

KNOWLEDGE SHARING MOTIVATIONAL FACTORS AMONG ACADEMIC  
STAFF IN JORDANIAN PRIVATE UNIVERSITIES

AMER AHMAD TAISSER HATAMLEH

A thesis submitted in fulfilment of the  
requirements for the award of the degree of  
Doctor of Philosophy (Management)

Faculty Management  
Universiti Teknologi Malaysia

DECEMBER 2016

## DEDICATION

*I dedicate this dissertation to my beloved family;*

*To my father soul, may Allah rest his soul in eternal peace*

*To my merciful mother, for her encouragement to me and May Allah keep her safe  
for me in all time*

*To my beloved brothers and sisters for their support during this long journey*

## ACKNOWLEDGEMENT

First, I would like to thank almighty Allah for providing me with strength and faith, and giving me the sight to realize myself. Incontrovertible, I owe my supervisor, Dr. Ungku Norulkamar Ungku Ahmad, a great deal of debt for her kindness and guidance throughout my entire research. She encouraged me with constructive advice and intellectual support during my doctoral period. Her friendly personality has always created a positive atmosphere and motivated me to work, an inspiration to keep in the right direction during my research. I have learned from my supervisor how to think in a positive manner and move forward.

I would also like to thank all those who were involved directly or indirectly in the completion of this project. My thanks also go to my mother, for her blessings and encouragement throughout my whole life. Finally, yet importantly, I would like to express utmost appreciation to my lovely and kind siblings for their love, support and encouragement throughout my life.

## ABSTRACT

Numerous scholars and researchers have claimed that motivation can assist successful knowledge sharing among academic staff. Nonetheless, limited empirical research has been conducted to determine the individual and organizational factors that motivate the academics to share knowledge. Therefore, this study determined the individual and organizational factors that motivate the academics to share knowledge. Moreover, this study examined the relationship between knowledge sharing intention and knowledge sharing behaviour among the academics as well as the mediation effect of knowledge sharing intention on the relationship between individual and organizational factors and knowledge sharing behaviour. In this study, the individual factors were based on Lin model, whereas the organizational factors were based on Herzberg motivation theory. Convenience sampling was used to select 303 academic staff of Jordanian private universities to participate in the study. A cross-sectional survey was carried out using self-administered questionnaire. Exploratory factor analysis and Cronbach's alpha tests using Statistical Package for Social Sciences software were conducted to ensure that the items were significantly valid and reliable. Average variance extracted and composite reliability were also examined to ensure all the constructs have good validity. Structural equation modeling was used to analyze the data. The main finding showed that individual and organizational factors are vital in motivating the academics for knowledge sharing. It was also found that there is a positive relationship between knowledge sharing intention and knowledge sharing behaviour among the staff. Furthermore, knowledge sharing intention was found to fully mediate the relationship between reciprocal benefits, knowledge self-efficacy, enjoyment in helping others, recognition, advancement, responsibility, achievement, university policy and administration, working conditions, interpersonal relations, quality of supervision and knowledge sharing behaviour. This study contributes to broadening the body of knowledge by determining that advancement, responsibility, achievement and interpersonal relation should be used to motivate academic staff for knowledge sharing. Universities must be more concerned on these factors as increasing academic staff's willingness to share knowledge and awareness will lead to better university performance. In addition, universities should provide and implement practical plans and policies to recognize academics' achievements and select a qualified leader to lead them for successful knowledge sharing.

## ABSTRAK

Ramai sarjana dan penyelidik menyatakan bahawa motivasi mampu menjayakan perkongsian pengetahuan dalam kalangan kakitangan akademik. Namun demikian, kurang penyelidikan empirikal dijalankan untuk menentukan faktor individu dan organisasi bagi memotivasikan kakitangan akademik untuk berkongsi pengetahuan. Oleh itu, kajian ini bertujuan untuk menentukan faktor-faktor individu dan organisasi yang memotivasikan kakitangan akademik untuk berkongsi pengetahuan. Di samping itu, kajian ini menguji hubungan antara niat untuk berkongsi pengetahuan dengan gelagat perkongsian pengetahuan dalam kalangan kakitangan akademik selain kesan perantaraan niat untuk berkongsi pengetahuan ke atas hubungan antara faktor individu dan organisasi dengan gelagat perkongsian pengetahuan. Dalam kajian ini, faktor individu adalah berasaskan model Lin, manakala faktor organisasi pula berasaskan teori motivasi Herzberg. Pensampelan mudah digunakan bagi memilih 303 kakitangan akademik universiti swasta Jordan untuk mengambil bahagian dalam kajian ini. Sebuah kajian keratan rentas telah dijalankan dengan menggunakan soal selidik yang ditadbir sendiri. Analisis faktor penerokaan dan ujian alfa Cronbach menggunakan perisian *Statistical Package for Social Sciences* telah dilakukan bagi memastikan semua item mempunyai keesahan dan kebolehpercayaan yang signifikan. Purata varian diekstrak dan kebolehpercayaan komposit juga diuji untuk memastikan bahawa kesemua konstruk mempunyai keesahan yang baik. Pemodelan persamaan berstruktur digunakan untuk menganalisis data. Dapatan utama kajian menunjukkan bahawa faktor individu dan organisasi adalah amat penting dalam memotivasikan kakitangan akademik untuk berkongsi pengetahuan. Kajian ini juga mendapati bahawa terdapat hubungan yang positif antara niat untuk berkongsi pengetahuan dengan gelagat perkongsian pengetahuan dalam kalangan kakitangan. Selain itu, niat untuk berkongsi pengetahuan juga didapati bertindak sebagai perantara sepenuhnya ke atas hubungan antara manfaat timbal balik, efikasi sendiri pengetahuan, keseronokan membantu orang lain, pengiktirafan, kemajuan, tanggungjawab, pencapaian, polisi universiti dan pentadbiran, keadaan kerja, hubungan antara perorangan dan kualiti penyeliaan dengan gelagat perkongsian pengetahuan. Kajian ini menyumbang kepada peluasan ilmu pengetahuan dengan menentukan bahawa kemajuan, tanggungjawab, pencapaian dan hubungan interpersonal boleh digunakan untuk menggalakkan kakitangan akademik untuk berkongsi pengetahuan. Pihak universiti haruslah mengambil berat tentang faktor-faktor tersebut kerana peningkatan kesediaan dan kesedaran berkongsi pengetahuan staf akademik akan membawa kepada peningkatan prestasi universiti. Di samping itu, pihak universiti perlu menyediakan dan melaksanakan rancangan praktikal dan polisi yang mengiktiraf pencapaian kakitangan akademik dan memilih pemimpin yang layak untuk mengetuai mereka ke arah perkongsian pengetahuan yang berjaya.

## TABLE OF CONTENTS

CHAPTER	TITLE	PAGE
	<b>DECLARATION</b>	ii
	<b>DEDICATION</b>	iii
	<b>ACKNOWLEDGEMENT</b>	iv
	<b>ABSTRACT</b>	v
	<b>ABSTRAK</b>	vi
	<b>TABLE OF CONTENTS</b>	vii
	<b>LIST OF TABLES</b>	xii
	<b>LIST OF FIGURES</b>	xiv
	<b>LIST OF ABBREVIATIONS</b>	xv
	<b>LIST OF APPENDICES</b>	xvi
<b>1</b>	<b>INTRODUCTION</b>	<b>1</b>
	1.1 Introduction	1
	1.2 Background of the Study	4
	1.3 Statement of the Problem	6
	1.4 Research Questions	10
	1.5 Research Objective	11
	1.6 Significance of the Study	13
	1.7 Scope of the Study	14
	1.8 Definition of Key Terms	15
	1.9 Structure of the Thesis	17
<b>2</b>	<b>LITERATURE REVIEW</b>	<b>20</b>

