UNIVERSITI PUTRA MALAYSIA

RELATIONSHIP BETWEEN INDIVIDUAL BELIEFS AND USAGE OF ONLINE KNOWLEDGE SHARING TECHNOLOGY, AND MODERATING EFFECTS OF COGNITIVE STYLE AMONG ACADEMICIANS IN MALAYSIAN RESEARCH UNIVERSITIES

KOMATHI MUNUSAMY

FPP 2016 38

RELATIONSHIP BETWEEN INDIVIDUAL BELIEFS AND USAGE OF ONLINE KNOWLEDGE SHARING TECHNOLOGY, AND MODERATING EFFECTS OF COGNITIVE STYLE AMONG ACADEMICIANS IN MALAYSIAN RESEARCH UNIVERSITIES

By

KOMATHI MUNUSAMY

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfillment of the Requirements for the Degree of Doctor of Philosophy

October 2016

COPYRIGHT

DEDICATION

This thesis is dedicated to my parents L.P.Munusamy and Sarathambal, my husband Selveratinam and my kids, Saiharan, Subhadra and Yuvanathraj, and not forgetting all my brothers, sister, brother-in-law, sister-in-laws and all my family members.

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the Degree of Doctor of Philosophy

RELATIONSHIP BETWEEN INDIVIDUAL BELIEFS AND USAGE OF ONLINE KNOWLEDGE SHARING TECHNOLOGY, AND MODERATING EFFECTS OF COGNITIVE STYLE AMONG ACADEMICIANS IN MALAYSIAN RESEARCH UNIVERSITIES

By

KOMATHI MUNUSAMY

October 2016

Chairman : Associate Professor Khairuddin B. Idris, PhD
Faculty : Education Studies

Knowledge is a crucial device for institutions of higher learning, more specifically to Research Universities. In fact, the growth of these institution ties solidly to their capability of obtaining, managing and sharing their knowledge. Knowledge sharing technologies i.e knowledge repositories are introduced and used in universities as an intellectual saviour in promoting the management and sharing of knowledge among the academic staffs. However, previous studies indicated that the knowledge that resides within individuals is hard to be transferred to others, as not all academics are willing to share it openly. Past literature has indicated a significant relationship between functional determinates and acceptance or rejection of a technology. However, most of the previous studies did not consider arousal as an emotional determinant in understanding the usage of online knowledge sharing technology. Thus, in this study, the technology acceptance model (TAM) and the hedonic consumption model was applied to examine the relationship between individual beliefs (perceived ease of use and perceived usefulness) and emotional element (arousal) towards usage of online knowledge sharing technology among academic staffs in research universities in Malaysia. Moreover, the study also examined the moderating effect of cognitive style on the relationship between the independent variables (perceived ease of use, perceived usefulness and arousal) and the dependent variable (usage of online knowledge sharing technology).

In this quantitative study, a total of 321 respondents were surveyed. A multistage sampling technique was used to select the respondents from the five research universities in Malaysia. Data were gathered using a structured, self-administrated questionnaire where the items of the questionnaire were adopted from pervious literature. The questionnaires were administrated to the respondents by the researcher. The descriptive analysis were analysed using SPSS and the contribution of perceived ease of use, perceived usefulness and arousal on usage of online knowledge sharing technology were determined using structural equation modelling (SEM-AMOS).

Results from the Pearson correlation analysis showed that, there is a significant relationship between perceived usefulness, perceived ease of use, arousal, and usage of knowledge sharing technology. Moreover, the analysis of the structural equation modelling indicated that the standardized path coefficient were consistent with the hypothesis by indicting the significant contribution of predictor variables to the outcome variables based on the goodness-of-fit indices: Chi – Square χ^2 (CMIN) = 489.913 (df = 203), Relative χ^2 (CMIN/df) = 2.413, p = .000, AGFI = .849, GFI = .879, CFI = .945, IFI = .945, NFI = .910, TLI = .937, RMSEA = .066. Moreover, the Structural Model also indicated that about 74% of variances in dependent variables i.e. usage of online knowledge sharing technology was explained by the predictor variables entered into the Structural Equation Modeling respectively.

Base on the standardized regression weight in the hypothesized path model showed that perceives ease of use, perceived usefulness and arousal are significant predictors of usage of online knowledge sharing technology. Moreover, the relationship between arousal and usage of online knowledge sharing technology was further strengthen with cognitive style.as a moderator. The findings of this study can be used by policy makes to implement policies and activities to strengthen the emotional bonding between academics and the technology in order to facilitate knowledge sharing behaviour in research universities in Malaysia.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk Ijazah Doktor Falsafah

HUBUNGAN ANTARA KEPERCAYAAN INDIVIDU DENGAN PENGGUNAAN TEKNOLOGI PERKONGSIAN PENGETAHUAN SECARA ONLINE DAN PENYEDERHANAAN KESAN GAYA KOGNITIF DI KALANGAN AHLI-AHLI AKADEMIK DI SEKTOR KAJIAN UNIVERSITI MALAYSIA

Oleh

KOMATHI MUNUSAMY

Oktober 2016

Pengerusi : Profesor Madya Khairuddin B. Idris, PhD
Fakulti : Pendidikan

Ilmu adalah penting untuk institusi-institusi pengajian tinggi, khususnya untuk universiti bertaraf penyelidikan. Pada umumnya, pertumbuhan institusi pendidikan ini bergantung kepada kemampuan mereka untuk mendapatkan, mengurus dan berkongsi pengetahuan. "Online knowledge sharing technology (i.e. knowledge repositories)"diperkenalkan dan digunakan di institusi pengajian tinggi untuk meningkatkan dan mempromosikan pengurusan dan perkongsian ilmu di kalangan kakitangan akademik. Walau bagaimanapun, kajian sebelum ini menunjukkan bahawa pengetahuan atau ilmu yang ada dengan individual adalah sukar untuk dipindahkan kepada orang lain. In adalahkan kerana setiap individual adalah berbeza dari segi pesonality and ada di kalangan mereka yang tidak sanggup untuk berkongsi ilmu. Kajian lepas telah menunjukkan wujudnya hubungan yang signifikan antara persepsi indiviudal dan emosi ke arah tingkah laku manusia. Walau bagaimanapun, kebanyakan kajian lepas tidak mengambil kira pemboleh- ubah emosi sebagai pembolehubah bergerakbalas dalam memahami tingkah-laku individual untuk menggunakan "online knowledge sharing technology" (repositori ilmu pengetahuan) dalam proses perkongsian ilmu pengetahuan. Oleh itu, dalam kajian ini, "Technology Acceptance Model" (TAM) dan Hedonic Consumption Model digunakan untuk mengkaji hubungan antara pembolehubah bergerakbalas ke arah tingkah laku di kalangan staf akademik di universiti penyelidikan di Malaysia dalam aktiviti perkongsian ilmu pengetahuan.

Selain itu, kajian ini juga mengkaji kesan pemboleh ubah kebolehan kognitif sebagai "moderator" dalam mempengaruhi hubungan antara pembolehubah bergerakbalas dengan pembolehubah bersandar.

Dalam kajian kuantitatif ini, seramai 321 responden telah dikaji dan teknik "multistage sampling" digunakan untuk memilih responden daripada universiti-universiti penyelidikan di Malaysia. Data telah dikumpul melalui soal selidik berstruktur, di mana item-item soal selidik telah diambil daripada kajian sebelumnya. Soal selidik ini telah ditadbir sendiri oleh penyilidik kepada responden. Analisis deskriptif telah dianalisis dengan menggunakan SPSS dan hubungan antara pembolehubah telah ditentukan dengan menggunakan model "structural equation modeling" (SEM-AMOS).

Hasil kajian ini menunjukkan bahawa terdapat hubungan yang signifikan antara kegunaan system dengan penbolehubah bergerakbalas . Selain itu, analisis "structural equation modeling" menunjukkan bahawa "standardized path coefficient" adalah selaras dengan hipotesis berdasarkan Indeks . Chi – Square χ^2 (CMIN) = 489.913 (df = 203), Relative χ^2 (CMIN/df) = 2.413, p = .000, AGFI = .849, GFI = .879, CFI = .945, IFI = .945, NFI = .910, TLI = .937, RMSEA = .066. Selain itu, model SEM juga menunjukkan 74% daripada perubahan dalam pembolehubah bersandar dipengaruhi oleh pembolehubah bergerak balas.

Berdasarkan keputusan ini, penyelidik membuat kesimpulan bahawa "perceived ease of use", "perceived usefulness" and 'arousal" adalah peramal kepada penggunaan "usage of online knowledge sharing technology". Malahan hubungan diantara "arousal' dan 'usage of online knowledge sharing technology" dikukuhkan lagi dengan "cognitive style". Hasil kajian ini boleh digunakan oleh pembuat dasar untuk melaksanakan dasar-dasar dan aktiviti bagi mengukuhkan ikatan emosi antara akademik dan teknologi untuk memudahkan tingkah-laku staff akademik di Universiti Penyelidikan di Malaysia kearah perkongsian pengetahuan.

ACKNOWLEDGEMENTS

This study has given me a unique experience to create new knowledge and wonderful new relationship. First, I thank the God for granting me this opportunity, strength and patience to successfully completing this PhD programme.

I would like to take the time to particularly express my gratitude to the members of my supervisor committee. A special thanks to Professor Dr Khairuddin Idris , who has always been professionally supported, encouraged and guided me throughout the journey of my study. I would also like to express my sincere gratitude and thanks to Dr Zoharah Omar for her professional support particularly her expertise in statistical analysis and data interpretation. I want to also thank Dr Wahiza for her support and contribution.

I would like to acknowledge the support and well wishes from colleagues and friends am who has been always there for me throughout my studies. My sincere thanks also goes to all the respondents who have participated in this study, and all the staff of the Faculty of Education, Universiti Putra Malaysia.

Special appreciation goes to my parents, LP Munusamy and Sarathambal; my wonderful husband Selveratinam, my sons Saiharan, and Yuvanathraj, my daughter Subhadra, and my entire siblings for their patience, continued moral support, encouragement, love and endless prayers.

This thesis was submitted to the Senate of the Universiti Putra Malaysia and has been accepted as fulfillment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

Khairuddin B. Idris, PhD
Associate Professor
Faculty of Educational Studies
Universiti Putra Malaysia
(Chairman)

Zoharah Binti Omar, PhD
Senior Lecturer
Faculty of Educational Studies
Universiti Putra Malaysia
(Member)

Nor Wahiza Binti Abdul Wahat , PhD
Senior Lecturer
Faculty of Educational Studies
Universiti Putra Malaysia
(Member)

ROBIAH BINTI YUNUS, PhD
Professor and Dean
School of Graduate Studies
Universiti Putra Malaysia

Date:

Declaration by graduate student

I hereby confirm that:

- this thesis is my original work;
- quotations, illustrations and citations have been duly referenced;
- this thesis has not been submitted previously or concurrently for any other degree at any institutions;
- intellectual property from the thesis and copyright of thesis are fully-owned by Universiti Putra Malaysia, as according to the Universiti Putra Malaysia (Research) Rules 2012;
- written permission must be obtained from supervisor and the office of Deputy Vice-Chancellor (Research and innovation) before thesis is published (in the form of written, printed or in electronic form) including books, journals, modules, proceedings, popular writings, seminar papers, manuscripts, posters, reports, lecture notes, learning modules or any other materials as stated in the Universiti Putra Malaysia (Research) Rules 2012;
- there is no plagiarism or data falsification/fabrication in the thesis, and scholarly integrity is upheld as according to the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-2013) and the Universiti Putra Malaysia (Research) Rules 2012. The thesis has undergone plagiarism detection software

Signature: _____ Date: _____

Name and Matric No: Komathi Munusamy, GS23657

Declaration by Members of Supervisory Committee

This is to confirm that:

- the research conducted and the writing of this thesis was under our supervision;
- supervision responsibilities as stated in the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-2013) were adhered to.

