality fit. *Computers in Human Behavior,* 35, 75-84.

Netemeyer, R. G., Bearden, W. O., Sharma, S. (2003). *Scaling Procedures, Issues and Applications*. Sage Publications, Inc.

Noar, S. M. and R. S. Zimmerman (2005). Health Behavior Theory and cumulative knowledge regarding health behaviors, are we moving in the right direction?. *Health Education Research,* 20(3), 275-290.

Notley, T. (2009). Young People, Online Networks and Social Inclusion. *Journal of Computer-Mediated Communication,* 14(4), 1208-1227.

Nov, O., O. Arazy, C. López and P. Brusilovsky (2013). Exploring personality-targeted UI design in online social participation systems. Proceedings of the *SIGCHI Conference on Human Factors in Computing Systems, ACM.*

Nunnally, J. C. and Bernstein, I. H. (1994). *Psychometric Theory* (3rd ed.), New York, McGraw Hill.

Nunnally, J., (1978). *Psychometric Theory*. 2nd Ed. McGraw-Hill, New York.

O'Reilly, T. (2005). What is web 2. 0. Design patterns and business models for the next generation of software. Retrieved August 30, 2011, from O'Reilly Web site

Oh, H. J., C. Lauckner, J. Boehmer, R. Fewins-Bliss and K. Li (2013). Facebooking for health, An examination into the solicitation and effects of health-related social support on social networking sites. *Computers in Human Behavior,* 29(5), 2072-2080.

Okazaki, S., R. Skapa and I. Grande (2008). Capturing global youth, Mobile gaming in the US, Spain and the Czech Republic. *Journal of Computer Mediated Communication,* 13(4), 827-855.

O'Leary-Kelly, S. and Vokurka, R. (1998). The Empirical Assessment of Construct Validity. *Journal of Operations Management*, 16(4), 387-405

Oliver, R. L. (1977). Effect of expectation and disconfirmation on postexposure product evaluations, An alternative interpretation. *Journal of Applied Psychology*, 62(4), 480.

Pai, F. -Y. and K. -I. Huang (2011). Applying the Technology Acceptance Model to the introduction of healthcare information systems. *Technological Forecasting and Social Change,* 78(4), 650-660.

Papadopoulos, T., T. Stamati and P. Nopparuch (2012). Exploring the determinants of knowledge sharing via employee weblogs. *International Journal of Information Management.*

Pavlik, J. V. and E. E. Dennis (1998). *New media technology, Cultural and commercial perspectives*. Allyn and Bacon Boston.

Pedhazur, E. J. and Schmelkin, L. P. (1991). Measurement, design and analysis, An integrated approach. Hillsdale, NJ, Erlbaum.

Pempek, T. A., Yermolayeva, Y. A. and Calvert, S. L. (2009). College students' social networking experiences on Facebook. *Journal of Applied Developmental Psychology*, 30(3), 227-238.

Petersen, M. G., Iversen, O. S., Krogh, P. G. and Ludvigsen, M. (2004). Aesthetic Interaction, a pragmatist's aesthetics of interactive systems. *Proceeding DIS '04 Proceedings of the 5th conference on Designing interactive systems, processes, practices, methods and techniques* Pages 269-276

Pillai, A. and J. Mukherjee (2011). User acceptance of hedonic versus utilitarian social networking web sites. *Journal of Indian Business Research,* 3(3), 180-191.

Pillai, A. and J. Mukherjee (2011). User acceptance of hedonic versus utilitarian social networking web sites. *Journal of Indian Business Research,* 3(3), 180-191.

Plooy, G. M. (2004). Communication Research, Techniques, Methods and Applications, Juta Academic.

Pornsakulvanich, V. and N. Dumrongsiri (2013). Internal and external influences on social networking site usage in Thailand. *Computers in Human Behavior,* 29(6), 2788-2795.

Preece, J. and B. Shneiderman (2009). The reader-to-leader framework, Motivating technology-mediated social participation. *AIS Transactions on Human-Computer Interaction* 1(1), 13-32.

Purcell, R., Mitchell, Rosenstiel and Olmstead. (2010). How media consumption has changed since 2000. *Pew Internet and American Life Project.*

Putnam, R. D. (2000). Bowling alone. *The collapse and revival of American community.* New York.