2.1	Introduction	20
2.2	The Concept of Knowledge	21
2.3	Knowledge Sharing	24
2.4	Factors Effecting Knowledge Sharing	26
2.5	Motivation and Knowledge Sharing	30
2.5.1	Individual Factors and Knowledge Sharing	32
2.5.2	Organizational Factors and Knowledge Sharing	37
2.6	Universities and Knowledge Sharing	40
2.6.1	Factors Effecting Knowledge Sharing in Universities	44
2.6.2	Motivation and Knowledge Sharing in Universities	54
2.7	Foundation Theories	61
2.7.1	Theory of Reasoned Action (TRA)	61
2.7.2	Herzberg's Theory of Motivation	62
2.8	Development of Research Framework	64
2.9	Research Framework	77
2.10	Hypothesis Development and Theoretical Support	79
2.10.1	Relationship between Individual and Organizational Factors and Knowledge Sharing Intention and Knowledge Sharing Behaviour	80
2.10.2	Relationship between Knowledge Sharing Intention and Knowledge Sharing Behaviour	97
2.10.3	Knowledge Sharing Intention Mediates the Relationship between Individual and Organizational Factors and Knowledge Sharing Behaviour	99
2.11	Summary	101
<b>3</b>	<b>RESEARCH METHODOLOGY</b>	<b>104</b>

3.1	Introduction	104
3.2	Research Design	104
3.3	Population and Sampling Procedure	106
3.3.1	Population of the Study	106
3.3.2	Sampling Procedure	107
3.4	Research Instrument	108
3.5	Reliability and Validity of the Research Instrument	124
3.5.1	Reliability	124
3.5.2	Validity	125
3.5.3	Pilot Study	128
3.6	Data Collection Procedure	129
3.7	Data Analysis Methods	130
3.7.1	Data Screening and Editing	131
3.7.2	Test of Non-Response bias and Common Method Bias	131
3.7.3	Outlier Analysis	132
3.7.4	Normality Test	132
3.7.5	Descriptive Analysis	133
3.8	Structural Equation Model (SEM)	133
3.8.1	Measurement Model	135
3.8.2	Structural Model	139
3.8.3	Discriminant Validity	140
3.8.4	Reliability Analysis	140
3.8.5	Mediation Effect Testing	141
3.9	Summary	142
<b>4</b>	<b>DATA ANALYSIS AND FINDINGS</b>	<b>144</b>
4.1	Introduction	144
4.2	Data Collection	144
4.3	Data Screening	145
4.4	The Non-Response Bias	145
4.5	Common Method Bias	147
4.6	Outlier Analysis	148
4.7	Assessing Normality	148



4.8	Demographic Statistics	150
4.9	Results for the Measurement Model	151
4.9.1	Exploratory Factor Analysis	152
4.9.2	Assessing Reliability for Research Instrument	156
4.10	Measurement Model	156
4.10.1	Measurement Model for Individual Factors	157
4.10.2	Measurement Model for Organizational Factors	158
4.10.3	Measurement Model for Knowledge Sharing Intention	159
4.10.4	Measurement Model for Knowledge Sharing Behaviour	160
4.11	Reliability and Validity	161
4.12	Structural Model	164
4.13	Hypotheses Testing Results	169
4.13.1	First Hypothesis Result	169
4.13.2	Second Hypothesis Result	173
4.13.3	Third Hypothesis Result	173
4.13.4	Fourth Hypothesis Result	175
4.13.5	Fifth Hypothesis Result	177
4.14	Summary	178
<b>5</b>	<b>DISCUSSION AND RECOMMENDATION</b>	<b>181</b>
5.1	Introduction	181
5.2	Overview of the Study	181
5.3	Individual and Organizational Factors and Knowledge Sharing Behaviour	185
5.4	Knowledge Sharing Intention and Knowledge Sharing Behaviour	186
5.5	Individual Factors and Knowledge Sharing Intention	188
5.6	Organizational Factors and Knowledge Sharing Intention	192

5.7	Knowledge Sharing Intention as a Mediator on the Relationship between Individual and Organizational Factors and Knowledge Sharing Behaviour	199
5.8	Theoretical and Practical Contributions	200
5.9	Limitations and Recommendations for Future Research	205
5.10	Conclusion	207
	<b>REFERENCES</b>	<b>209</b>
	Appendices A	232 - 238

## LIST OF TABLES

<b>TABLE NO.</b>	<b>TITLE</b>	<b>PAGE</b>
2.1	Summary of Factors Affecting Knowledge Sharing in Universities	52
2.2	Summary of Factors Motivate the Knowledge Sharing	60
3.1	Target Population	107
3.2	Individual Factors	111
3.3	Expected Organizational Rewards Items	112
3.4	Reciprocal Benefits Items	113
3.5	Knowledge Self-Efficacy Items	113
3.6	Enjoyment In Helping Others Items	114
3.7	Organizational Factors	115
3.8	Recognition Items	117
3.9	Advancement Items	117
3.10	Responsibility Items	118
3.11	Achievement Items	119
3.12	University Policy And Administration Items	119
3.13	Working Condition Items	120
3.14	Interpersonal Relations Items	121
3.15	Quality Of Supervision Items	121
3.16	Knowledge Sharing Intention And Behaviour	122
3.17	Knowledge Sharing Intention Items	123
3.18	Knowledge Sharing Behaviour Items	123
3.19	Fit Indices And Their Acceptable Values	138
4.1	T-Test For Non-Response Bias	147

4.2	Outlier Analysis	148
4.3	Normality Test	148
4.4	Demographical Characteristics Of Respondents	151
4.5	EFA Result For Individual And Organizational Factors	153
4.6	EFA Result For Knowledge Sharing Intention	155
4.7	EFA Result For Knowledge Sharing Behavior	156
4.8	AVE and CR For The Study Constructs	162
4.9	Discriminant Validity	164
4.10	The MIs Added to Improve The Model Fit	166
4.11	Structural Model Result	168
4.12	Summary Of Bootstrapping Result For H5	178

**LIST OF FIGURES**

<b>FIGURE NO</b>	<b>TITLE</b>	<b>PAGE</b>
2.1	Conceptual Research Framework	79
2.2	Hypotheses Model	100
4.1	Measurement Model For Individual Factors	158
4.2	Measurement Model For Organizational Factors	159
4.3	Measurement Model For Knowledge Sharing Intention	160
4.4	Measurement Model For Knowledge Sharing Behaviour	161
4.5	The Base Structural Model	165
4.6	Modified Structural Model	167

**LIST OF ABBREVIATIONS**

AC	-	Achievement
AD	-	Advancement
EH	-	Enjoyment in Helping Others
EOR	-	Expected Organizational Rewards
IR	-	Interpersonal Relations
KS	-	Knowledge Self-efficacy
KSB	-	Knowledge Sharing behaviour
KSI	-	Knowledge Sharing Intention
QS	-	Quality of Supervision
RB	-	Reciprocal Benefit
RE	-	Recognition
RES	-	Responsibility
UPA	-	University Policy and Administration
WC	-	Working Condition

**LIST OF APPENDICES**

<b>APPENDIX</b>	<b>TITLE</b>	<b>PAGE</b>
<b>A</b>	<b>Cover Letter and Questionnaire</b>	<b>232</b>

## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Introduction**

With the world shifting towards knowledge era, the concept of knowledge is widely recognized as a critical asset to the individual as well as the organization. From the perspective of organizations, knowledge has become a primary source of competitive advantage and critical to the success compared to other sources such as land, labor, money or other tangible resources (Buckley, 2012; Goh & Sandhu, 2014).

Although many employees are delighted to share knowledge with others, the researchers reported that many employees are not pleased to share knowledge with others since they feel doing so threaten their power and status in their respective organization (Hislop, 2009; Hau *et al.*, 2013; Sajeve, 2014). Accordingly, the main challenge for organizations is how to manage employee knowledge and get more benefits from knowledge sharing that takes place among employees.

According to Sharratt and Usoro (2003, p.188), knowledge sharing is a “Process whereby a resource is given by one part and received by another part, and for sharing to occur, there must be an exchange.” Meanwhile, Bircham-Connolly *et al.* (2005, p.1) define knowledge sharing as a “Process of capturing knowledge or moving knowledge from a source unit to a recipient unit.” Accordingly, knowledge



sharing is a process in which individuals share the knowledge acquired or created with others.