Signature: _____
Name of Chairman of Supervisory Committee: Associate Professor Dr. Khairuddin B. Idris

Signature: _____
Name of Member of Supervisory Committee: Dr. Zoharah Binti Omar

Signature: _____
Name of Member of Supervisory Committee: Dr. Nor Wahiza Binti Abdul Wahat

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

χ^2	Chi-Square
AGFI	Adjusted Goodness-of-Fit
AMOS	Analysis of Moment Structures
AVE	Average Variance Extracted
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CA	Cognitive Differences
GFI	Goodness-of-Fit Index
IFI	Incremental Index of Fit
UOKST	Usage of Knowledge Sharing Technology
KSB	Knowledge sharing Behaviour
PUE	Perceived Usefulness
PEOU	Perceived Ease of Use
RMR	Root Mean Square Residual
RMSEA	Root Mean Square Error of Approximation
RUs	Research Universities
SEM	Structural Equation Modeling
TAM	Technology Acceptance Model

CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter gives the general background of the study, statement of the problem, research questions, objectives of the study, significance of the study, conceptual and operational definition of the terms, and organization of the study.

1.2 Background of the Study

The rapid change in the business environment that is increasingly driven by technology change has required the organisation to be equipped with a competent workforce who can stay abreast of the latest innovations. A change in technology will radically transform how employees communicate, collaborate and create in an organization. As such, this has called the need for Human Resource Development (HRD) practitioners to improve the performance of its members by supporting organization's business strategies with sophisticated Information and Communication Technologies (ICT) capabilities. HRD's main goal has always been to enhance and improve organizational effectiveness by developing individual knowledge, skills, and expertise (Wang, 2012). Of these, technology has the most reflective impact on organisations. With that, organizations are believed to be able to seek production, service, and innovation advantages to enhance organizations' performance.

The efforts of the government of Malaysia on ICT development can be traced to the beginning of vision 2020 in 1991 as well as to the inception of Multi Media Super Corridor in 1996. Ever since then, the Malaysia Economic Development plan, have implemented numerous policies on technology advancement. (Juhary, 2005). The implementation of technology is essential because the turbulent and competitive environment has brought tremendous change to organizations. As such, technology innovations and adaptations in organizations enhance the organization's ability to be highly competitive by quickly adapting and changing deliberately, systematically and timely. Hence, a technological revolution will be necessary to provide core competence to organizations.

The revolution of technology is seen in various sectors, including the education field. Malaysia has significantly transformed itself from an input-driven growth strategy to one that is increasingly driven by the knowledge-based thus leading towards a knowledge society and stable economy. In this situation, the widespread diffusion of ICT and enhances networking capabilities have significantly modified learning and teaching activities within the institutions of higher learning (Wagner et al, 2008). Nevertheless, the incorporation of ICT in the field of education has considerably changed academic involvement in teaching, as well as research activities. The progress of educational technology infrastructure and facilities has provided an opportunity for academics around the world to collect and share valuable knowledge, information, and ideas across functions, divisions, and geographical boundaries, consequently transforming the country education sector into knowledge based- society.

Knowledge, in general, is an organisation or an individual that possesses facts, information, or skills through personal experience or education. The concept or the term knowledge is indeed a powerful attainment by organizations to achieve competitive advantage. There are two versions of embedded knowledge within an organization, which are the explicit and tacit knowledge. The former refers to common knowledge that is documented in the form of text, video, audio, or even drawing. The latter deals with knowledge that resides within an individual in the form of experience or expertise, and cannot be easily expressed in words, tests or even drawings. Having said that, both these kind of knowledge are critical to business and research organizations as it is the greatest source of assets that contributes to improving individual and organizational success (Panahi et al, 2012). Adding on, a knowledge-based environment continuously promotes sustainable development and a strategic tool in developing a knowledge-oriented organization (Mohamed et al., 2010; Alavi & Leidner, 2001; Ruddy, 2000; Riege, 2005, Huber 2001; Househ et.al, 2011, Kim & Ju, 2008).

In fact, the positive growth and success seen in business organizations have strong ties with their solid capability in obtaining, managing, and sharing knowledge with others accurately and professionally (Bircham-Connolley et al., 2005; Nassuora, 2011). Thus, knowledge sharing in indeed the building blocks of organizational success and a survival tool in today's' knowledge era (Witherspoon et al; 2013). The importance of knowledge sharing gain the attention of HRD practitioners since beginning of the year 2000 and it has been the central focus of HRD field (Blankenship & Ruona, 2009; Gocerlay, 2001)

The age of technology and the importance of knowledge have led to a link between technology, knowledge, and learning in creating a new digital environment. This new digital environment has increased adaptation towards digital learning and research environment. For instance, the introduction of online knowledge sharing technologies like knowledge repository in organization develops a new challenge towards learning, teaching and research experiences. Past researchers mentioned that online repository system acts as an important intellectual savior in promoting the management and sharing of knowledge within organizations (Cheng et. al., 2009 & Sabri, 2005, Bhatt 2001; Kim et. al., 2003). It is a technology enhanced knowledge sharing tools that enhance the ability for organizations to acquire and articulate new knowledge. In fact, online knowledge sharing technology provide organizations with the greater power to explore opportunities and drive innovation through innovative problem solving and decision making (Zailani at. al, 2006; Wang & Noe, 2010, Hislop, 2003; Ipe,2003; Osterloh & Frey, 2000; Liebowitz,2007). Nevertheless, technology has long been used to facilitate knowledge management and sharing where much of the research examined the role of technology in the creation and sharing of knowledge (Hou, Sung & Chang, 2009).

Technology innovation has also a significant implication for higher learning institutions, not only in the teaching and learning process but also in knowledge sharing. Higher learning institutions have always been regarded as organizations being in the knowledge business. As such, they are very much closely tied to the management and sharing of knowledge (Alexandropoulou, Angelis & Mavri, 2008). Moreover, researchers have also acknowledged that knowledge sharing is vital to institutions of higher learning, as a strategic tool for preserving their competitiveness and achieving operational excellence, and this is done by promoting and transferring the application of scientific knowledge successfully (Asheim & Gertler, 2005; Ismail & Yusof, 2008).

Knowledge management and sharing in institutions of higher learning are regarded as an important process in which academics generate, capture, codify, store, share and apply the knowledge that resides within them (Ramachandran, Chong, & Wong, 2013). Efficient and effective knowledge management practices in institutions of higher learning allow academics to collaborate interdisciplinary around the world to create new knowledge, thus promoting the credibility of the faculty and quality of research undertaken (Lin; 2007). However, research had indicated that successful knowledge sharing in institutions of higher learning had become a rising concern (Ramayah, Yeap, & Ignatius, 2013).

Research Universities (RU) are regarded as the pinnacle of the national higher education system and they are the most visible academic universities (Hazelkorn 2015). Altback (2009) clearly showed that RUs have a set of roles in the academic system, which includes a clear mission that focuses on not only research and publications by their academic staff but also in getting students to engage in research. Therefore, RUs are categorized as the hub of global knowledge, and the excellent knowledge management and sharing practices among academic staff can build better linkages between them and the society. To enhance the application and accessibility of knowledge that was shared, RUs use various repositories as enables for online knowledge sharing. These online repository technologies help to create systematically, store, apply and manage knowledge within the institutions (Ramachandran et al., 2013).

Five universities in Malaysia have obtained RU status. These universities are Universiti Malaya (UM), Universiti Kebangsaan Malaysia (UKM), Universiti Putra Malaysia (UPM, Universiti Sains Malaysia (USM) and Universiti Technology Malaysia (UTM). RUs hold a prominent task to enhance further and strengthen research and development activities. Thus, academicians in RUs are required to continually contribute new ideas, knowledge, and concepts or theories leading to new discoveries and innovations in a range of disciplines, which subsequently produce a knowledge-based society. Sue-Chen (2014) said that most of the RUs in Malaysia are still lacking in terms of knowledge sharing behavior and needed major change. With a radical change, it is believed that RUs will lead among others in research and publications (Sirajuddin et. al., 2006).

The use of online knowledge technology in RUs, for instance, institutional repositories will help to disseminate knowledge effectively. The various repositories available are KM portal (UPM); RICEUKM (UKM); Institutional Repository (UTM); UM portal (UM); and Repository@USM (USM). Academics can engage with a range of external partners through research and publication activities. Hence, a successful adoption and usage of online knowledge technology will facilitate the intensity and knowledge exchange undertaken by universities.

1.3 Problem Statement

For the field of HRD, technology innovation has a high impact on organisation effectiveness. However, past researchers recognises that the introduction of a technology has created a difficult challenge for HRD professionals in promoting individual and organisational learning and performance improvement (Benson, Johson, Kuchinhe, 2002). As such, the investigation of

technology intervention has received considerable attention from HRD practitioners specifically in projecting the usage of technology in enhancing organisational performance (Wang, 2012).

The effective adoption and usage of online knowledge sharing technologies have been recognized as powerful platforms that allow users to connect, share, and interact with others (Arpaci, & Baloglu, 2016; Ramakrisnan, Jaafar, & Yahaya, 2016). Prior studies have used some technology adoption and usage theories, including Theory of Reason Action (TRA), Theory of Planned Behavior (TPB), Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT). The above theories are used in various technology and usage research to explain or predict a person's technology usage. Among these theories, TAM emerges as the dominant model for understanding the individual behavior towards acceptance and usage of a technology (Lee & Lehto, 2013; Hsiao & Yang, 2011; Sumak, Hericko, & Pusnik, 2011). Moreover, Kim and He (2007), have acknowledged that TAM is a valid and robust model which is applied in various fields.

Since a decade ago, information system researchers have extended TAM with different determinants to explain and predict technology adoption and usage behavior of the individual. Most commonly used determinants are (i) lack of system to protect their intellectual assets, trust and personality, (Kim & Ju, 2008; DeLong & Fahey, 2001); (ii) status (Willmanet et.al 2001); (iii) self-efficacy (Chen, & Hung, 2010); (iv) enjoyment in helping others (Dovidio, Piliavin, Schroedler, & Penner, 2006); (v) organizational structure (Youndt & Snell, 2004); (vi) role of reward (Robertson, & Hmmersley, 2000); and (vii) motivational factors (Cummings, 2004). The increasing evidence from past research concludes that the above variables are related to human change processes; however, the future direction of TAM should incorporate more variables that are relevant. Chuttur (2009) argues that, despite the fact that TAM is a highly cited model; the model is still lacking sufficient research.