Qiu, L. and D. Li (2008). Applying TAM in B2C e-commerce research, an extended model. *Tsinghua Science and Technology,* 13(3), 265-272.

Raacke, J. and J. Bonds-Raacke (2008). MySpace and Facebook, Applying the uses and gratifications theory to exploring friend-networking sites. *Cyberpsychology and behavior,* 11(2), 169-174.

Ranganathan, C. and Ganapathy, S. (2002). Key dimensions of business-to-consumer Web sites. *Information and Management*, 39, 457-465.

Rettie, R. (2003). Connectedness, awareness and social presence. *PRESENCE 2003, online proceedings.*

Rheingold, H. (2000). The virtual community, Homesteading on the electronic frontier, *MIT press*.

Ringle, C. M., Sarstedt, M. and Straub, D. W. (2012). A Critical Look at the Use of PLS-SEM in MIS Quarterly. *MIS Quarterly*, 36(1), 3-8.

Robertson, D. C. (1989). Social determinants of information systems use. *Journal of Management Information Systems,* 5(4), 55-71.

Roca, J. C., Chiu, C. -M. and Martínez, F. J. (2006). Understanding e-learning continuance intention, An extension of the Technology Acceptance Model. International. *Journal of Human-Computer Studies*, 64(8), 683-696.

Röcker, C. (2012). Informal Communication and Awareness in Virtual Teams. *Communications in Information Science and Management Engineering journal.*

Rodger, E. (1995). *Diffusion of innovations.* New York, Free Press.

Rogers, E. M. (1995). Lessons for guidelines from the diffusion of innovations. *The Joint Commission journal on quality improvement,* 21(7), 324.

Rohaya, M. -N., T. E. Chapun and C. R. J. Wah (2013). Malaysian rural community as consumer of health information and their use of ICT. *Jurnal Komunikasi; Malaysian Journal of Communication,* 29(1), 161-177.

Ross, C., E. S. Orr, M. Sisic, J. M. Arseneault, M. G. Simmering and R. R. Orr (2009). Personality and motivations associated with Facebook use. *Computers in Human Behavior,* 25(2), 578-586.

Rubin, A. and Babbie, E. R. (2008). *Research methods for social work.* Brooks. Cole Pub Co.

Salant P, Dillman DA. (1994). *How to Conduct Your Own Survey.* New York, NY, John Wiley and Sons, Inc.

Sas, C., Dix, A., Hart, J. and Su, R. (2009). Emotional experience on facebook site. *Proceedings of the 27th international conference extended abstracts on Human factors in computing systems,* (pp. 4345-4350). Boston, MA, USA, ACM.

Schepers, J. and M. Wetzels (2007). A meta-analysis of the technology acceptance model, Investigating subjective norm and moderation effects. *Information and management,* 44(1), 90-103.

Schermelleh-Engel, K., H. Moosbrugger and H. Müller (2003). Evaluating the fit of structural equation models, Tests of significance and descriptive goodness-of-fit measures. *Methods of psychological research online,* 8(2), 23-74.

Schouten, A. P. (2007). Adolescents' online self-disclosure and self-presentation. *The Amsterdam School of Communications Research ASCoR.*

Schwab, D., 1980. Construct Validity in Organizational Behavior. *Research in Organizational Behavior,* 2, 3-45.

Seddon, P. B. (1997). A respecification and extension of the DeLone and McLean model of IS success. *Information Systems Research,* 8(3), 240-253.

Sekaran, U. and Bougie, R. (2010). *Research Methods for Business, A Skill Building Approach.* (5th), John Wiley and Sons Inc.

Sethi, Rajesh, Daniel C. Smith and C. Whan Park (2001). Cross-Functional Product Development Teams, Creativity,and the Innovativeness of New Consumer Products. *Journal of Marketing Research*, Vol. 38(1), pp. 73-85.

Shang, R. -A., Y. -C. Chen and L. Shen (2005). Extrinsic versus intrinsic motivations for consumers to shop on-line. *Information and Management,* 42(3), 401-413.

Sheldon, P. (2008). Student Favorite, Facebook and Motives for its Use. *Southwestern Mass Communication Journal* 23(2), 39-53.

Shih, H. P. (2004). Extended technology acceptance model of Internet utilization behavior. *Information and management,* 41(6), 719-729.