Previous studies revealed that knowledge sharing is influenced by different factors. For example; Bock and Kim (2001) claimed that successful knowledge sharing depends on employees' positive attitude that turns to intention leading to real behaviour of knowledge sharing. Meanwhile, Ipe (2003) pointed out that the culture of working environment plays a key role to achieve successful knowledge sharing among employees. Furthermore, Davenport and Prusak (1998) stated that successful knowledge sharing depends on free and informal communication flows inside the organization. Consequently, successful knowledge sharing among employees face many challenges and is not easy to accomplish.

To date, researchers are still concerned with the factors that affect knowledge sharing. The majority of researchers (Riege, 2005; Nonaka *et al.*, 2006; Wang & Noe, 2010; Shanshan, 2014) classified the factors that affect knowledge sharing into three major domains namely: individual factors, organizational factors and technological factors. The individual factors are related to the individual-driven considerations that influence the individual attitude and behavioral intention towards knowledge sharing behaviour. Moreover, the organizational factors are related to the organization context such as the organization culture and environment that support and enhance knowledge sharing. Furthermore, the technological factors are related to applying the right technology that can enhance the communication among employees for knowledge sharing. In addition, Nonaka *et al.* (2006), Wang and Noe (2010) go a step further and classified the interpersonal characteristics and team characteristics as factors for successful knowledge sharing. Recently, motivational factors were reported as factors that can influence successful knowledge sharing among employees (Wang & Noe, 2010; Shanshan, 2014).

Motivation has been recognized as a key determinant of human behaviour and work-related behaviour (Deci & Ryan, 1987; George & Brief, 1996). According to the Theory of Reasoned Action (TRA)(Fishbein & Ajzen 1975), human behaviour is

determined by the behavioural intention. Accordingly, individual behaviour for knowledge sharing is determined by the behavioural intention while the behavioural intention is affected by the motivational factors (Shanshan, 2014; Tan & Ramayah, 2014).

According to Lin (2007), the individual factors that motivate employees for knowledge sharing intention are divided into extrinsic factors (expected organizational rewards and reciprocal benefits) and intrinsic factors (knowledge self-efficacy and enjoyment in helping others). Additionally, few studies have investigated the individual factors that motivate employees for knowledge sharing intention, and the result revealed that individual factors are important to enhance knowledge sharing among employees (Chen *et al.*, 2011; Hau *et al.*, 2013).

Furthermore, Pinder (1998) stated that individual behaviour at work is influenced by different organizational factors. According to Herzberg's motivation theory (1966), human behaviour towards needs at work has two types of factors, intrinsic factors (recognition, advancement, responsibility and achievement) and extrinsic factors (university policy and administration, working condition, interpersonal relation and quality of supervision). Additionally, studies that investigated the influence of organizational factors such as human resource management (HRM), the quality of place and space and academic leadership style on knowledge sharing behaviour have reported that these factors are important to enhance the human interaction for knowledge sharing (Gagne, 2009; Siddique *et al.*, 2011; Akhbar and Musa 2012).

Compared to other organizations, universities are knowledge business organizations, and they tend to rely more on knowledge than other organization (Rowley, 2000). Universities as intensive knowledge environments play a central role in knowledge creation through research, and in knowledge dissemination through publication. They also play a critical role in knowledge transfer through working with businesses and other organizations to support innovation, and social and cultural enterprise, as well as supporting learning through their teaching and

research training programs (Goh & Sandhu, 2013a; Fullwood *et al.*, 2013; Jolaei *et al.*, 2014). Moreover, previous studies have revealed that effective knowledge sharing among academic staff have a positive relationship with overall university performance (Muhammad *et al.*, 2011; Masron *et al.*, 2012). Nevertheless, the unwilling of academic staff to share knowledge among others will decrease the opportunity to achieve successful knowledge sharing, and at the same time, it will affect the university performance. Hence, determining what motivate the academic staff to share his knowledge is an important topic to study. Therefore, this study aims to determine the individual and organizational factors that motivate the academic staff for knowledge sharing intention towards knowledge sharing behaviour.

## **1.2 Background of the Study**

The quest to create “world-class” universities has become a global demand in the past decade as governments across the world have invested in the development of competitive higher education and research systems as a part of their national economic strategies (Salmi, 2009). During the last two decades, Jordan has witnessed an obvious development in the sector of higher education by the increase in the number of both public and private universities. Due to the growing number of universities in Jordan, the Ministry of Higher Education in Jordan have created a special division called the Higher Education Accreditation Commission (HEAC). The purpose of this division is to maintain a better quality of higher education and quality assurance monitoring at both public and private universities to be consistent with the international standards. More specific, Jordanian universities are required to implement different criteria to maintain the quality assurance standards namely strategic planning, academic programs, financial and human resources, social responsibility and scientific research.

Unfortunately, Jordanian private universities are facing challenges and obstacles to meet the criteria developed by HEAC in maintaining a good reputation

for scientific research. A leading study by Al Hammad *et al.* (2009) highlighted that Jordanian universities were facing serious issue of reluctant to share knowledge among their academic staff. This issue have also being re-emphasized in the recent report published by Al Wahadneh (2015), stated that public universities had published 10496 articles. However, the private university has only published 1302 during 2010-2014. This indicates that the Jordanian private universities are still distanced away to achieve one of the quality assurance element that focuses on scientific research. With this given indicator, private universities in Jordan are still facing difficulties in sustaining the scientific research criteria. Hence, the consequences of failing to maintain these criteria will affect the quality of higher education. Recently in a study by Tan (2016) reported that research collaboration among academic staff is strongly influenced by knowledge sharing. Therefore, it is considered an essential step to conduct a study that focuses on improving the scientific research in Jordanian private universities by looking to determine the factors that lead to enhancing the knowledge sharing among academic staff.

The academic staff as a knowledge workers have a wide range of work tasks and roles such as teaching, research, supervision and consultancy and to balance between these different tasks, this seen as a big challenge for the academic staff (Masron *et al.*, 2012). Therefore, numerous researchers have looked to determine the factors that influence the knowledge sharing activity among academic staff (Cho *et al.*, 2007; LiBin, 2008; Cheng *et al.*, 2009; Amin *et al.*, 2011; Howell & Annansingh, 2013). These studies have revealed that successful knowledge sharing among academic is influenced by many factors such as individual and organizational factors (Cheng *et al.*, 2009; Mawoli & Babandako, 2011 Amin *et al.*, 2011b). Nevertheless, academic staff motivation was reported by many researchers as the key to overcoming the effect of these factors and enhance the knowledge sharing (Cheng *et al.*, 2009; Amin *et al.*, 2011b; Zawawi *et al.*, 2011; Fullwood *et al.*, 2013).

The relationship between motivation and knowledge sharing have been studied by several researchers in different organization types and the findings reported that motivation have a positive influence on employee knowledge sharing behaviour

(Cho *et al.*,2007; Lin,2007; Amin *et al.*, 2011; Hung *et al.*,2011; Olatokun and Nwafor,2012; Chen & Hsieh,2015). In the context of universities, previous studies have focused only on the individual factors that motivate the academic staffs' knowledge sharing (Ramayah *et al.*, 2013; Tan & Ramayah, 2014; Mansor & Saparudin, 2015) omitting the organizational factors that motivate the academic staffs' knowledge sharing behaviour. This indicates that there are still limited studies being conducted in this aspect, the influence of both individual and organizational factors that motivate the academic staff for knowledge sharing behaviour in the universities context. Hence, to understand the knowledge sharing behaviour of the academic staff, there is a need to study the effect of both the individual and organizational factors that motivate the academic staff for knowledge sharing. Therefore, to determine the factors that motivate the academic staff for knowledge sharing is an essential area of research to drive the improvement of universities. Therefore, this study aims to determine both the individual and organizational factors that motivate the academic staff for knowledge sharing in Jordanian private universities.