Perceived Ease of Use (PEOU) and Perceived Usefulness (PUE) are the two most important construct in the TAM that is more likely increases users' willingness to utilize a technology (Rosen, Whaling, Rab, Carrier & Cheever, 2013). However, understanding on the online usage of technology cannot be accomplished just by examining PEOU and PUE (Edwards et al, 2003; Handzic, Lazaro & Toorn, 2004). More variables should be incorporated into the model to make the model more rigorous.

Chen, Chen & Kinshuk, (2009) state that there is a need to examine the potential impact of user's cognitive traits to understand its influence on technology usage behavior. The statement is based on the evidence from past researchers who argued that the extent to which individual make a decision on technology acceptance, and usage may vary depending on individual characteristics like personality, cognitive ability/style and individual motivation (Kim, Shin, Shin & Miller, 2016). However, less is understood, on how the above mentioned individual traits may have a potential impact on user's interpretation of technology usage (Chakraborty, Hu & Cui, 2007). Conceivably, individual vary in their cognitive style and such differences can affect their technology acceptance and usage decision. Therefore, the researcher argued that it is important to investigate the influence of cognitive style on the usage of online knowledge sharing technology.

Moreover, Holsapple and Wu (2007) mentioned that there is a need to examine the element of emotion in relation to behavior. Studies have shown that the role of emotion has a constant effect on decision making and behavior (Ding, Chai & Hin, 2015; Han, Lerner, Keltner, 2007). The influence of emotion has been examined across different research settings, and researchers have agreed that emotion is an important construct to understand information technology usage (Ding & Chai, 2015). The two types of emotion construct examined in the field of IS are anxiety (Brown et al., 2004) and perceived enjoyment (Koufaris, 2002). However, Ding and Chai (2015) suggested that arousal is a prime component of emotion, thus influencing behavior.

From the above discussion, the researcher argued that there is a need to study on arousal and cognitive style as one of the determinants in the technology acceptance model, which was identified as the limitation of previous studies. To bridge this gap, the study extends the technology acceptance model by incorporating the emotional contracts of arousal to predict the usage of online knowledge sharing technology. Furthermore, the technology acceptance model is further extended by examining the moderating effect of cognitive style on the relationship between PEU, PEOU, arousal and usage of online knowledge sharing technology. Based on these issues, the researcher proposed the following research questions and research objectives.

1.4 Research Questions

(a) Is there any significant relationship between perceived usefulness, perceived ease of use, arousal, and usage of online knowledge sharing technology?
(b) Is there any moderating effect of cognitive style (innovator and adaptor) on the relationship between perceived usefulness, perceived

ease of use, arousal, and usage of online knowledge sharing technology?

1.5 Research Objectives

The aim of this study are (i) to examine the relationship between PEU, PEOU, arousal and usage of online knowledge sharing technology, and (ii) to investigate the moderating effect of cognitive style on the relationship between PEU, PEOU, arousal and usage of online knowledge sharing technology. A structural equation modeling (SEM) is developed to examine the relationship between PEU, PEOU, arousal and usage of online knowledge sharing technology, and to investigate the moderating effect of cognitive style on the relationship between PEU, PEOU, arousal and usage of online knowledge sharing technology. Specific objectives of the study is to

(a) determine the significant relationship between perceived usefulness, perceived ease of use, arousal, and usage of online knowledge sharing technology.
(b) determine the predictor (s) of usage of online knowledge sharing technology
(c) examine the moderating effect of cognitive style on the relationship between perceived usefulness, perceived ease of use, arousal, and usage of online knowledge sharing technology.

1.6 Significance of the Study

The present study is significant because, it bridged the gap that exists in the previous literature due to the fact that, the data gathered is used to examine (i) the relationship between PEU, PEOU, arousal and usage of online knowledge sharing technology, and (ii) the moderating effect of cognitive style on the relationship between PEU, PEOU, arousal, and usage of online knowledge sharing technology which is generally scare in the existing literature.

This is indeed important to the management team in RUs to understand that valuable knowledge that resides in academics mind need to be shared openly with others. This can only be done if academics are cooperative enough to share their knowledge (Gupta et al. 2012; Lin & Hwang, 2014). Nevertheless, many academics are nearing their retirement age or end of their contract, thus it is important for top management to initiate appropriate measures to ensure that the knowledge that resides in their mind can be stored and used.

Moreover, not only the top management but also the HRD practitioners failed to understand why individuals are still reluctant to preserve and store they knowledge effectively (Blankenship & Ruona, 2009, Wang, 2012). Although, it is known fact that technology revolution has brought forth an evolving and increasing set of tools as an enabler for the exchange of knowledge in the workplace, but the projection on the interaction between human and technology is unpredictable. As such, successful application of online technologies depends upon the understanding of the determinants of usage of online technology in knowledge sharing. Therefore, it is essential for HRD practitioners to understand these determinants that may significantly influence the use of technology in the workplace for the exchange of knowledge.

The research will propose a conceptual framework that will serve as the controlling path for policymakers to draw appropriate policies for understanding the usage of online knowledge sharing technology by academic staffs in RUs. The greater demand for institutions of higher learning to improve their world ranking justifies the need for aggressive research and publication activities, and to cope with these challenges, a transformation towards knowledge sharing and innovation is a must. Thus, a high level of usage of online knowledge sharing technology is needed among academic staffs. Furthermore, the framework proposed in this research serves as a blueprint for universities in designing training and development to address the challenges faced by the academic staff to use online knowledge sharing technologies. By doing so, the researcher believes that the avoidance tendency by the academic staffs to use online knowledge sharing technologies can be overcome.

Finally, the findings of this study can be extended to a larger group of audiences, for instance to the global academic communities from various universities and colleges. Knowing that knowledge sharing is the critical mass for excellence and quality in research and development (R&D), the results are aimed at providing the academic community at large with an understanding of the factors that initiates the utilization of online knowledge sharing technology

From a theoretical perspective, this study extends the technology acceptance model by adding two additional factors; arousal, and individual cognitive style that are likely to influence the usage of online knowledge sharing technology. With that, the study offers a holistic perspective on the usage of online knowledge sharing technology by examining, technology acceptance model (TAM), individual differences theory (Kirton's theory) and hedonic consumption theory.

1.7 Contributions of the Study

This study generates four main contributions. Firstly, this study expands the Technology Acceptance Model (TAM) which was developed by Davis, 1986. The TAM model is extended by adding arousal as a new determinant in predicting technology usage. For that, the study incorporated determinates of technology acceptance model (Davis, 1989) with hedonic consumption theory (Hirschman & Hikbrook, 1982) to construct a holistic model in order to explain the usage of online knowledge sharing technology. Secondly, the study also examines the influence of individual cognitive style as a moderator that may influence the strength of the relationship between PEOU, PUE, arousal and usage of online knowledge sharing technology.

Thirdly, this study incorporates the complex nature of samplings by having the multistage cluster sampling to generate holistic representative of generalization in understanding the connections between the PEOU, PUE, arousal and usage of online knowledge sharing technology among academic staffs in RUs.

1.8 Limitations of the study

The present study was only conducted on academics staffs from the five RUs, without considering those from other public and private universities in Malaysia. Secondly, the study only aimed to examine the perceived usefulness, perceived ease of use and arousal as the independent determinates in predicting usage of online knowledge sharing technology.

1.9 Conceptual and Operational Definitions of Terms

1.9.1 Online Knowledge Sharing Technology

Conceptual definition: Online Knowledge Sharing Technology or sometimes-referred to as institutional repository are digital research archives that represent the intellectual capital of an institution. This digital research archive consists of a collection of scholarly work that is accessible by many users (Jain, Bentley & Oladiran, 2011)

Operational definition: In this study, online knowledge sharing technology is defined as a computer- based knowledge management systems or repositories, which are designed to support and facilitate knowledge sharing between academics in research universities.

1.9.2 Usage of online knowledge sharing technology

Conceptual definition: Technology usage is referred to as "material artifacts such as software and hardware that are used to perform duties in an organization" (Orlikowski, 2000).

Operational definition: In this study, usage of online knowledge sharing technology is defined as the frequency and amount of usage of online technology for knowledge sharing.

1.9.3 Knowledge Sharing

Conceptual definitions: Knowledge sharing is defined as the exchange of useful information, ideas, experience and best practices (tacit knowledge) between two or more employees to create new explicit knowledge (Wu et al, 2012) Knowledge sharing behaviour is defined as a behaviour set which involves exchanging of information or assistance with others (Connelly & Kelloway, 2003)

Operational definition: In this study, knowledge sharing is defined as the degree to which the academic staff in research universities actually share knowledge with other academics.

1.9.4 Perceived Usefulness

Conceptual definition: Perceived Usefulness is defined as "the extent to which a person believes that using a technology will enhance his or her productivity" (Davis,1989).

Operational definition: In this study, perceived usefulness is defined as the degree to which academic staff believes that knowledge repository would enhance his or her research activities to improve knowledge sharing.

1.9.5 Perceived Ease of Use

Conceptual definition: Perceived Ease of Use is defined as "the extent to which a person believes that using a technology will be free of effort" (Davis, 1989).

Operational definition: In this present study, perceived ease of use is defined as the degree to which academic staff expect the use of knowledge repository to be free of effort both mentally and physically or easy to use for the purpose of knowledge sharing.

1.9.6 Cognitive style

Conceptual definition: Cognitive style refers to an individual's way of processing information, the preferred approach to creative thinking, decision making and problem solving (Kirton, 1994). Here, the cognitive style is grouped into either a person is an innovator or an adaptor.

Operational definition: In this study, cognitive style is defined as the ability of individual academic staff to process information and determine the preferred approach for knowledge sharing behavior.

1.9.7 Arousal

Conceptual definition: Arousal is a cause to make someone become more active/ or to have feelings or reaction. It also referees to the level of emotional intensity (Wu & Holsapple, 2014).

Operational definition: In this study, arousal is defined as the feelings of academic staff that engage themselves into using the knowledge repository.

1.10 Organization of the study

This research consists of five chapters. Chapter one consists of the background of the study, statement of the problem, research questions, objectives of the study, significance, and contributions of the study, limitations of the study , conceptual and operational definition of terms, and organisation of the study. Chapter two deals with extensive modes of critical reviews of literature on various themes of knowledge repository system, which include the theoretical and conceptual framework and hypotheses of the study. Chapter three contains the methodological arguments of the study that consists of research design, nature of sampling, instrumentation, preliminary data analysis, and procedures of the data analysis. Chapter four consists of data analysis, interpretation, and discussions. Chapter five consists of a summary, conclusion, implications of the study, and recommendations for future research.

REFERENCES

Abbasi, M.S., Chandio, F.H., Soomro, A.F. and Shah, F. (2011). Social influence, voluntariness, experience and the internet acceptance – an extension of technology acceptance model within a south-Asian country context, *Journal of Enterprise Information Management*. 24(1). 30-52.

Abrizah, A., Noorhidawati, A., & Kiran, K. (2010). Global visibility of Asian universities' Open Access institutional repositories. *Malaysian Journal of Library & Information Science*, *15*(3), 53-73.

Adams, D. A., Nelson, R. R., & Todd, P. A. (1992). Perceived Usefulness, Ease of Use, and Usage of Information Technology: A Replication. *MIS Quarterly*, *16*(2), 227–247.

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

Agarwal, & Prasad. (1999). Are Individual Differences Germane to the Acceptance of New Information Technologies? *Decision Sciences*, *30*(2), 361–391.