Shih, Y. and Fang, K.,(2004). The Use of a Decomposed Theory of Planned Behavior to Study Internet Banking in Taiwan. *Internet Research*, 14(3), pp. 213-223.

Shin, D. -H. (2010). Analysis of online social networks, a cross-national study. *Online Information Review* 34(3), 473-495.

Shin, D. -H. and Y. -J. Shin (2011). Why do people play social network games?. *Computers in Human Behavior,* 27(2), 852-861.

Sledgianowski, D. and S. Kulviwat (2008). Social network sites, antecedents of user adoption and usage. *AMCIS 2008 Proceeding*.

Smith, E. R. and D. M. Mackie (2007). *Social psychology, Psychology*. Press/Taylor and Francis (UK).

Smock, A. D., Ellison, N. B., Lampe, C. and Wohn, D. Y. (2011). Facebook as a toolkit, A uses and gratification approach to unbundling feature use. *Computers in Human Behavior*, 27(6), 2322-2329.

Steinfield, C., Ellison, N. B. and Lampe, C. (2008). Social capital, self-esteem and use of online social network sites, A longitudinal analysis., *Journal of Applied Developmental Psychology*, 29(6), 434-445.

Steinhoff, P. and Wong, I. K. (2009). Investigate the Social Actor Model of ICT Use in Organizations. *HICSS '09. 42nd Hawaii International Conference,* IEEE Computer Society,

Stern, L. A. and K. Taylor (2007). Social networking on Facebook. *Journal of the Communication, Speech and Theatre Association of North Dakota* 20.

Stevens, S. (1971). Issues in psychophysical measurement. *Psychological Review*, 78(5), 426.

Straub, D., (1989). Validating Instrument in MIS Research., *MIS Quarterly*, 13(2), 147-169.

Straub, Detmar, Boudreau, Marie-Claude and Gefen, David. (2004). Validation guidelines for IS positivist research. *Communications of the Association for Information Systems*, 13(24), 380-427.

Subrahmanyam, K. and D. Šmahel (2011). Constructing identity online, Identity exploration and self-presentation. *Digital Youth, Springer* 12(3), 59-80.

Subrahmanyam, K., S. M. Reich, N. Waechter and G. Espinoza (2008). Online and offline social networks, Use of social networking sites by emerging adults. *Journal of Applied Developmental Psychology* 29(6), 420-433.

Sun, H. and P. Zhang (2006). Causal Relationships between Perceived Enjoyment and Perceived Ease of Use, An Alternative Approach. *Journal of the Association for Information Systems* 7(9).

Sundén, J. (2003). Material Virtualities. *Approaching Online Textual Embodiment,* (Vol. 13), Peter Lang Publishing.

Sykes, A. O. (1992). *An Introduction to Regression Analysis*. Chicago Working Paper in Law and Economics.

Szajna, B. (1996). Empirical evaluation of the revised technology acceptance model. *Management science* 42(1), 85-92.

Taylor, S. and P. A. Todd (1995). Understanding information technology usage, A test of competing models. *Information systems research,* 6(2), 144-176.

Taylor, S. E., Peplau, L. A. and Sears, D. O. (2005). *Social Psychology*. (12 ed.), Prentice Hal.

Tedeschi, J. T. (1981). *Impression management theory and social psychological research*. Academic Practice Publication.

Ten Kate, S., S. Haverkamp, F. Mahmood and F. Feldberg (2010). Social network influences on technology acceptance, A matter of tie strength, centrality and density. *BLED 2010 Proceedings*, Paper 40.

Teo, T. S., V. K. Lim and R. Y. Lai (1999). Intrinsic and extrinsic motivation in Internet usage. *Omega,* 27(1), 25-37.

Thambusamy, R., M. Church, H. Nemati and J. Barrick (2010). Socially exchanging privacy for pleasure, Hedonic use of computer-mediated social networks. *ICIS 2010 Proceeding.*

Tidwell, L. C. and J. B. Walther (2002). Computer-Mediated Communication Effects on Disclosure, Impressions and Interpersonal Evaluations, Getting to Know One Another a Bit at a Time. *Human Communication Research,* 28(3), 317-348.

Tokunaga, R. S. (2011). Social networking site or social surveillance site? Understanding the use of interpersonal electronic surveillance in romantic relationships. *Computers in Human Behavior,* 27(2), 705-713.