### **1.3 Statement of the Problem**

Effective knowledge sharing is one of the important issues that needs to be highlighted where it brings negative consequences referring to teaching, research and supervision (Masron *et al.*, 2012). Academic staffs' as knowledge workers are the main resource and asset in universities; they depend on their knowledge and knowledge sharing to accomplish their main duties inside the university (Rahab & Wahyuni, Jolae *et al.*, 2014; Tan & Ramayah, 2014; Wei Chong *et al.*, 2014; Mansor & Saparudin, 2015). The sharing of knowledge is recognised as a main and vital component of academic staff daily work task, which requires academics' willingness to exchange and disseminate knowledge among each other's (Seonghee & Boryung, 2008; Sohail & Daud, 2009; Buckley, 2012; Goh & Sandhu, 2014; Fullwood *et al.*, 2013). Many universities still face big challenges to motivate their academic staff to share knowledge (Ramayah *et al.*, 2013; Wei Chong *et al.*, 2014;

Mansor & Saparudin, 2015). Furthermore, still there less of empirical research in the area of motivation and knowledge sharing among the academic staff (Ramayah *et al.*, 2013; Rahab & Wahyuni, 2013; Tan & Ramayah, 2014; Mansor & Saparudin, 2015). This, in turn, can be due to a lack of comprehensive models that address various motivational factors affecting knowledge sharing intention towards knowledge sharing behaviour (Tan & Ramayah, 2014; Mansor & Saparudin, 2015). To fill this gap, there is a need for studies that address motivational factors more comprehensively. Therefore, this study proposes an integrative model of motivational factors that affect knowledge sharing intention towards knowledge sharing behaviour. The model was examined in the context of Jordanian private universities, as less-researched has been conducted in Jordanian universities contexts (Alhammad *et al.*, 2009; Zoubi, 2009; Al-Omari *et al.*, 2013). Major research on knowledge sharing tend to be in the business contexts (Cho *et al.*,2007; Lin ,2007; Amin *et al.*, 2011; Hung *et al.*,2011; Olatokun and Nwafor,2012; Chen & Hsieh ,2015), only a few have studied this phenomenon in academic contexts (Rahab & Wahyuni, 2013; Tan & Ramayah, 2014; Mansor & Saparudin, 2015). Hence, it is important for universities to understand the factors that contribute to enhancing the knowledge sharing among academic staff to prevent their negative impact on the performance of academic staff.

According to the Theory Reasoned Action (TRA), human behaviour is determined by the behavioural intention. Behavioural intention is the indicator of how people willing to involve and how much their effort to perform the behaviour. Earlier, Triandis (1977) have found that both beliefs and attitude are co-determinants of behavioural intentions. However, a decade later Davis *et al.*, (1989) found that attitudes do not fully influence the behavioural intention. Furthermore, Venkatesh and Davis (1996) found that only beliefs have a direct effect on behavioural intention and attitude did not entirely mediate the human belief on the behavioural intention. Recent studies on knowledge sharing have also excluded attitude from their studies (Cho *et al.*, 2007; Bakan *et al.*, 2011; Tseng *et al.*, 2012). In addition, several studies such as Gagne (2009); Amin *et al.*, (2011); Shanshan (2014) have also found that at individual level attitude did not fully influence the knowledge sharing intention towards knowledge sharing behaviour. In the context of universities, recent studies

especially researching on the knowledge sharing behaviour in the related academic contexts (i.e. research information centers) have omitted the individual attitude dimension (Yeon *et al.*, 2015). Although, they did not provide any specific reasons, however rationally it is logical to expect that at a higher level of cognitive thinking, where academic professional are always ready to share their knowledge. Practically, in the nature of their work, academic professions are expected to own the positive attitude towards knowledge sharing. Studies have also found that knowledge sharing attitude already existed among academic staff (Fullwood *et al.*, 2013; Mansor & Saparudin, 2015; Alhammad *et al.*, 2009; Al-Omari *et al.*, 2013; Rahab & Wahyuni, 2013).

Moreover, the knowledge sharing behaviour can be influenced by many factors; however, the ease of sharing is the essence to influence people's willingness to share (Gagne, 2009). Part of the ease of sharing is the motivational aspect of people's willingness to share. The relationship between motivational factors and knowledge sharing was explained using the Theory Reasoned Action (TRA) by different researchers. These studies have been highlighted the relationship between the individual factor that motivated the academic staff for knowledge sharing. For example, a study conducted by Ramayah *et al.* (2013) Rahab & Wahyuni (2013) Tan & Ramayah (2014), Mansor & Saparudin (2015); Tan (2016), these studies revealed that individual factors have a positive influence on knowledge sharing intention among academic staff. More specifically, these studies found that individual factors (trust, knowledge self-efficacy, enjoyment in helping other, reputation enhancement and channel richness, expected organizational rewards, reciprocal benefit and sense of self-worth) have a positive influence on knowledge sharing among academic staff in Malaysian and Indonesian universities. However, these studies have been conducted in Asia Pacific region; this means that their generalization to countries and different national cultures may be questionable. Moreover, these studies have overlooked the role of knowledge sharing intention on the relationship between individual factors and knowledge sharing behaviour. Consequently, this suggests a need to study the individual factors that motivate the academic staff for knowledge sharing intention towards knowledge sharing behaviour among academic staff in different countries.

Furthermore, knowledge sharing behaviour among academic staff was found to be influenced by organizational factors (Cheng *et al.*, 2009; Rahab & Wahyuni, 2013). The result from previous studies have acknowledged that top management in university plays an essential role in enhancing and motivating the knowledge sharing among academic staff (Amin *et al.*, 2011a; Buckley, 2012). This means that organizational factors are essential to enhance knowledge sharing behaviour among academic staff (Ramayah *et al.*, 2013; Chen & Hsieh, 2015). For example, a study by Akhbar & Musa (2012) have found that the quality of place and space inside the university play a role in enhancing the human interaction for knowledge sharing. Moreover, a study by Siddique *et al.* (2011) found that academic leadership plays a role in motivating the faculty member to enhance knowledge sharing. Additionally, many researchers reported that academic staff recognition is the most effective motivating factor that can increase the level of knowledge sharing (Rowley, 1996; Jain *et al.*, 2007; Gagne, 2009; Padilla-Meléndez & Garrido-Moreno, 2012).

Based on the above discussion, the result shows that organizational factors are important to enhance the knowledge sharing among academic staff. Build upon Herzberg motivation theory (1966); there are other organizational factors that need to investigate if the motivate the academic staff for knowledge sharing behaviour such as achievement, responsibility, advancement and interpersonal relation. In addition, most of the previous research that study the influence of organizational factors on knowledge sharing behaviour have overlooked the role of knowledge sharing intention on the relationship between organizational factors and knowledge sharing behaviour (Cheng *et al.*, 2009; Sohail & Daud, 2009; Siddique *et al.*, 2011; Buckley, 2012; Rahab & Wahyuni, 2013; Ramayah *et al.*, 2013). Consequently, this suggests a need for further investigation if these organizational factors have a positive influence on knowledge sharing among academic staff.

Most of the studies found in literature steered their focus toward academic staff motivation for knowledge sharing conducted in countries of Asia Pacific region like Malaysian universities (Ramayah *et al.*, 2013; Tan & Ramayah, 2014; Mansor & Saparudin, 2015; Tan, 2016) and Indonesian universities ( Rahab & Wahyuni, 2013).



However, very limited studies have been conducted in Middle East context particularly in Jordanian university context (Alhammad *et al.*, 2009). According to Alhammad *et al.* (2009), Zoubi, (2009); Al-Omari *et al.*, (2013), still there is a lack of literature that shows interest in knowledge sharing throughout Jordanian universities. Additionally, Alhammad *et al.* (2009) reported that academic staff in Jordanian universities should be motivated regarding sharing their knowledge among each other. Therefore, this study aims to fill the gap in the theoretical literature on the factors that motivate the academic staff for knowledge sharing in Jordanian private universities.

#### **1.4 Research Questions**

Based on the research problem the following research questions were developed:

1. What are the major individual and organizational factors that motivate the knowledge sharing behaviour among academic staff in Jordanian private universities? Do expected organizational rewards, reciprocal benefits knowledge self-efficacy, enjoyment in helping others, recognition, advancement, responsibility, achievement university policy and administration, working condition, interpersonal relation and quality of supervision influence the knowledge sharing behaviour among academic staff in Jordanian private universities?
2. Is there a relationship between knowledge sharing intention and knowledge sharing behaviour among academic staff in Jordanian private universities?
3. What are the individual factors that motivate the knowledge sharing intention among academic staff in Jordanian private universities? Do expected

organizational rewards, reciprocal benefits knowledge self-efficacy and enjoyment in helping others influence the knowledge sharing intention among academic staff in Jordanian private universities?