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

Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behaviour.

Alavi, M., & Leidner, D. E. (2001). Review: Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS quarterly*, 107–136.

Alexandropoulou, D. A., Angelis, V. A., & Mavri, M. (2008). A critical review of the impact of knowledge management on higher education. In *The Open Knowlege Society. A Computer Science and Information Systems Manifesto*. 416-421)..

Alfaresi, S. H., & Hone, K. (2015). The intention to use mobile digital library technology: A focus group study in the United Arab Emirates.

Allinson, C. W., & Hayes, J. (2012). The cognitive style index: Technical manual and user guide. *Retrieved January*, *13*, 2014.

Almeida, P., & Phene, A. (2004). Subsidiaries and knowledge creation: The influence of the MNC and host country on innovation. *Strategic Management Journal*, *25*(8-9), 847-864.

Alshare, K. A., & Alkhateeb, F. (2008). Predicting students usage of Internet in two emerging economies using an extended technology acceptance model (TAM). *Academy of Educational Leadership Journal*, *12*(2), 109–128.

Altbach, P. G. (2009). Peripheries and centers: Research universities in developing countries. *Asia Pacific Education Review*, *10*(1), 15-27.

Arbuckle, J. L. (2013). Amos (Version 22.0). Computer Program]. Chicago: SPSS/IBM.

Arpaci, I., & Baloğlu, M. (2016). The impact of cultural collectivism on knowledge sharing among information technology majoring undergraduates. Computers in Human Behavior, 56, 65-71.

Armstrong, S. J. (2000). The influence of individual cognitive style on performance in management education. *Educational Psychology*, *20*(3), 323-339.

Armstrong, S. J., Cools, E., & Sadler-Smith, E. (2012). Role of cognitive styles in business and management: Reviewing 40 years of research.*International Journal of Management Reviews*, *14*(3), 238-262.

Andersson, S. B. (2006). Newly qualified teachers' learning related to their use of information and communication technology: a Swedish perspective. *British Journal of Educational Technology*, *37*(5), 665-682.

Anderson, A. H., McEwan, R., Bal, J., & Carletta, J. (2007). Virtual team meetings: An analysis of communication and context. *Computers in Human Behavior*, *23*(5), 2558-2580.

Artino, A. R. (2008). Motivational beliefs and perceptions of instructional quality: predicting satisfaction with online training*. *Journal of Computer Assisted Learning*, *24*(3), 260-270.

Ary, D., Jacobs, L., Sorensen, C., & Walker, D. (2013). *Introduction to research in education*. Cengage Learning.

Asheim, B., & Gertler, M. S. (2005). The geography of innovation: regional innovation systems. *The Oxford handbook of innovation*, 291-317.

Assegaff, S., Hussin, A. R. C., & Dahlan, H. M. (2011). Perceived benefit of knowledge sharing: Adapting TAM model. In *Research and Innovation in Information Systems (ICRIIS), 2011 International Conference on* (pp. 1–6).

Awang, Z. (2012). *Research methodology and data analysis*. Penerbit Universiti Teknologi MARA Press.

Azizi Ismail, N. (2008). Information technology governance, funding and structure: A case analysis of a public university in Malaysia. *Campus-Wide Information Systems*, *25*(3), 145-160.

Bagozzi, R. P. (2007). The Legacy of the Technology Acceptance Model and a Proposal for a Paradigm Shift. *Journal of the association for information systems*, *8*(4), 3.

Baker, E. W., Al-Gahtani, S. S., & Hubona, G. S. (2007). The effects of gender and age on new technology implementation in a developing country: Testing the theory of planned behavior (TPB). *Information Technology & People*, *20*(4), 352–375.

Balubaid, M. A. (2013). Using web 2.0 technology to enhance knowledge sharing in an academic department. *Procedia-Social and Behavioral Sciences*, *102*, 406-420.

Barki, H., Titah, R., & Boffo, C. (2007). Information system use–related activity: an expanded behavioral conceptualization of individual-level information system use. *Information Systems Research*, *18*(2), 173–192.

Baruch, Y., & Holtom, B. C. (2008). Survey response rate levels and trends in organizational research. Human Relations, 61(8), 1139-1160.

Baruch, Y. (1999). Response Rate in Academic Studies-A Comparative Analysis. *Human Relations*, *52*(4), 421–438.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*,*51*(6), 1173.

Bartol, K. M., & Srivastava, A. (2002). Encouraging knowledge sharing: The role of organizational reward systems. *Journal of Leadership & Organizational Studies*, *9*(1), 64-76.

Bentler, P. M., & Yuan, K. H. (1999). Structural equation modeling with small samples: Test statistics. *Multivariate Behavioral Research*, *34*(2), 181-197.

Bhatt, G. D. (2001). Knowledge management in organizations: examining the interaction between technologies, techniques, and people. *Journal of knowledge management*, *5*(1), 68-75.

Bircham-Connolly, H., Corner, J., & Bowden, S. (2005). An empirical study of the impact of question structure on recipient attitude during knowledge sharing. *Electronic Journal of Knowledge Management*, *32*(1), 1-10.

Blackler, F. (1995). Knowledge, knowledge work and organizations: An overview and interpretation. *Organization studies*, *16*(6), 1021-1046.

Blankenship, S.S. and Ruona, W.E.A. (2009). Exploring knowledge sharing in social structures:potential contributions to an overall knowledge management strategy, Advances in Developing Human Resources,11 (3), 290-306.

Blaikie, N. (2003). Analyzing quantitative data: From description to explanation. Sage.

Blair D.C. (2002). Knowledge management: hype, hope, or help? *Journal of the American Society for Information Science and Technology*, 53 (12), 1019–1028

Bock, G.W. and Kim, Y.G. (2002), Breaking the myths of rewards: an exploratory study of attitudes about knowledge sharing, *Information Resource Management Journal*, Vol. 15 (2) 14-21.

Bock, G.-W., Zmud, R. W., Kim, Y.-G., & Lee, J.-N. (2005). Behavioural Intention Formation in Knowledge Sharing: Examining the roles of Extrinsic Motivtors, Social Psychological Forces, and Organizational Climate. *Knowledge Management*, *29*(1), 87–111.

Bollen, K. A. (2014). *Structural equations with latent variables*. John Wiley & Sons.

Bordia, P., Irmer, B.E. & Abusah, D. (2006). Differences in sharing knowledge interpersonally and via databases. The role of evaluation apprehension and perceived benefits. *European Journal of Work and Organizational Psychology, 15(2), 262-280*

Bradley, M.M., Lang, P.J., 2000. Affective reactions to acoustic stimuli. *Psychophysiology 37, 204–215.*

Browne, M. W., & Cudeck, R. (1989). Single sample cross-validation indices for covariance structures. *Multivariate Behavioral Research*, *24*(4), 445-455.

Buffington, K. W., Jablokow, K. W., & Martin, K. A. (2002). Project team dynamics and cognitive style. Engineering Management Journal, 14(3), 25-33.

Burns, A. C., & Bush, R. F. (2000). Marketing research. Globalization, 1(7).

Buttner, E. H., & Gryskiewicz, N. (1993). Entrepreneurs' problem-solving styles: an empirical study using the Kirton adaption/innovation theory. Journal of Small Business Management, 31(1), 22.

Bryman, A., Bell, E., 2003. Business Research Methods. Oxford University Press, New York.

Burke, M. E. (2007). Making choices: research paradigms and information management: Practical applications of philosophy in IM research. *Library review*, *56*(6), 476-484.

Bruner, G. C., & Kumar, A. (2005). Explaining consumer acceptance of handheld Internet devices. *Journal of business research*, *58*(5), 553-558.

Bryamt, S.E; (2003), The role of transformational and transactional leadership in creating, sharing and exploiting organizations knowledge, Journal of leadership and organizational studies, 9.4, 32-44

Bryman, A. (2015). *Social research methods*. Oxford university press.

Byrne, B. M. (2013). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. (2nd Ed.). Routledge.

Cabrera, A., & Cabrera, E. F. (2002). Knowledge-sharing dilemmas. *Organization studies*, *23*(5), 687-710.

Carlmines, E. G., & McIver, J. (1981). Analyzing models with unobserved variables: Analysis of Covariance structure. In Social Management: Current issues, G. Bohrnstedt and E Borgatta (Eds), Beverly Hill CA: Sage

Cenfetelli, R. T. (2004). An empirical study of the inhibitors of technology usage. In *Twenty-Fifth International Conference on Information Systems* (pp. 157–168).

Celik, H. (2008). What determines Turkish customers' acceptance of internet banking? International Journal of Bank Marketing 26 (5). 353-370

Chakraborty, I., Hu, P. J. H., & Cui, D. (2008). Examining the effects of cognitive style in individuals' technology use decision making. *Decision Support Systems*, *45*(2), 228–241.

Chakraborty, Indranil, Hu, P., & Cui, D. (2005). Examining Effects of Cognitive Style on Technology Acceptance Decisions. *PACIS 2005 Proceedings*, 44.

Chang, S. C., Sun, C. C., Pan, L. Y., & Wang, M. Y. (2015). An Extended TAM to Explore Behavioural Intention of Consumers to Use M-Commerce. *Journal of Information & Knowledge Management*, 14(02), 1550014.

Chau, P. Y., & Hu, P. J. H. (2001). Information technology acceptance by individual professionals: A model comparison approach*. *Decision sciences*,*32*(4), 699-719.

Chen, J. F., Chang, J. F., Kao, C. W., & Huang, Y. M. (2016). Integrating ISSM into TAM to enhance digital library services: A case study of the Taiwan Digital Meta-Library. The Electronic Library, 34(1), 58-73.

Cheung, R., Vogel, D. (2013). Predicting user acceptance of collaborative technologies: an extension of the technology acceptance model for e-learning. Comput. Educ. 63, 160–175

Chen, L., Gillenson, M.L. and Sherrell, D.L. (2002), "Enticing online consumers: an extendedtechnology acceptance perspective", Information & Management, 39 (8), , 705-19

Chen, I. Y., Chen, N. S., & Kinshuk. (2009). Examining the factors influencing participants' knowledge sharing behavior in virtual learning communities. *Journal of Educational Technology & Society*, *12*(1), 134-148.

Chen, C. J., & Hung, S. W. (2010). To give or to receive? Factors influencing members' knowledge sharing and community promotion in professional virtual communities. *Information & Management*, *47*(4), 226-236.

Chen, H. R., & Tseng, H. F. (2012). Factors that influence acceptance of web-based e-learning systems for the in-service education of junior high school teachers in Taiwan. *Evaluation and program planning*, *35*(3), 398-406.

Chen, F. F., Sousa, K. H., & West, S. G. (2005). Teacher's corner: Testing measurement invariance of second-order factor models. *Structural equation modeling*, *12*(3), 471-492.

Cheng, M. Y., Ho, J. S. Y., & Lau, P. M. (2009). Knowledge sharing in academic institutions: a study of Multimedia University Malaysia. *Electronic Journal of Knowledge Management*, *7*(3), 313–324.

Cheng, J. H., Yeh, C. H., & Tu, C. W. (2008). Trust and knowledge sharing in green supply chains. *Supply Chain Management: An International Journal*,*13*(4), 283-295.