Tong, S. T., Van Der Heide, B., Langwell, L. and Walther, J. B. (2008). Too Much of a Good Thing? The Relationship Between Number of Friends and Interpersonal Impressions on Facebook., *Journal of Computer-Mediated Communication*, 13(3), 531-549.

Tronstad, R. (2004). *Interpretation, Performance, Play and Seduction, Textual Adventures in Tubmud*. Faculty of Arts Department of Media and Communication University of Oslo, Unipub.

Tufekci, Z. (2008). Grooming gossi, Facebook and Myspace. What can we learn about these sites from those who won't assimilate?. *Information, Communication and Society,* 11(4), 544-544.

Urbach, N. and Ahlemann, F. (2010). Structural Equation Modeling in Information Systems Research Using Partial Least Squares. *Information Technology Theory and Application,* 11(2), 5-40.

Urista, M. A., Dong, Q. and Day, K. D. (2009). Explaining why young adults use MySpace and Facebook through uses and gratifications theory. *Human Communication*, 12(2), 215–229.

Utz, S. and C. J. Beukeboom (2011). The Role of Social Network Sites in Romantic Relationships, Effects on Jealousy and Relationship Happiness. *Journal of Computer-Mediated Communication,* 16(4), 511-527.

Väänänen-Vainio-Mattila, K. (2010). Identifying drivers and hindrances of social user experience in web services. *Proceedings of the 28th international conference on Human factors in computing systems*. Atlanta, Georgia, USA, ACM, 2499-2502.

Valenzuela, S., N. Park and K. F. Kee (2009). Is There Social Capital in a Social Network Site?, Facebook Use and College Students' Life Satisfaction, Trust and Participation1. *Journal of Computer-Mediated Communication,* 14(4), 875-901.

Valkenburg, P. M., Peter, J. and Schouten, A. P. (2006). Friend Networking Sites and Their Relationship to Adolescents' Well-Being and Social Self-Esteem., *CyberPsychology and Behavior*, 9(5), 584-590.

Van der Heijden, H. (2004). User acceptance of hedonic information systems. *MIS quarterly*, 695-704.

Velicer, W. F. and Fava, J. L. (1998). Effects of variable and subject sampling on factor pattern recovery. *Psychological Methods,* 3(2), 231-251.

Venkatesh, V. and F. D. Davis (2000). A theoretical extension of the technology acceptance model, four longitudinal field studies. *Management science,* 46(2), 186-204.

Venkatesh, V. and F. D. Davis (2000). A theoretical extension of the technology acceptance model, four longitudinal field studies. *Management science,* 46(2), 186-204.

Venkatesh, V., Morris, M. G., Davis, F. D. and Davis, G. B. (2003). User Acceptance of Information Technology, Toward a Unified View. *MIS Quarterly*, 27, 425-478.

Venkatesh, Viswanath and Bala, Hillol. (2008). Technology acceptance model 3 and a research agenda on interventions., *Decision sciences*, 39(2), 273-315.

Vitak, J., N. B. Ellison and C. Steinfield (2011). The ties that bond, Re-examining the relationship between Facebook use and bonding social capital. System Sciences (HICSS), *2011 44th Hawaii International Conference on, IEEE.*

Vogt, W. P. (2011). *Quantitative research methods*, Sage.

Voss, K. E., E. R. Spangenberg and B. Grohmann (2003). Measuring the hedonic and utilitarian dimensions of consumer attitude. *Journal of marketing research,* 310-320.

Walker, J. C. and Evers, C. W. (1999). Research in education, Epistemological issues. In J. P. Keeves and G. Lamomski (Eds.), *Issues in Education Research,* (pp. 40-56). New York, Pergamon.

Wang, Jin-Liang, Jackson, Linda A., Zhang, Da-Jun and Su, Zhi-Qiang. (2012). The relationships among the Big Five Personality factors, self-esteem, narcissism and sensation-seeking to Chinese University students' uses of social networking sites. *Computers in Human Behavior*, 28(6), 2313-2319.

Wang, Y. -S., T. -I. Tang and J. -t. E. Tang (2001). An Instrument for Measuring Customer Satisfaction Toward Web Sites That Market Digital Products and Services. J. *Electron. Commerce Res.*, 2(3), 89-102.