4. What are the organizational factors that motivate the knowledge sharing intention among academic staff in Jordanian private universities? Do recognition, advancement, responsibility, achievement university policy and administration, working condition, interpersonal relation and quality of supervision influence the knowledge sharing intention among academic staff in Jordanian private universities?
5. Does knowledge sharing intention mediates the relationship between individual and organizational factors (expected organizational rewards, reciprocal benefits knowledge self-efficacy, enjoyment in helping others, recognition, advancement, responsibility, achievement university policy and administration, working condition, interpersonal relation and quality of supervision) and knowledge sharing behaviour among academic staff in Jordanian private universities.

## **1.5 Research Objective**

The main purpose of this study is to determine the individual and organizational factors that motivate the academic staff for knowledge sharing intention towards knowledge sharing behaviour in Jordanian private universities. More specifically, this study tries to address the following objectives:

1. To identify the major individual and organizational factors (i.e. expected organizational rewards, reciprocal benefits knowledge self-efficacy, enjoyment in helping others, recognition, advancement, responsibility,

achievement university policy and administration, working condition, interpersonal relation and quality of supervision) influencing the knowledge sharing behaviour among academics staff in Jordanian private universities.

2. To determine the relationship between knowledge sharing intention and knowledge sharing behaviour among academic staff in Jordanian private universities.
3. To identify the individual factors (i.e. expected organizational rewards, reciprocal benefits knowledge self-efficacy and enjoyment in helping others) that influence the knowledge sharing intention among academic staff in Jordanian private universities.
4. To identify the organizational factors (i.e. recognition, advancement, responsibility, achievement university policy and administration, working condition, interpersonal relation and quality of supervision) that influence the knowledge sharing intention among academic staff in Jordanian private universities.
5. To investigate the mediation effect of knowledge sharing intention on the relationship between individual and organizational factors (expected organizational rewards, reciprocal benefits knowledge self-efficacy, enjoyment in helping others, recognition, advancement, responsibility, achievement university policy and administration, working condition, interpersonal relation and quality of supervision) and knowledge sharing behaviour among academic staff in Jordanian universities.

## 1.6 Significance of the Study

This study contributes to the body of knowledge by providing a wider evidence regarding the importance of different kinds of individual and organizational factors that motivate the academic staff for knowledge sharing in Jordanian private universities. This study expected to provide the theoretical and practical contributions to knowledge sharing studies in Jordanian private universities, by determining the individual and organizational factors that motivate the academic staff for knowledge sharing behaviour through integrating the individual and organizational factors with the Theory of Reasoned Action (TRA). The individual factors for knowledge sharing are based on Lin (2007) model. In addition, the organizational factors for this study are based on Herzberg motivation theory. Previous studies have examined the relationship between individual factors and knowledge sharing among academic staff (Rahab & Wahyuni, 2013; Tan & Ramayah, 2014; Mansor & Saporudin, 2015). Thus, this indicates that there is still room for exploration in the area of the factors that motivate the academic staff for knowledge sharing by determining the organizational factors that motivate the academic staff for knowledge sharing behaviour. More specific, by determining both the individual and organizational factors that motivate the academic staff for knowledge sharing intention towards knowledge sharing behaviour in Jordanian private universities.

The finding of this study provide the university management a starting point for evaluating their current strategy and help them to develop new policies and strategies to increase the level of knowledge sharing behaviour among academic staff. This study resulted in helping universities to increase the level of knowledge sharing among academic staff, which led to increasing the university performance. The main aim of this study is to highlight the effective individual and organizational factors that motivate the academic staff for knowledge sharing in Jordanian private universities. This study is valuable in at least five ways.

First, the finding of this study provided the university management with the effective factors so they can develop and create practical plans that have an influence on knowledge sharing. Second, this study determines the relationship between knowledge sharing intention and knowledge sharing behaviour among academic staff in Jordanian private universities. Therefore, top management must focus more on the factors that influence the academic staff knowledge sharing intention to increase the level of knowledge sharing behaviour among the academic staff. Third, it determined the individual factors that motivate the academic staff for knowledge sharing intention. Thus, academic staff leader and top management must provide the activities that enhance the individual intention for knowledge sharing. Fourth, this study also determines the organizational factors that motivate the academic staff for knowledge sharing intention; this expected to help the top management in universities to provide this different kind of factors to enhance the knowledge sharing among the academic staff. Finally, it determined the role of knowledge sharing intention on the relationship between individual and organizational factors and knowledge sharing behaviour among academic staff in Jordanian private universities.

### **1.7 Scope of the Study**

This study focuses on the issue of the factors that motivate the academic staff for knowledge sharing, mainly the effect of individual and organizational factors on knowledge sharing behaviour among academic staff in Jordanian private universities. Specifically, this study looked into the effect of both individual and organizational factors on knowledge sharing intention towards knowledge sharing behaviour among academic staff in Jordanian private universities. The scope of this study is confined to 15 private universities in Jordan, and their active academic staff consisted of approximately 3,000 members. This study contributes to knowledge sharing behaviour among academic staff in Jordanian private universities by defining the effective individual and organizational factors that motivate the academic staff for knowledge sharing intention towards knowledge sharing behaviour.

The individual factors for this study based on Lin (2007) model. Thus, in this study, the individual factors include expected organizational rewards, reciprocal benefits, knowledge self-efficacy and enjoyment in helping others. Meanwhile, the organizational factors in this study based on Herzberg motivation theory, which includes recognition, advancement, responsibility and achievement as intrinsic factors and university policy and administration, working condition, interpersonal relation and quality of supervision as extrinsic factors. The Theory of Reasoned Action (TRA) used in this study for investigating the relationship between the knowledge sharing intention and knowledge sharing behaviour among academic staff in Jordanian private universities context.

## 1.8 Definition of Key Terms

In this section, key concepts related to the core areas of the research are described. The following interpretation of terms was used throughout the current study.

**Knowledge:** Knowledge refers to validated information which is used for making decisions and doing actions. It consists of skills, rules and principles. It is in coded forms such as electronic form, books, manuscripts, and databases, and it is in the people's head (Alavi & Leidner, 2001).

**Knowledge sharing:** defines knowledge sharing as “a set of individual behaviours involving sharing one's work-related knowledge and expertise with other members within one's organization, which can contribute to the ultimate effectiveness of the organization.”(Yi, 2009).

**Expected organizational rewards:** it is defined as the degree to which one believes that he or she will receive incentives and rewards for knowledge sharing (Lin, 2007).

**Reciprocal Benefit:** it is defined as the degree to which individuals think that their needs for knowledge in the future can be fulfilled by others in response for knowledge sharing at present (Lin, 2007).

**Knowledge self-efficacy:** it is defined as to which one believes he or she can perform knowledge sharing behaviour (Lin, 2007).

**Enjoyment in helping others:** it defined as the degree to which one thinks s/he will derive intrinsic pleasure and satisfaction from knowledge sharing (Lin, 2007).

**Recognition:** it defined as the degree to which one thinks that he will get praise supplied by one or more superiors, colleagues, management for knowledge sharing (Al-Mekhlafie, 1994).

**Advancement:** defined as the degree to which individual designates an actual change in job status because of sharing knowledge (Al-Mekhlafie, 1994).

**Responsibility:** it is defined as the degree to which one thinks that he will be given control of personal work because of sharing knowledge (Al-Mekhlafie, 1994).

**Achievement:** defined as the degree that individual gets recognition because of the accomplishment of knowledge sharing (Al-Mekhlafie, 1994).

**University policy and administration:** it is defined as the administrative procedures and policies applied to carry out the knowledge among all academic staff (Al-Mekhlafie, 1994).

**Working condition:** it is related to the physical environment, the facilities, and the quantity of work that enhance the knowledge sharing activity (Al-Mekhlafie, 1994).