Cheung, W., & Huang, W. (2005). Proposing a framework to assess Internet usage in university education: an empirical investigation from a student's perspective. *British Journal of Educational Technology*, *36*(2), 237-253.

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

Childers, T.L., Carr, C.L., Peck, J. and Carson, S. (2001). Hedonic and utilitarian motivations foronline retail shopping behavior", Journal of Retailing. 77 (4). 511-35.

Chismar, W. G., & Wiley-Patton, S. (2003, January). Does the extended technology acceptance model apply to physicians. In *System Sciences, 2003. Proceedings of the 36th Annual Hawaii International Conference* (pp. 8-pp). IEEE.

Chong, A.Y.L., Ooi, K.B., Lin, B. and Tan, B.I. (2010). Online banking adoption: an empirical analysis. International Journal of Bank Marketin. 28 (4). 267-287.

Chow, M., Herold, D.K., Choo, T.-M., Chan, K (2012). Extending the technology acceptance model to explore the intention to use Second Life for enhancing healthcare education. Comput. Educ.59, 1136–1144

Chua, A. (2003). Knowledge sharing: a game people play. In *Aslib Proceedings*. 55(3), 117-129). MCB UP Ltd.

Chuttur, M.Y. (2009). Overview of the technology acceptance model: origins, developments and future directions. Sprouts: Working Papers on Information System . Indiana University, USA 9(37) 1–21.

Cohen ,J. (1988). Statistical power analysis for the behavioral sciences. 2nd ed. Lawrence Erlbaum Assoc., Hillsdale, N.J.

Cohen, J. (1992). A power primer. *Psychological bulletin*, *112*(1), 155.

Connelly, C. E., & Kevin Kelloway, E. (2003). Predictors of employees' perceptions of knowledge sharing cultures. *Leadership & Organization Development Journal*, *24*(5), 294-301.

Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

Cummings, J. N. (2004). Work groups, structural diversity, and knowledge sharing in a global organization. *Management science*, *50*(3), 352-364.

DeCarlo, L. T. (1997). On the meaning and use of kurtosis. *Psychological methods*, *2*(3), 292.

De Long, D. W., & Fahey, L. (2000). Diagnosing cultural barriers to knowledge management. The Academy of Management Executive, 14(4), 113-127.

Damodaran, L., & Olphert, W. (2000). Barriers and facilitators to the use of knowledge management systems. *Behaviour & Information Technology*,*19*(6), 405-413.

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., & Warshaw, P. R. (1989). User acceptance of computer technology: a comparison of two theoretical models. *Management science*, *35*(8), 982–1003.

Davis, Fred D. (1993). User acceptance of information technology: system characteristics, user perceptions and behavioral impacts. *Int. J. Man-Machine Studies*, *38*, 457–487.

Deshpande, R. (1983). " Paradigms Lost": on theory and method in research in marketing. *The Journal of Marketing*, 101-110.

Devaraj, S., & Kohli, R. (2003). Performance impacts of information technology: Is actual usage the missing link?. *Management science*, *49*(3), 273-289.

Digman, J. M. (1990). Personality structure: Emergence of the five-factor model. *Annual review of psychology*, *41*(1), 417–440.

Dignum, V., & Dignum, F. (2003). The knowledge market: agent-mediated knowledge sharing. In *Multi-Agent Systems and Applications III*. 168-179. Springer Berlin Heidelberg.

Ding, Y., ; Chai, Kah, H. (2015). Emotions and continued usage of mobile applications. Industrial Management & Data Systems 115.5 . 833-852.

Dovidio, J. F., Piliavin, J. A., Schroeder, D. A., & Penner, L. (2006). *The social psychology of prosocial behavior*. Lawrence Erlbaum Associates Publishers.

Dziuban, C., & Moskal, P. (2011). A course is a course is a course: Factor invariance in student evaluation of online, blended and face-to-face learning environments. *The Internet and Higher Education*, *14*(4), 236-241.

Edwards, J. S., Handzic, M., Carlsson, S., & Nissen, M. (2003). Knowledge management research & practice: visions and directions. *Knowledge Management Research & Practice*, *1*(1), 49-60.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses.*Behavior research methods*, *41*(4), 1149-1160.

Farahat, T. (2012). Applying the technology acceptance model to online learning in the Egyptian universities. Procedia-Social and Behavioral Sciences, 64, 95-104.

Fishbein,M., Ajzen, I, (1975) Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research, Addison-Wesley.

Ford, D. P. (2004). Trust and knowledge management: the seeds of success. In *Handbook on Knowledge Management 1* (553-575). Springer Berlin Heidelberg.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 39-50.

Frazier, P. A., Tix, A. P., & Barron, K. E. (2004). Testing moderator and mediator effects in counseling psychology research. *Journal of counseling psychology*, *51*(1), 115.

Frazer, L., & Lawley, M. (2000). Questionnaire administration and design: A practical guide.

Gefen, D. (2000). E-commerce: the role of familiarity and trust. *Omega*,*28*(6), 725-737.

Gibbert, M., & Krause, H. (2002). Practice exchange in a best practice marketplace. *Knowledge management case book: Siemens best practices*, 89-105.

Gibson, S. G., Harris, M. L., & Colaric, S. M. (2008). Technology Acceptance in an Academic Context: Faculty Acceptance of Online Education. *Journal of Education for Business*, *83*(6), 355–359.

Ginzberg, M. J. (1981). Early diagnosis of MIS implementation failure: promising results and unanswered questions. *Management science*, *27*(4), 459-478.

Glass, D. C., & Singer, J. E. (1972). Urban stress: Experiments on noise and social stressors.

Gourlay, S. (2001). Knowledge management and HRD. Human Resource Development International. 4 (1), pp. 27-46

Gong, M., Xu, Y., & Yu, Y. (2004). An enhanced technology acceptance model for web-based learning. *Journal of Information Systems Education*,*15*(4), 365.

Goodhue, D. L., & Thompson, R. L. (1995). Task-technology fit and individual performance. *MIS quarterly*, 213–236.

Goh, S. K, & Kang-Y. L,; (2014). Perceived Creativity: The Role of Emotional Intelligence and Knowledge Sharing Behaviour. *Journal of Information & Knowledge Management* 13 (04).

Grandon, E., Alshare, O., & Kwan, O. (2005). Factors influencing student intention to adopt online classes: A cross-cultural study. Journal of Computing Sciences in Colleges, 20(4), 46–56.

Grapragasem, S., Krishnan, A., & Mansor, A. N. (2014). Current trends in Malaysian higher education and the effect on education policy and practice: An overview. *International Journal of Higher Education*, *3*(1), 85.

Gray, L., Thomas, N., & Lewis, L. (2010). Educational technology in US public schools: Fall 2008.

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. *Handbook of qualitative research*, *2*(163-194), 105.

Guimaraes, T., & Igbaria, M. (1997). Assessing user computing effectiveness: An integrated model. *Journal of Organizational and End User Computing (JOEUC)*, *9*(2), 3-15.

Gupta, B., Joshi, S. and Agarwal, M. (2012), The effect of expected benefit and perceived cost on employees' knowledge sharing behavior: a study of IT employees in India. Organizations and Markets in Emerging Economies, 3 (1). 8-20.

Hair, J. F. (2007). Research methods for business. *John Wiley & Sons*

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2009). *Multivariate data analysis* (7th Ed) . Upper Saddle River, Pearson Prentice Hall

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2010). *Multivariate data analysis* (7th Ed) . Upper Saddle River, Pearson Prentice Hall.

Hair, J.F., Robert P. B, and David J. O,. (2003). Marketing research within a changing information environment. (2nd Ed). New York: McGraw-Hill

Hall G.,E.(1979). The concerns-based approach to facilitating change. Educational Horizons 57:202–208

Han, S., Lerner, J.S. & Keltner, D. (2007). Feelings and consumer decision making: the appraisal-tendency framework. Journal of Consumer Psychology. 17(3), 158-168.

Hahn, J., & Subramani, M. R. (2000, December). A framework of knowledge management systems: issues and challenges for theory and practice. In*Proceedings of the twenty first international conference on Information systems* (pp. 302-312). Association for Information Systems.

Handzic, M., Onita Lazaro, B., Christine Van Toorn, C., Zic, M., Lazaro, O., & Van Toorn, C. (2004). Enabling Knowledge Sharing: Culture versus Technology.

Hansen, M. T. (2002). Knowledge networks: Explaining effective knowledge sharing in multiunit companies. *Organization science*, *13*(3), 232-248.

Harrison, A. W., & Rainer, R. K. (1992). The Infleunce of Individual Differences on Skill in End-User Computing. *Journal of Management Information Systems*, *9*(1), 93–111.

Hassanzadeh, A., Kanaani, F., & Elahi, S. (2012). A model for measuring e-learning systems success in universities. *Expert Systems with Applications*,*39*(12), 10959-10966.

Hayes, A. F., & Preacher, K. J. (2014). Statistical mediation analysis with a multicategorical independent variable. *British Journal of Mathematical and Statistical Psychology*, *67*(3), 451-470.

Hazelkorn, E. (2015). *Rankings and the reshaping of higher education: The battle for world-class excellence*. Palgrave Macmillan.

Hendriks, P. (1999). Why share knowledge? The influence of ICT on the motivation for knowledge sharing. *Knowledge and process management*, *6*(2), 91–100.

Hendrickson, A. R., Massey, P. D., & Cronan, T. P. (1993). On the test-retest reliability of perceived usefulness and perceived ease of use scales. *MIS quarterly*, 227-230.

Hirschman, E. C., & Holbrook, M. B. (1982). Hedonic consumption: emerging concepts, methods and propositions. *The Journal of Marketing*, 92-101.

Hislop, D. (2003). Linking human resource management and knowledge management via commitment: A review and research agenda. *Employee relations*, *25*(2), 182-202.

Ho, R. (2006). *Handbook of univariate and multivariate data analysis and interpretation with SPSS*. CRC Press.

Hodgkinson, G. P. (2003). The interface of cognitive and industrial, work and organizational psychology. *Journal of Occupational and Organizational Psychology*, *76*(1), 1-25.

Hodgkinson, G. P., & Sparrow, P. R. (2002). *The competent organization: A psychological analysis of the strategic management process*. Open University Press.

Holbrook, M. B., Chestnut, R. W., Oliva, T. A., & Greenleaf, E. A. (1984). Play as a consumption experience: The roles of emotions, performance, and personality in the enjoyment of games. *Journal of Consumer Research*, 728-739.

Hong, W., Thong, J. Y. L., Wong, W. M., & Tam, K. Y. (2002). Determinants of user acceptance of digital libraries: an empirical examination of individual differences and system characteristics. *Journal of Management Information Systems*, *18*(3), 97–124.

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

Hong, W., Thong, J.Y.L., Wong, W., Tam, K (2002). Determinants of user acceptance of digital libraries: an empirical examination of individual differences and system characteristics. J. Manag. Inf.Syst. 18 (3), 97–124

Hopkins, W. G. (2008). Quantitative research design.

Hou, H., Sung, Y., & Chang, K. (2009). Exploring the behavioral patterns of an online knowledge-sharing discussion activity among teachers with problem-solving strategy. *Teaching & Teacher Education, 25, 101-108.*

Househ, M. S., Kushniruk, A., Maclure, M., Carleton, B., & Cloutier-Fisher, D. (2011). The use of conferencing technologies to support drug policy group knowledge exchange processes: an action case approach. I*nternational journal of medical informatics, 80(4), 251-261*.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal,* 6(1), 1-55.