Wechsung, I., Naumann, A. B. and _Schleicher, R. (2008). Views on Usability and User Experience, From Theory and Practice.*Research Goals and Strategies for Studying User Experience and Emotion*. NordiCHI 2008 in Lund, Schweden.

Wellman, B., Haase, A. Q., Witte, J. and Hampton, K. (2001). Does the Internet increase, decrease, or supplement social capital?. *American behavioral scientist,* 45(3), 436-455.

Wells, J. D., D. E. Campbell, J. S. Valacich and M. Featherman (2010). The effect of perceived novelty on the adoption of information technology innovations, a risk/reward perspective. *Decision Sciences,* 41(4), 813-843.

Weniger, S. (2010). User adoption of IPTV, A research model. *International Bled eConference*, Bled, Slovenia, June, 154-165.

Wertenbroch, K. and R. Dhar (2000). Consumer choice between hedonic and utilitarian goods. *Journal of marketing research*, 60-71.

Wiersma, W. and Jurs, S. G. (2005). Research methods in education. (8th ed.). Boston, Allyn and Bacon.

Willis, T. J. (2008). *An evaluation of the technology acceptance model as a means of understanding online social networking behavior*. ProQuest.

Wixom, B. H. and P. A. Todd (2005). A theoretical integration of user satisfaction and technology acceptance. *Information systems research* 16(1), 85-102.

Xu, C., S. Ryan, V. Prybutok and C. Wen (2012). It is not for fun, An examination of social network site usage. *Information and Management,* 49(5), 210-217.

Yammarino, F. J. ; Skinner, S. J. ; and Childers, T. L. (1991). Understanding Mail Survey Response Behavior, A Meta-Analysis., *Public Opinion Quarterly,* 55(3), 613-639.

Yang, S. J. H. and I. Y. L. Chen (2008). A social network-based system for supporting interactive collaboration in knowledge sharing over peer-to-peer network. *International Journal of Human-Computer Studies,* 66(1), 36-50.

Yeh, N. -C., J. C. -C. Lin and H. -P. Lu (2011). The moderating effect of social roles on user behaviour in virtual worlds. *Online Information Review,* 35(5), 747-769.

Yi, M. Y., J. D. Jackson, J. S. Park and J. C. Probst (2006). Understanding information technology acceptance by individual professionals, Toward an integrative view. *Information and Management,* 43(3), 350-363.

Yoder, C. and F. Stutzman (2011). Identifying social capital in the Facebook interface. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, ACM.

Yoo, W. -S., Y. Lee and J. Park (2010). The role of interactivity in e-tailing, Creating value and increasing satisfaction. *Journal of Retailing and Consumer Services,* 17(2), 89-96.

Yu, J., I. Ha, M. Choi and J. Rho (2005). Extending the TAM for a t-commerce. *Information and Management,* 42(7), 965-976.

Zhang, S., J. Zhao and W. Tan (2008). Extending TAM for online learning systems, an intrinsic motivation perspective. Tsinghua *Science and Technology,* 13(3), 312-317.

Zhang, Y., Tang, L. S. -T. and Leung, L. (2011). Gratifications, Collective Self-Esteem, Online Emotional Openness and Traitlike Communication Apprehension as Predictors of Facebook Uses., *Cyberpsychology, Behavior and Social Networking*, 14(12), 733-739.

Zhao, S., Grasmuck, S. and Martin, J. (2008). Identity construction on Facebook, Digital empowerment in anchored relationships., *Computers in Human Behavior*, 24(5), 1816-1836.

Zhenfang, L. (2013). Influence of Self-presentation on Bridging Social Capital in SNSs, A Moderating Effect of Self-presentation. *Research on Humanities and Social Sciences,* 3(19), 74-81.

Zhou, L., P. Zhang and H. -D. Zimmermann (2013). Social commerce research, An integrated view. *Electronic Commerce Research and Applications*.

Zywica, J. and J. Danowski (2008). The Faces of Facebookers, Investigating Social Enhancement and Social Compensation Hypotheses; Predicting Facebook™ and Offline Popularity from Sociability and Self-Esteem and Mapping the Meanings of Popularity with Semantic Networks. *Journal of Computer Mediated Communication,* 14(1), 1-34.