**Interpersonal relation:** it is related to the relationships involving superiors, subordinates, and peers that help individual to share knowledge (Al-Mekhlafie, 1994).

**Quality of supervision:** it is related to the academic supervisor's willingness to create a good environment that enhances academic staff interaction for knowledge sharing activity (Al-Mekhlafie, 1994).

**Knowledge sharing intention:** It is related to the degree which one believes that he/ she are willing to engage in sharing knowledge activity with others (Lin, 2007).

**Knowledge Sharing Behaviour:** It is related to the degree to which one are actual participates in knowledge sharing (Chennamaneni, 2006).

## 1.9 Structure of the Thesis

This study is organized into five chapters, and the details of each chapter are discussed below.



Chapter 1 provides an overview and describes the scope of this study. It describes the study background, statement of the problem and research questions and objective of the study, significant and scope of this study. Finally, it highlights the definition of the key term for this study.

Chapter 2 presents a brief review of the previous studies associated with knowledge sharing. This chapter provides overview, definition, types and importance of knowledge. In addition, it provides an overview of definitions and factors that affect successful knowledge sharing. Then, it described knowledge sharing in universities, which includes the development methods, factors, academic staff intention and behaviour of knowledge sharing. Furthermore, this chapter discusses the individual and organizational factors that motivation the knowledge sharing behaviour. Then, the Theory of Reasoned Action (TRA) and Herzberg motivation model are discussed. A theoretical analysis of the individual intention of knowledge sharing and knowledge sharing behaviour is also discussed. Presenting a conceptual model underlying the study illustrates the link between individual and organizational factors (expected organizational rewards, reciprocal benefits, knowledge self-efficacy, enjoyment in helping others, recognition, advancement, responsibility, achievement, university policy and administration, working condition, interpersonal relation and quality of supervision) that form the basis of this study. Finally, hypotheses according to the proposed model are discussed.

Chapter 3 presents an overview of the outline of the research method that had been used in this study. First, the design, population, sampling of this study was described. This study employed the survey method to collect the data required and then the study instrument and the methods of reliability and validity for study instrument are discussed. Finally, data analysis methods used to collected data in this study are described.

Chapter 4 presents data analysis methods, which contain the description, discussion of the analysis results and the result of hypothesis testing. The main analysis of data was made by the Structural Equation Modelling (SEM) technique. In

this study, the researcher uses SPSS and AMOS programs to evaluate the data collected from the survey. The AMOS program was used to test and analyze the measurement and structural model and examine the relationships between latent variables in this study.

Chapter 5 discussed the study objectives based on the hypotheses results obtained from chapter 4. Then both the theoretical and practical implication of this study is also highlighted. Followed by the discussion of the study limitation and recommendation for future research. Finally, the conclusion of this study was discussed.

## REFERENCES

- A.B. Hargadon, Firms as knowledge brokers (1998): lessons in pursuing continuous innovation, *California Management Review* 40(3). 209–270.
- Abdulsalam, D., & Mawoli, M. A. (2012). Motivation and job performance of academic staff of state universities in Nigeria: the case of Ibrahim Badamasi Babangida University, Lapai, Niger State. *International Journal of Business and Management*, 7(14), 142-148.
- Akhbar, A. R. N., & Musa, M. F. (2012). Enhancing Human Interaction of Knowledge Sharing in Higher Learning Workplace Environment. *Procedia-Social and Behavioral Sciences*, 35(2012), 137-145.
- Alavi, M., & Leidner, D. E. (2001). Review: Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS Quarterly*, 25 (1), 107-136.
- Alhammad, F., Al Faori, S., & Abu Husan, L. S. (2009). Knowledge Sharing in the Jordanian Universities. *Journal of Knowledge Management Practice*, 10(3), 1-9.
- Al-Mekhlafie, M. S. (1994). A study of job satisfaction of faculty members at Sana'a University in the Republic of Yemen: systematic analyses based on Herzberg's two-factor theory. UMI Dissertation Services.
- Al-Omari, A. A., Abu Tineh, A. M., & Khasawneh, S. A. (2013). Faculty members' attitudes, expectations and practices of Knowledge Management at higher education institutions in Jordan. *International Journal of Management in Education*, 7(1-2), 199-211.
- Al-oqaily, A. T., Hassan, Z. B., Rashid, A. M., & Al-sulami, Z. A. (2014). Success Factors of Knowledge Management in Universities (A Case Study: Jordanian Private Universities). *Middle-East Journal of Scientific Research*, 22(7), 994-1002.

- Alreck, P. L., & Settle, R. B. (2004). *The Survey Research Handbook* (3 Ed.) New York: McGraw-Hill Irwin.
- Altbach, P. G., & Knight, J. (2007). The internationalization of higher education: Motivations and realities. *Journal of Studies in International Education*, 11(3-4), 290-305.
- Amin, A., Hassan, M. F., Ariffin, M. B. M., & Rehman, M. (2011b). Knowledge sharing: two-dimensional motivation perspective and the role of demographic variables. *Journal of Information & Knowledge Management*, 10(02), 135-149.
- Amin, S. H. M., Zawawi, A. A., & Timan, H. (2011, a). To share or not to share knowledge: Observing the factors. A paper published *In Humanities, Science and Engineering (CHUSER)*, 2011 IEEE Colloquium on Penang (pp. 860-864). IEEE.
- Andrews, K. M., & Delahaye, B. L. (2000). Influences on knowledge processes in organizational learning: The psychological filter. *Journal of Management Studies*, 37(6), 2322-2380
- Argote, L., McEvily, B., & Reagans, R. (2003). Managing knowledge in organizations: An integrative framework and review of emerging themes. *Management Science*, 49(4), 571-582.
- Arnold, B. L., Gansneder, B. M., & Perrin, D. H. (2005). *Research Methods in Athletic Training*. Philadelphia, FA Davis Company.
- Arokiasamy, L., Ismail, M., Ahmad, A., & Othman, J. (2011). Predictors of academics' career advancement at Malaysian private universities. *Journal of European Industrial Training*, 35(6), 589-605.
- Babalhavaeji, F., & Kermani, Z. J. (2011). Knowledge sharing behaviour influences: a case of Library and Information Science faculties in Iran. *Malaysian Journal of Library & Information Science*, 16(1), 1-14.
- Babbie, E. (1992). *The practice of social research* (6th Ed.). Belmont, CA: Wadsworth.
- Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16 (1), 74-94.

- Bagozzi, R. P., Yi, Y., & Singh, S. (1991). On the use of structural equation models in experimental designs: Two extensions. *International Journal of Research in Marketing*, 8(2), 125-140.
- Bakan, I., Ersahan, B., & Büyükbese, T. (2011). A research model on the effects of job satisfaction, extrinsic motivation and knowledge sharing intention on knowledge sharing. *China-USA Business Review*, 10(10),1047-1060.
- Bakker, M., Leenders, R. T. A., Gabbay, S. M., Kratzer, J., & Van Engelen, J. M. (2006). Is trust really social capital? Knowledge sharing in product development projects. *The Learning Organization*, 13(6), 594-605.
- Bandura A (1997). *Self-efficacy: The exercise of control*. New York: W.H. Freeman Company.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ, Prentice-Hall, Inc.
- 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), 1173-1182.
- Bartol, K. M., & Locke, E. A. (2000). Incentives and motivation. Compensation in organizations: *Current research and practice*, 104-147.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: the desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117(3), 497-529.
- Bentler, P. M., & Bonett, D. G. (1980). *Significance tests and goodness of fit in the analysis of covariance structures*. *Psychological Bulletin*, 88(3), 588-606.
- Bigirimana, S., Sibanda, E. N., & Masengu, R. (2016). The Impact of Working Conditions on Academic Staff Turnover at Africa University, Mutare, Zimbabwe. *Asian Journal of Social Sciences and Management Studies*, 3(2), 91-98.
- Bin, L., Hong, Z., & MingLiang, W. (2008, December). An Exploration of the Relationship between Knowledge Sharing and Organizational Cultures in Education. Paper published in *International Symposium on Knowledge Acquisition and Modeling, 2008, KAM'08*. In IEEE (pp. 429-433).