Hu, P. J. H., Chau, P. Y., & Sheng, O. R. L. (2002). Adoption of telemedicine technology by health care organizations: An exploratory study. *Journal of organizational computing and electronic commerce,* 12(3), 197-221.

Hu, P. J. H., Clark, T. H., & Ma, W. W. (2003). Examining technology acceptance by school teachers: a longitudinal study. *Information & management*, 41(2), 227-241.

Huber, G. P. (2001). Transfer of knowledge in knowledge management systems: unexplored issues and suggested studies. *European Journal of Information Systems*, *10*(2), 72-79.

Huysman, M., & Wulf, V. (2006). IT to support knowledge sharing in communities, towards a social capital analysis. *Journal of information technology*, *21*(1), 40-51.

Hsiao, C.H., Yang, C. (2011)The intellectual development of the technology acceptance model: a co-citation analysis. Int. J. Inf. Manag. 31 , 128–136.

Hsu, M. H., Ju, T. L., Yen, C. H., & Chang, C. M. (2007). Knowledge sharing behavior in virtual communities: The relationship between trust, self-efficacy, and outcome expectations. *International journal of human-computer studies*,*65*(2), 153-169.

Hsu, C. L., & Lin, J. C. C. (2008). Acceptance of blog usage: The roles of technology acceptance, social influence and knowledge sharing motivation. *Information& Management,* 45*(1*), 65-74.

Iftikhar, Z., Eriksson, I. V., & Dickson, G. W. (2003). Developing an instrument for knowledge management project evaluation. *Electronic Journal of Knowledge Management*, *1*(1), 55-62.

Igbaria, M., Guimaraes, T., & Davis, G. B. (1995). Testing the Deyetminants of Microcomputer Usage via a Structural Equation Model. *Journal of Management Information Systems*, *11*(4), 87–114.

Igbaria, M., & Tan, M. (1997). The consequences of information technology acceptance on subsequent individual performance. *Information & management*, *32*(3), 113-121.

Ipe, M. (2003). Knowledge sharing in organizations: A conceptual framework.*Human Resource Development Review*, *2*(4), 337-359.

Ismail, M. B., & Yusof, Z. M. (2008, June). Factors affecting knowledge sharing in public organizations in Malaysia. In *Knowledge Management International Conference and Exhibitions (KMICe)*.

Jackson, S. E., Chuang, C. -H., Harden, E. E., Jiang, Y., & Joseph, J. M. (2006). Toward developing human resource management systems for knowledge-intensive teamwork. *In J. M. Joseph (Ed.), Research in personnel and human resources management, Vol. 25. (pp. 27−70).*

Jang, S., Hong, K., Woo Bock, G., & Kim, I. (2002). Knowledge management and process innovation: the knowledge transformation path in Samsung SDI. *Journal of knowledge management*, *6*(5), 479-485.

Jain, P; Bentley, G; Oladiran, MT. (2011). The role of institutional repositories in digital scholarly communication.

Jogiyanto, (2007), Sistem Informasi Keperilakuan, Penerbit Andi Yogyakarta,

Jones A, B, & Hubona, GS. (2005). Individual Differences and Usage Behavior: Revisiting a Technology Acceptance Model Assumption. *Database for Advances in Information Systems*, *2*(36), 58–77.

Joreskog, K. G., & Sorbom, D. (1993). *LISREL 8: Structural equation modeling with the SIMPLIS command language*. Scientific Software International.

Juhary, J. (2005). A Step Towards e-learning: Some Pedagogical Issues *International Journal of Pedagogies and Learning 1 (1), 48-58*

Kacen, J. J., & Lee, J. A. (2002). The influence of culture on consumer impulsive buying behavior. *Journal of consumer psychology*, *12*(2), 163-176.

Khan, A., & Qutab, S. (2016). Understanding research students' behavioural intention in the adoption of digital libraries: a Pakistani perspective. Library Review, 65(4/5).

Kenny, D. A. (2011). Moderator variables. http://davidakenny. Net/cm/moderation. htm.

Kim, Y. M., & Abbas, J. (2010). Adoption of Library 2.0 functionalities by academic libraries and users: a knowledge management perspective. *The Journal of Academic Librarianship*, *36*(3), 211-218.

Kim, S., Ju, B. (2008). **An analysis of faculty perceptions: Attitudes towards knowledge sharing and collaboration in an academic institution**. *Library & Information Science Research, 30* (4), 282–290

Kim, S., Suh, E., & Hwang, H. (2003). Building the knowledge map: an industrial case study. *Journal of knowledge management*, *7*(2), 34-45.

King, W.R., He, J. (2006). A meta-analysis of the technology acceptance model. Inf. Management. 43, 740–755

Kirton, M. (1976). Adaptors and innovators: A description and measure. *Journal of applied psychology*, *61*(5), 622.

Kirton, M. (Ed.). (1994). Adaptors and innovators: Styles of creativity and problem solving. London: Routledge.

Khalifa, M., Yan Yu, A., & Ning Shen, K. (2008). Knowledge management systems success: a contingency perspective. *Journal of Knowledge Management*, *12*(1), 119-132.

Kline, R. B. (2015). *Principles and practice of structural equation modeling*. Guilford publications.

Kraemer, H. C., Wilson, G. T., Fairburn, C. G., & Agras, W. S. (2002). Mediators and moderators of treatment effects in randomized clinical trials.*Archives of general psychiatry*, *59*(10), 877-883.

Kulviwat, S., Bruner, I. I., Gordon, C., Kumar, A., Nasco, S. A., & Clark, T. (2007). Toward a unified theory of consumer acceptance technology. *Psychology & Marketing*, *24*(12), 1059-1084.

Lacher, K. T., & Mizerski, R. (1994). An exploratory study of the responses and relationships involved in the evaluation of, and in the intention to purchase new rock music. *Journal of Consumer Research*, 366-380.

Lan, L., & Lian, Z. (2010). Application of statistical power analysis–How to determine the right sample size in human health, comfort and productivity research. *Building and Environment*, *45*(5), 1202-1213.

Lederer, A.L., Maupin, D.J., Sena, M.P. and Zhuang, Y. (2000), "The technology acceptance modeland the World Wide Web", Decision Support Systems, 29 (3), 269-82.

Lee, M.K.O. and Turban, E. (2001), "A trust model for consumer internet shopping", International Journal of Electronic Commerce, Vol. 6 No. 1, pp. 75-91.

Lee, K. S., Lee, H. S., & Kim, S. Y. (2015). Factors influencing the adoption behavior of mobile banking: a South Korean perspective. The Journal of Internet Banking and Commerce, 2007.

Lee, C. K., & Al-Hawamdeh, S. (2002). Factors impacting knowledge sharing. *Journal of Information & Knowledge Management*, *1*(01), 49-56.

Lee, Y. H., Hsieh, Y. C., & Ma, C. Y. (2011). A model of organizational employees'e-learning systems acceptance. *Knowledge-based systems*,*24*(3), 355-366.

Lee, Y., Kozar, K., A., & Larsen, K., R. .. (2003). The Technology Acceptance Model: Past, Present, and Future. *Communication of the Associaton for Information Systems*, *12*(50), 752–780.

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

Lee, D. Y., & Lehto, M. R. (2013). User acceptance of YouTube for procedural learning: An extension of the Technology Acceptance Model. Computers & Education, 61, 193-208.

Lee, M. B., Suh, K. S., & Wang, J. (2003). The impact of situation awareness information on consumer attitudes in the Internet shopping mall. Electronic Commerce Research and Applications, 2, 254–265.

Lee, M. K., & Turban, E. (2001). A trust model for consumer internet shopping. *International Journal of electronic commerce*, *6*(1), 75-91.

Leibowitz, J. (2007). Social networking: The essence of innovation. Lanham, MD:*Scarecrow Press.*

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

Lenth, R. V. (2001). Some practical guidelines for effective sample size determination. *The American Statistician*, *55*(3), 187–193.

Li, X., Montazemi, A. R., & Yuan, Y. (2006). Agent-based buddy-finding methodology for knowledge sharing. *Information & Management*, *43*(3), 283-296.

Liao, S. (2003). Knowledge management technologies and applications—literature review from 1995 to 2002. *Expert Systems with Applications*, *25*(2), 155–164.

Lin, C. P. (2007). To share or not to share: Modeling tacit knowledge sharing, its mediators and antecedents. *Journal of business ethics*, *70*(4), 411-428.

Lin, C. P. (2008). Clarifying the relationship between organizational citizenship behaviors, gender, and knowledge sharing in workplace organizations in Taiwan. *Journal of Business and Psychology*, *22*(3), 241-250.

Lin, H. and Hwang, Y. (2014). Do feelings matter? The effects of intrinsic benefits onindividuals' commitment toward knowledge systems. Computers in Human Behavior. (30) . 191-198.

Lin, F. T., Wu, H. Y., & Tran, T. N. N. (2015). Internet banking adoption in a developing country: an empirical study in Vietnam. Information Systems and e-Business Management, 13(2), 267-287.

Lin, H.-F. (2007). Knowledge sharing and firm innovation capability: an empirical study. *International Journal of Manpower*, *28*(3/4), 315–332.

Liker J.K.,. Sindi A.A, (1997) User acceptance of expert systems: a test of the theory of reasoned action, *Journal of Engineering and Technology Management 14, 147–173.*

Loehlin, J. C. (2004). *Latent variable models: An introduction to factor, path, and structural equation analysis*. Psychology Press.

Lorelle Frazer, L., & Lawley, M. (2000). Questionnaire Design & Administration: a practical guide. Brisbane.

Low, P. I. (2015). Factors Influencing Insurance Agents Behavioral Intention And Usage Of Mobile Technologies As Business Tool (Doctoral dissertation, Universiti Sains Malaysia).

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

Maditinos, Dimitrios; Chatzoudes, Dimitrios; Sarigiannidis, Lazaros. (2013). Journal of Systems and Information Technology An examination of the critical factors affecting consumer acceptance of online banking. 15.1. 97-116.

Malhotra, A., & Majchrzak, A. (2004). Enabling knowledge creation in far-flung teams: best practices for IT support and knowledge sharing. *Journal of Knowledge Management*, *8*(4), 75-88.

Marangunić, N., & Granić, A. (2015). Technology acceptance model: a literature review from 1986 to 2013. Universal Access in the Information Society, 14(1), 81-95.

Martin, J. S., and Marion, R. (2005), Higher Education Leadership Roles in Knowledge Processing. The Learning Organization, 12(2), 140-151.

Mathwick, C., Malhotra, N.K., and Rigdon, E. (2001), Experiential value: conceptualization, measurement and application in the catalog and Internet shopping environment. *Journal of Retailing*, 77 (1), 39-56.

Mathieson, K. (1991). Predicting user intentions: comparing the technology acceptance model with the theory of planned behavior. *Information systems research*, *2*(3), 173–191.

Mathieson, K., Peacock, E., & Chin, W. W. (2001). Extending the technology acceptance model: the influence of perceived user resources. *ACM SigMIS Database*, *32*(3), 86-112.

McKee, D., Simmers, C.S., Licata, J. (2006) Customer self-efficacy and response to service, *Journal of Service Research 8 (3), 207–220*.