- 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.
- Blanche, M. T., Durrheim, K., & Painter, D. (2006). *Research in practice: Applied methods for the social sciences*. Juta and Company Ltd.
- Bock, G. W., & Kim, Y. G. (2001). Breaking the myths of rewards: An exploratory study of attitudes about knowledge sharing. *Information Resources Management Journal (IRMJ)*, 15(2), 14-21.
- Bock, G. W., Zmud, R. W., Kim, Y. G., & Lee, J. N. (2005). Behavioral intention formation in knowledge sharing: Examining the roles of extrinsic motivators, social-psychological forces, and organizational climate. *MIS Quarterly*, 29(1), 87-111.
- Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of cross-cultural psychology*, 1(3), 185-216.
- Brown, R. B., & Woodland, M. J. (1999). Managing knowledge wisely: A case study in organizational behavior. *Journal of Applied Management Studies*, 8(2), 175.
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit: Testing Structural Equation Models. *Sage Focus Editions*, 154, 136-136.
- Bryman, A., & Bell, E. (2015). *Business Research Methods*. Oxford University Press, USA.
- Buckley, S. (2012). Higher education and knowledge sharing: From the ivory tower to the twenty-first century. *Innovations in Education and Teaching International*, 49(3), 333-344.
- Burton, L. J., & Mazerolle, S. M. (2011). Survey instrument validity part I: Principles of survey instrument development and validation in athletic training education research. *Athletic Training Education Journal*, 6(1), 27-35.
- Cabrera, A., Collins, W. C., & Salgado, J. F. (2006). Determinants of individual engagement in knowledge sharing. *The International Journal of Human Resource Management*, 17(2), 245-264.
- Cabrera, E. F., & Cabrera, A. (2005). Fostering knowledge sharing through people management practices. *The International Journal of Human Resource Management*, 16(5), 720-735.

- Cha, E. S., Kim, K. H., & Erlen, J. A. (2007). Translation of scales in cross-cultural research: issues and techniques. *Journal of advanced nursing*, 58(4), 386-395.
- Chang, M. K. (1998). Predicting unethical behavior: A comparison of the theory of reasoned action and the theory of planned behavior. *Journal of Business Ethics*, 17(16), 1825-1834.
- Chen, C. A., & Hsieh, C. W. (2015). Knowledge sharing motivation in the public sector: the role of public service motivation. *International Review of Administrative Sciences*, 81(4), 812-832.
- Chen, G. L., Ling, W. Y., Yang, S. C., Tang, S. M., & Wu, W. C. (2011, August). Explicit knowledge and tacit knowledge sharing. A paper published *In Management and Service Science (MASS)*, 2011 International Conference on IEEE (pp. 1-4).
- Chen, S. S., Chuang, Y. W., & Chen, P. Y. (2012). Behavioral intention formation in knowledge sharing: Examining the roles of KMS quality, KMS self-efficacy, and organizational climate. *Knowledge-Based Systems*, 31, 106-118.
- 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.
- Chennamaneni, A., (2006). *Determinants of knowledge sharing behaviors: Developing and testing an integrated theoretical model*. ProQuest Dissertations and Theses (Electronic resource collection), the University of Texas at Arlington.
- Cho, N., zheng Li, G., & Su, C. J. (2007). An empirical study on the effect of individual factors on knowledge sharing by knowledge type. *Journal of Global Business and Technology*, 3(2), 1-15.
- Christensen, P. H. (2007). Knowledge sharing: moving away from the obsession with best practices. *Journal of Knowledge Management*, 11(1), 36-47.
- Clapper, D. C. (2008). Reliability and validity of an instrument to describe burnout among collegiate athletic trainers. *Journal of Athletic Training*, 43(1), 62-69.
- Collins, C. J., & Smith, K. G. (2006). Knowledge exchange and combination: The role of human resource practices in the performance of high-technology firms. *Academy of Management Journal*, 49(3), 544-560.

- Comm, C. L., & Mathaisel, D. F. (1998). Evaluating teaching effectiveness in America's business schools: Implications for service marketers. *Journal of Professional Services Marketing*, 16(2), 163-170.
- Connelly, C. E., & Kevin Kelloway, E. (2003). Predictors of employees' perceptions of knowledge sharing cultures. *Leadership & Organization Development Journal*, 24(5), 294-301.
- Constant, D., Kiesler, S., & Sproull, L. (1994). What's mine is ours, or is it? A study of attitudes about information sharing. *Information systems research*, 5(4), 400-421.
- Constant, D., Sproull, L., & Kiesler, S. (1996). The kindness of strangers: The usefulness of electronic weak ties for technical advice. *Organization Science*, 7(2), 119-135.
- Craighead, C. W., Ketchen, D. J., Dunn, K. S., & Hult, G. T. M. (2011). Addressing common method variance: guidelines for survey research on information technology, operations, and supply chain management. *Engineering Management*, 58(3), 578-588.
- Creswell, J. W. (2012). *Qualitative inquiry and research design: Choosing among five approaches*. Sage Publishers.
- Cruz, Natalia Martin et al. (2009). The Influence of Employee Motivation on Knowledge Transfer. *Journal of Knowledge Management*, 13(6), 478-490.
- Cummings, J. N. (2004). Workgroups, structural diversity, and knowledge sharing in a global organization. *Management Science*, 50(3), 352-364.
- Da Silva, F. Q., & França, A. C. C. (2012). Towards understanding the underlying structure of motivational factors for software engineers to guide the definition of motivational programs. *Journal of Systems and Software*, 85(2), 216-226.
- Daft, R. L., & Marcic, D. (2006). *Understanding management*. Cengage Learning.
- Das, Sidharta R. & Maheshkumar P. Joshi. (2007). Process Innovativeness in Technology Services Organizations. *Journal of Operations Management*, 25(3), 643-660.
- Davenport, T. H., & Prusak, L. (1997). *Information ecology: Mastering the information and knowledge environment*. Oxford University Press.
- Davenport, T. H., & Prusak, L. (1998). *Working knowledge: How organizations manage what they know*. Boston, MA: Harvard Business School Press.



- David, W., & Fahey, L. (2000). Diagnosing cultural barriers to knowledge management. *The Academy of Management Executive*, 14(4), 113-127.
- Davis, M. (2003). Barriers to reflective practice the changing nature of higher education. *Active Learning in Higher Education*, 4(3), 243-255.
- Deci, E. L., & Ryan, R. M. (1975). *Intrinsic motivation*. John Wiley & Sons, Inc.
- Deci, E. L., & Ryan, R. M. (1987). The support of autonomy and the control of behavior. *Journal of Personality and Social Psychology*, 53(6), 1024-1037.
- Deci, E. L., Koestner, R., & Ryan, R. M. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin*, 125(6), 627-668.
- Donner, A. (1992). Sample size requirements for stratified cluster randomization designs. *Statistics in medicine*, 11(6), 743-750
- Dougherty, V. (1999). Knowledge is about people, not databases. *Industrial and Commercial Training*, 31(7), 262-266.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: an introduction to theory and research*. Massachusetts, Addison-Wiley Publishing Company.
- Ford, D. P., & Chan, Y. E. (2003). Knowledge sharing in a multi-cultural setting: a case study. *Knowledge Management Research & Practice*, 1(1), 11-27.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.
- Foss, N. J., Minbaeva, D. B., Pedersen, T., & Reinholt, M. (2009). Encouraging knowledge sharing among employees: How job design matters. *Human Resource Management*, 48(6), 871-893.
- França, A. C. C., Da Silva, F. Q., de LC Felix, A., & Carneiro, D. E. (2014). Motivation in software engineering industrial practice: A cross-case analysis of two software organizations. *Information and Software Technology*, 56(1), 79-101.
- Fullwood, R., Rowley, J., & Delbridge, R. (2013). Knowledge sharing amongst academics in UK universities. *Journal of Knowledge Management*, 17 (1), 123-136.
- Gagne, M. (2009). A model of knowledge-sharing motivation. *Human Resource Management*, 48(4), 571-589.