Menon, S. and Kahn, B. (2002), "Cross-category effects of induced arousal and pleasure on theInternet shopping experience", Journal of Retailing, Vol. 78 No. 1, pp. 31-40.

Meredith, W. (1993). Measurement invariance, factor analysis and factorial invariance. *Psychometrika*, *58*(4), 525-543.

Miron, E., Erez, M., & Naveh, E. (2004). Do personal characteristics and cultural values that promote innovation, quality, and efficiency compete or complement each other?. *Journal of organizational behavior*, *25*(2), 175-199.

Monette, DR, Sullivan, TJ, DeJong, CR, 2005, Applied Social Research. A Tool for the Human Services, 6th edition

Money, W., & Turner, A. (2004). Application of the technology acceptance model to a knowledge management system. In *System Sciences, 2004. Proceedings of the 37th Annual Hawaii International Conference on* (p. 9–pp).

Monsuwe, T. P., Delleart, B. G. C., & Ruyter, K. (2004). What drives consumers to shop online? A literature review. International Journal of Service Industry Management, 15(1), 102-121.

Mohd Ghazali, M., Nor Azirawani, M., Norfaryanti, K., & Mar Idawati, M. (2007). The application of knowledge management in enhancing the performance of Malaysian universities. *Electronic Journal of Knowledge Management*, *5*(3), 301–312.

Mohamed, M., Murray, A., & Mohamed, M. (2010). The role of information and communication technology (ICT) in mobilization of sustainable development knowledge: a quantitative evaluation. *Journal of Knowledge Management*, *14*(5), 744-758.

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

Mooradian, T., Renzl, B., and Matzler, K. (2006), Who Trusts? Personality, Trust and Knowledge Sharing. Management Learning, 37(4), 523-540.

Morris, M. G., & Venkatesh, V. (2000). Age Differences in Technoogy Adoption Decision: Implications for a changing workforce. *Personnel Psychology*, *53*, 375–403.

Mphidi, H., and Snyman, R. (2004), The Utilisation of an Intranet as a Knowledge Management Tool in Academic Libraries. The Electronic Library, 22(5), 393-400.

Muller, R.M., Spiliopoulou, M. and Lenz, Hans-J. (2005), The Influence of Incentives and Culture on Knowledge Sharing. Proceedings of the 38th Hawaii International Conference on System Sciences – 2005

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

Myers, R. A. (1997). Comment and reanalysis: paradigms for recruitment studies. *Canadian Journal of Fisheries and Aquatic Sciences*, *54*(4), 978-981.

Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company: How Japanese companies create the dynamics of innovation*. Oxford university press.

Nasri, W., & Charfeddine, L. (2012). Factors affecting the adoption of Internet banking in Tunisia: An integration theory of acceptance model and theory of planned behavior. *The Journal of High Technology Management Research*, *23*(1), 1-14.

Nassuora, A. B. (2011). Knowledge sharing in institutions of higher learning.*International Journal of Economics and Management Sciences*, *1*(3), 29-36.

Nistor, N., Baltes, B., & Schustek, M. (2012). Knowledge sharing and educational technology acceptance in online academic communities of practice. *Campus-Wide Information Systems*, *29*(2), 108–116.

Nov, O., & Ye, C. (2008). Users' personality and perceived ease of use of digital libraries: The case for resistance to change. *Journal of the American Society for Information Science and Technology*, *59*(5), 845–851.

Ocholla,D.N & Roux, J.L (2011). Conception and misconceptions of theoretical framework in Library and Information Science Research. *6th Biennial Prolissa Conference, Pretoria*

Oliver, R. (2002). The role of ICT in higher education for the 21st century: ICT as a change agent for education.

Oppenheim, A. N. (2000). *Questionnaire design, interviewing and attitude measurement*. Bloomsbury Publishing.

Oreg, S. (2003). Resistance to change: Developing an individual differences measure. *Journal of Applied Psychology*, *88*(4), 680–693.

Orlikowski, W. J. (2000). Using technology and constituting structures: A practice lens for studying technology in organizations. *Organization science*,*11*(4), 404-428.

Osterloh, M., & Frey, B. S. (2000). Motivation, knowledge transfer, and organizational forms. *Organization science*, *11*(5), 538-550.

Paghaleh, M. J., Shafiezadeh, E., & Mohammadi, M. (2011). Information technology and its deficiencies in sharing organizational knowledge. International journal of business and social science, 2(8), 192-198.

Panahi, S., Watson, J., & Partridge, H. (2012). Social media and tacit knowledge sharing: Developing a conceptual model. *World academy of science, engineering and technology*, (64), 1095-1102.

Park, N., Lee, K.M., Cheong, P.H. (2008). University instructors' acceptance of electronic courseware: an application of the technology acceptance model. J. Comput. Mediat. Commun.13,163–186

Park, Y., Son, H., & Kim, C. (2012). Investigating the determinants of construction professionals' acceptance of web-based training: An extension of the technology acceptance model. *Automation in Construction*, *22*, 377-386.

Pavlou, P. A. (2003). Consumer acceptance of electronic commerce: Integrating trust and risk with the technology acceptance model. *International journal of electronic commerce*, *7*(3), 101–134.

Pekrun, R., Goetz, T., Titz, W., & Perry, R. P. (2002). Academic emotions in students' self-regulated learning and achievement: A program of qualitative and quantitative research. *Educational psychologist*, *37*(2), 91-105.

Perangkaan Pendidikan Negara: Sektor Pengajian Tinggi. http://www.mohe.gov.my/web_statistik/Perangkaan-2013.

Perea y Monsuwé, T., Dellaert, B. G., & De Ruyter, K. (2004). What drives consumers to shop online? A literature review. International journal of service industry management, 15(1), 102-121.

Preston, J. (2009). Rescaled bootstrap for stratified multistage sampling.*Survey Methodology*, *35*(2), 227-234.

Rai, A., Lang, S. S., & Welker, R. B. (2002). Assessing the validity of IS Success Models: An Empirical Test and Theoretical Analysis. Information systems research, 13(1), 51–133.

Ramachandran, S. D., Chong, S. C., & Wong, K. Y. (2013). Knowledge management practices and enablers in public universities: a gap analysis. Campus-Wide Information Systems, 30(2), 76–94.

Ramakrisnan, P., Jaafar, A., & Yahaya, S. A. (2016). Technology Factors That Drive Students' Knowledge Sharing Ability in Online Discussion Interface: The Conceptual Model. In Envisioning the Future of Online Learning. Springer Singapore. 333-345

Ramayah, T., Jantan, M., Mohd Noor, M.N., Koay Pei Ling, K.P. and Razak, R.C. (2003). Receptiveness of internet banking by Malaysian consumers: the case of Penang. Asian Academy of Management Journal. 8 (2) 1-29.

Ramayah, T., Yeap, J. A., & Ignatius, J. (2013). An empirical inquiry on knowledge sharing among academicians in higher learning institutions. Minerva, 51(2), 131-154.

Riege, A. (2005). Three-dozen knowledge-sharing barriers managers must consider. *Journal of knowledge management*, *9*(3), 18-35.

Robertson, S. & O'Malley Hmmersley, G. (2000). Knowledge management practices within a knowledge-intensive firm: the significance of the people management dimension. *Journal of Europena Industrial Traininig, 24(2–4)*, 241–253.

Roblyer, M. D. (2005). Educational technology research that makes a difference: Series introduction. *Contemporary Issues in Technology and Teacher Education*, *5*(2).

Rogers, E.M. (2003). Diffusion of innovations (5th ed.). New York: Free Press.

Rosen, L. D., Whaling, K., Rab, S., Carrier, L. M., & Cheever, N. A. (2013). Is Facebook creating "iDisorders"? The link between clinical symptoms of psychiatric disorders and technology use, attitudes and anxiety. Computers in Human Behavior, 29(3), 1243-1254.

Rowley, J. (2000), Is Higher Education Ready for Knowledge Management? The International Journal Of Education Management, 14(7), 325-333.

Ruddy, T. (2000). Taking knowledge from heads and putting it into hands.*Knowledge and process management*, *7*(1), 37.

Ruppel, C. P., and Harrington, S. J. (2001), Sharing Knowledge through Intranets: A Study of Organizational Culture and Intranet Implementation. IEEE Transactions on Professional Communications, 44(1), 37-52.

Sabri, H. (2005). Knowledge management in its context: Adapting structure to a knowledge creating culture. *International Journal of Commerce and Management*, *15*(2), 113–128.

Saeed, N., Yang, Y., & Sinnappan, S. (2009). Effects of cognitive style on user acceptance of blogs and podcasts. In *Advanced Learning Technologies, 2009. ICALT 2009. Ninth IEEE International Conference* 293–297.

Salisbury, M. W. (2003), Putting Theory Into Practice to Build Knowledge Management Systems. Journal of Knowledge Management, 7(2), 128-141.

Santhanamery, T., & Ramayah, T. (2014). Explaining the e-Government usage using expectation confirmation model: the case of electronic tax filing in Malaysia. In *Government e-Strategic Planning and Management* (pp. 287-304). Springer New York

Schepers, J. J. L., & Wetzels, M. G. M. (2006, May). Technology acceptance: a meta-analytical view on subjective norm. In *Proceedings of the 35th European Marketing Academy Conference, Athens, Greece*.

Schultze, U., & Leidner, D. (2002). Studying knowledge management in information systems research: discourses and theoretical assumptions. *Management Information Systems Quarterly*, *26*(3), 213–242.

Schweiger, D. M. (1985). Measuring managerial cognitive styles: On the logical validity of the Myers-Briggs Type Indicator. *Journal of Business Research*, *13*(4), 315-328.

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

Seddon, P. B., & Kiew, M. Y. (1996). A partial test and development of DeLone and McLean's model of IS success. *Australian Journal of Information Systems*, *4*(1).

Sekaran, U. (2003). Research methods for business: a skill building approach. Journal of Education for Business, 68(5), 316-317.

Serenko, A., Bontis, N., & Detlor, B. (2007). End-user adoption of animated interface agentsin everyday work applications. *Behaviour & Information Technology*, *26*(2), 119-132.

Selim, H. M. (2003). An empirical investigation of student acceptance of course websites. *Computers & Education*, *40*(4), 343-360.

Seonghee, K., & Boryung, J. (2008). An analysis of faculty perceptions: Attitudes toward knowledge sharing and collaboration in an academic institution. *Library & Information Science Research*, *30*(4), 282-290.

Sharp, J.H. (2007). Development, extension, and application: a review of the technology acceptance model. Inf. Syst. Educ. 5 (9), 1–11

Shearer, K. (2003). Institutional repositories: towards the identification of critical success factors.

Shaughnessy, J. J. zechmeister, eB (1997). *Research methods in psychology*.

Shee, D. Y., & Wang, Y. S. (2008). Multi-criteria evaluation of the web-based e-learning system: A methodology based on learner satisfaction and its applications. *Computers & Education*, *50*(3), 894-905.

Shih, H. P. (2004). An empirical study on predicting user acceptance of e-shopping on the Web. *Information & Management*, *41*(3), 351–368.

Singh, A. S., & Masuku, M. B. (2013). Fundamental of applied research and sampling techniques. *Int J Med Appl Sci*, *2*(4), 123-124.

Sirajuddin. S., Ahmad, Z., Abu, B., & Rose, A., A. (2006). Knowledge Sharing Culture in Malaysian Public Institution of Higher Education : *An Overview*

Sirat, M. B. (2010). Strategic planning directions of Malaysia's higher education: University autonomy in the midst of political uncertainties. *Higher Education*, *59*(4), 461-473.

Sondergaard, S., Kerr, M., and Clegg, C. (2007), Sharing Knowledge: Contextualising Socio-technical Thinking and Practice. *The Learning Organization,* 14(5), 423-435.

Sohail, M. S., & Daud, S. (2009). Knowledge sharing in higher education institutions: Perspectives from Malaysia. *VINE*, *39*(2), 125–142.

Staples, D. S., & Webster, J. (2008). Exploring the effects of trust, task interdependence and virtualness on knowledge sharing in teams. *Information Systems Journal*, *18*(6), 617-640.

Stum, J. (2009). Kirton's adaption-innovation theory: managing cognitive styles in times of diversity and change. *Emerging Leadership Journeys*, *2*(1), 66-78.

Subramanian, G. H. (1994). A Replication of Perceived Usefulness and Perceived Ease of Use Measurement*. *Decision sciences*, *25*(5-6), 863-874.

Subramanian, A. M., & Soh, P. H. (2009). Contributing knowledge to knowledge repositories: Dual role of inducement and opportunity factors.*Information Resources Management Journal*, *22*(1), 45.

Sue-Chern. (2014, September 16). 5 Malaysian universities ranked higher this year in global survey. The Malaysian Insider. Retrieved from http://www.themalaysianinsider.com/malaysia/article/5-malaysian-universitiesranked-higher-this-year-in-global-survey

Sumak, B., Hericko, M., & Pusnik, M. (2011). A meta-analysis of e-learning technology acceptance: The role of user types and e-learning technology types. *Computers in Human Behavior*, *27*(6), 2067-2077.

Sun, J., & Teng, J. T. C. (2012). Information Systems Use: Construct conceptualization and scale development. *Computers in Human Behavior*.

Steiger, J. H., & Lind, J. C. (1980, May). Statistically based tests for the number of common factors. In *annual meeting of the Psychometric Society, Iowa City, IA* (758).

Syed-Ikhsan, S. O. S., & Rowland, F. (2004). Knowledge management in a public organization: a study on the relationship between organizational elements and the performance of knowledge transfer. *Journal of Knowledge Management*, *8*(2), 95–111.

Syed-Ihksan, R F., (2004), Benchmarking Knowledge Management in a Public Oganisation in Malaysia. Benchmarking, Bradford, 11(3), 238.

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

Szulanski, G. (2000). The process of knowledge transfer: A diachronic analysis of stickiness. *Organizational behavior and human decision processes*, *82*(1), 9-27.

Tarcan, E., Varol, E. S., Kantarcı, K., & Fırlar, T. (2012). A Study on Kazakh Academicians' Information Technology Acceptance, *62*, 205–230.

Tarcan, E., Varol, E. S., & Toker, B. (2010). A study on the acceptance of information technologies from the perspectives of the academicians in Turkey. *Ege Academic Review*, *10*(3), 791–812.

Tapscott, D; & Williams, A.D; (2006) Wikinomics: How Mass Collaboration Changes Everything, Penguin Group New York.

Taylor, S., & Todd, P. A. (2001). Understanding Information Technology Usage: A Test of Competing Models. *Information systems research*, *6*(2).

Taylor, W. A. (2004). Computer-mediated knowledge sharing and individual user differences: an exploratory study. *European Journal of Information Systems*, *13*(1), 52–64.

Teo, T. (2009). Modelling technology acceptance in education: A study of pre-service teachers. *Computers & Education*, *52*(2), 302-312.

Teo, T., Lee, C. B., & Chai, C. S. (2008). Understanding pre-service teachers' computer attitudes: applying and extending the technology acceptance model. *Journal of computer assisted learning*, *24*(2), 128-143.

Thompson, R., Compeau, D., Higgins, C., & Lupton, N. (2007). Intentions to use information technologies: An integrative model. *End User Computing Challenges and Technologies: Emerging Tools and Applications: Emerging Tools and Applications*, 79.

Tohidinia, Z., & Mosakhani, M. (2010). Knowledge sharing behaviour and its predictors. **Industrial Management & Data Systems**, 110(4), 611-631.

Torkzadeh, G., & Doll, W. J. (1999). The development of a tool for measuring the perceived impact of information technology on work. *Omega*, *27*(3), 327-339.

Tucker, L. R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika*, *38*(1), 1-10.

Tuomi, I. (1999). Data is more than knowledge: Implications of the reversed knowledge hierarchy for knowledge management and organizational memory. In *Systems Sciences, 1999. HICSS-32. Proceedings of the 32nd Annual Hawaii International Conference on* (12). IEEE.

Turel, O., Serenko, A., & Bontis, N. (2010). User acceptance of hedonic digital artifacts: A theory of consumption values perspective. *Information & Management*, *47*(1), 53-59.

Thuring, M., & Mahlke, S. (2007). Usability, aesthetics and emotions in human–technology interaction. *International Journal of Psychology*, *42*(4), 253-264.

Ullman, J. B., & Bentler, P. M. (2003). *Structural equation modeling*. John Wiley & Sons, Inc..

Van Raaij, E. M., & Schepers, J. J. (2008). The acceptance and use of a virtual learning environment in China. *Computers & Education*, *50*(3), 838-852.

Venkatesh, V. (1999). Creation of favorable user perceptions: Exploring the role of intrinsic motivation. *MIS quarterly*, 239-260.

Venkatesh, V. (2000). Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model. *Information systems research*, *11*(4), 342–365.

Venkatesh, V., & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision Sciences*, *39*(2), 273–315.

Venkatesh, V., Croteau, A. M., & Rabah, J. (2014, January). Perceptions of effectiveness of instructional uses of technology in higher education in an era of Web 2.0. In *System Sciences (HICSS), 2014 47th Hawaii International Conference on* (pp. 110-119). IEEE.

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

Venkatesh, V., & Morris, M. G. (2000). Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior. *Management Information Systems Quarterly*, *24*(1), 115–140.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS quarterly*, 425-478.

Wah, C. Y., Menkhoff, T., Loh, B., & Evers, H. D. (2008). Social capital and knowledge sharing in knowledge-based organizations: An empirical study.*Knowledge Management, Organizational Memory and Transfer Behavior: Global Approaches and Advancements: Global Approaches and Advancements*, 119.

Wang, J. (2012). Human Resource Development and Technology Integration.

Wang, C. L., Ahmed, P. K., & Rafiq, M. (2008). Knowledge management orientation: Construct development and empirical validation. *European Journal of Information Systems*, *17*(3), 219-235.

Wang, S., & Noe, R. A. (2010). Knowledge sharing: A review and directions for future research. *Human Resource Management Review*, *20*(2), 115-131.

Wagner, N. L., Hassanein, K., & Head, M. M. (2008). Who is Responsible for E-Learning Success in Higher Education? A Stakeholders' Analysis.*Educational Technology & Society*, *11*(3), 26-36.

Wasko, M. M., & Faraj, S. (2005). Why should I share? Examining social capital and knowledge contribution in electronic networks of practice. *MIS quarterly*, 35-57.

Webster, J., & Martocchio, J. . (1992). Microcomputer playfulness: development of a measure with workplace implication. *MIS Quarterly*, *16*(2), 201–266.

Weill, P., & Vitale, M. (1999). Assessing the health of an information systems applications portfolio: An example from process manufacturing.*MIS quarterly*, 601-624.

Welkowitz, J., Cohen, B. H., & Lea, R. B. (2012). *Introductory statistics for the behavioral sciences*. John Wiley & Sons.

Wenger, E. C., & Snyder, W. M. (2000). Communities of practice: The organizational frontier. *Harvard business review*, *78*(1), 139-146.

West, S. G., Finch, J. F., & Curran, P. J. (1995). Structural equation models with nonnormal variables. *Structural equation modeling: Concepts, issues, and applications*, 56-75.

Williams, C. (2011). Research methods. *Journal of Business & Economics Research (JBER)*, *5*(3).

Wu, J., & Holsapple, C. (2014). Imaginal and emotional experiences in pleasure-oriented IT usage: A hedonic consumption perspective. *Information & Management*, *51*(1), 80-92.

Van den Hooff, B., and De Ridder, J. A. (2004), Knowledge Sharing in Context: The Influence of Organizational Commitment, Communication Climate and CMC Use on Knowledge Sharing. J*ournal of Knowledge Management,* 8(6), 117-130.

Yang, S., Lu, Y., Gupta, S., Cao, Y., & Zhang, R. (2012). Mobile payment services adoption across time: An empirical study of the effects of behavioral beliefs, social influences, and personal traits. *Computers in Human Behavior*, *28*(1), 129-142.

Yarbrough, A. K., & Smith, T. B. (2007). Technology acceptance among physicians: a new take on TAM. *Medical Care Research and Review*.

Yi, J. (2009). A measure of knowledge sharing behavior: scale development and validation. *Knowledge Management Research & Practice*, *7*(1), 65-81.

Youndt, M. A., & Snell, S. A. (2004). Human resource configurations, intellectual capital, and organizational performance. *Journal of Managerial Issues*, 337-360.

Yousafzai, S. Y., Foxall, G. R., & Pallister, J. G. (2007). Technology acceptance: a meta-analysis of the TAM: Part 1. *Journal of Modelling in Management*, *2*(3), 251-280.

Yu, J., & Cooper, H. (1983). A quantitative review of research design effects on response rates to questionnaires. *Journal of Marketing Research*, 36–44.

Yu, T. K., Lu, L. C., & Liu, T. F. (2010). Exploring factors that influence knowledge sharing behavior via weblogs. *Computers in Human Behavior*,*26*(1), 32-41.

Yu, L., & Shek, D. T. (2014). Testing factorial invariance across groups: an illustration using AMOS. *International Journal on Disability and Human Development*, *13*(2), 205-216.

Yuthas, K., & Young, S. T. (1998). Material matters: Assessing the effectiveness of materials management IS. *Information & Management*,*33*(3), 115-124.

Zailani, S., Ong, H. K., & Shahnon, S. (2006). The adoption of information and communications technology (ICT) for effective knowledge management in the small and medium industry in Malaysia. *Asian Journal of Information Technology*, *5*(1), 28-33.

Zaiț, A., & Bertea, P. S. P. E. (2011). Methods for testing discriminant validity. *Management & Marketing Journal*, *9*(2).

Zamzuri, N. H., Shahrom, M., Kasim, E. S., Nasir, H. M., & Mamat, M. N. (2012). The Role of Cognitive Styles in Influencing the users' Satisfaction on E-Learning System. *Procedia - Social and Behavioral Sciences*, *67*, 427–435.

Zawawi, A. A., Zakaria, Z., Kamarunzaman, N. Z., Noordin, N., Sawal, M. Z. H. M., Junos, N. M., & Najid, N. S. A. (2011). The study of barrier factors in knowledge sharing: A case study in public university. *Management Science and Engineering*, *5*(1), 59.

Zikmund, William G. (2003), Business Research Methods. Mason, OH: Thomson/South Western.