- Gefen, D., Straub, D., & Boudreau, M. C. (2000). *Structural equation modeling and regression: Guidelines for research practice*. Communications of the association for information systems, 4(2000), 7.
- George, J. M., & Brief, A. P. (1996). Motivational agendas in the workplace: The effects of feelings on the focus of attention and work motivation. *Elsevier Science/JAI Press*, 18, 95-109.
- Goh, S. K., & Sandhu, M. S. (2013b). Affiliation, reciprocal relationships and peer pressure in knowledge sharing in public Universities in Malaysia. *Asian Social Science*, 9(7), 290-298.
- Goh, S. K., & Sandhu, M. S. (2014). The influence of trust on knowledge donating and collecting: An examination of Malaysian Universities. *International Education Studies*, 7(2), 125-136.
- Goh, S. K., & Sandhu, M.S. (2013a). Knowledge sharing among Malaysian academics: Influence of affective commitment and trust. *The Electronic Journal of Knowledge Management*, 11(1), 38-48.
- Guay, F., Chanal, J., Ratelle, C. F., Marsh, H. W., Larose, S., & Boivin, M. (2010). Intrinsic, identified, and controlled types of motivation for school subjects in young elementary school children. *British Journal of Educational Psychology*, 80(4), 711-735.
- Gurteen, D. (1999). Creating a knowledge sharing culture. *Knowledge Management Magazine*, 2(5), 1-4.
- Gururajan, V., & Fink, D. (2010). Attitudes towards knowledge transfer in an environment to perform. *Journal of Knowledge Management*, 14(6), 828-840.
- Haddad, S. I., & Taleb, R. A. (2016). The impact of self-efficacy on performance (An empirical study on business faculty members in Jordanian universities). *Computers in Human Behavior*, 55, 877-887.
- Hair, J. F. (1998). *Multivariate Data Analysis*. Upper Saddle River, N.J: Prentice Hall.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate Data Analysis (Vol. 6)*. Upper Saddle River, NJ: Pearson Prentice Hall.
- Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science*, 40(3), 414-433.

- Han, B. M., & Anantatmula, V. S. (2007). Knowledge sharing in large IT organizations: A case study. *Vine*, 37(4), 421-439.
- Hargadon, A. B. (1998). Firms as knowledge brokers: lessons in pursuing continuous innovation. *California management review*, 40(3), 209-227.
- Harman, H. H. (1967). *Modern Factor Analysis*. Chicago: University of Chicago Press.
- Hau, Y. S., Kim, B., Lee, H., & Kim, Y. G. (2013). The effects of individual motivations and social capital on employees' tacit and explicit knowledge sharing intentions. *International Journal of Information Management*, 33(2), 356-366.
- Hendriks, P. (1999). Why share knowledge? The influence of ICT on the motivation for knowledge sharing. *Knowledge and Process Management*, 6(2), 91-100.
- Herzberg, F. (1966). *Work and the Nature of Man*. World Pub. Co, Cleveland
- Hislop, D. (2009), *Knowledge Management in Organizations*, 2nd ed., Oxford University Press, Oxford
- Holdsworth, S., Wyborn, C., Bekessy, S., & Thomas, I. (2008). Professional development for education for sustainability: How advanced are Australian universities. *International Journal of Sustainability in Higher Education*, 9(2), 131-146.
- Howell, K. E., & Annansingh, F. (2013). Knowledge generation and sharing in UK universities: A tale of two cultures. *International Journal of Information Management*, 33(1), 32-39.
- Hsu MH, Chiu CM (2004). Internet self-efficacy and electronic service acceptance. *Decision Support Systems*, 38(3): 369-381.
- 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.
- Huisman, J., & Currie, J. (2004). Accountability in higher education: Bridge over troubled water. *Higher Education*, 48(4), 529-551.
- Hung, S. Y., Durcikova, A., Lai, H. M., & Lin, W. M. (2011). The influence of intrinsic and extrinsic motivation on individuals' knowledge sharing behavior. *International Journal of Human-Computer Studies*, 69(6), 415-427.

- Hung, S. Y., Durcikova, A., Lai, H. M., & Lin, W. M. (2011). The influence of intrinsic and extrinsic motivation on individuals' knowledge sharing behavior. *International Journal of Human-Computer Studies*, 69(6), 415-427.
- Husted, K., & Michailova, S. (2002). Diagnosing and fighting knowledge-sharing hostility. *Organizational Dynamics*, 31(1), 60-73.
- Ipe, M. (2003). Knowledge sharing in organizations: A conceptual framework. *Human Resource Development Review*, 2(4), 337-359.
- Iqbal, M. J., Rasli, A., Heng, L. H., Ali, M. B. B., Hassan, I., & Jolae, A. (2011). Academic staff knowledge sharing intentions and university innovation capability. *African Journal of Business Management*, 5(27), 11051-11059
- Irma Becerra-Fernandez, R. S. (2001). Organizational knowledge management: A contingency perspective. *Journal of Management Information Systems*, 18(1), 23-55.
- Ismail Al-Alawi, A., Yousif Al-Marzooqi, N., & Fraidoon Mohammed, Y. (2007). Organizational culture and knowledge sharing: critical success factors. *Journal of Knowledge Management*, 11(2), 22-42.
- Ismail Al-Alawi, A., Yousif Al-Marzooqi, N., & Fraidoon Mohammed, Y. (2007). Organizational culture and knowledge sharing: critical success factors. *Journal of knowledge management*, 11(2), 22-42.
- Jahani, S., Effendi, A. & T-Ramayah (2013). Reward System and Knowledge Sharing Behavior among Iranian Academics: Preliminary Survey Findings. *International Journal of Business and Innovation*, 1, 37-51
- Jahani, S., Ramayah, T., & Effendi, A. A. (2011). Is reward system and leadership important in knowledge sharing among academics? *American Journal of Economics and Business Administration*. 3(1), 87-94.
- Jain, K. K., Sandhu, M. S., & Sidhu, G. K. (2007). Knowledge sharing among academic staff: A case study of business schools in Klang Valley, Malaysia. Malaysia. " *JASA*, 2, 23-29.
- Jarvenpaa, S. L., & Staples, D. S. (2000). The use of collaborative electronic media for information sharing: an exploratory study of determinants. *The Journal of Strategic Information Systems*, 9(2), 129-154.
- Jashapara, D.J. & Prasarnphanich, P. (2004), "Understanding the antecedents of effective knowledge management: the importance of a knowledge-centered culture," *Decision Sciences*, 34 (2), 35-84.

- Javadi, M. H. M., Zadeh, N. D., Zandi, M., & Yavarian, J. (2012). Effect of Motivation and Trust on Knowledge Sharing and Effect of Knowledge Sharing on Employee's Performance. *International Journal of Human Resource Studies*, 2(1), 210-221.
- Jeon, S., Kim, Y.-G. & Koh, J. (2011). An integrative model for knowledge sharing in communities of- practice. *Journal of Knowledge Management*, 15(2), 251-269.
- Johanson, G. A., & Brooks, G. P. (2010). Initial scale development: sample size for pilot studies. *Educational and Psychological Measurement*, 70 (3), 394-400.
- Jolaei, A., Md Nor, K., Khani, N., & Md Yusoff, R. (2014). Factors affecting knowledge sharing intention among academic staff. *International Journal of Educational Management*, 28(4), 413-431.
- Jolliffe, I. T. (2002). *Principal Component Analysis*. New York, Springer.
- Jones, M. C., Cline, M., & Ryan, S. (2006). Exploring knowledge sharing in ERP implementation: an organizational culture framework. *Decision Support Systems*, 41(2), 411-434.
- Jones, P., & Jordan, J. (1998). Knowledge orientations and team effectiveness. *International Journal of Technology Management*, 16, 152-161.
- Joreskog, K. G. (1993). *Testing Structural Equation Models*. Sage Focus Editions.
- Joreskog, K., & Sorbom, D. (1993). *LISREL 8: Structural equation modeling with the SIMPLIS command language*. Hillsdale, NJ: Lawrence Erlbaum
- Kankanhalli, A., Tan, B. C., & Wei, K. K. (2005). Contributing knowledge to electronic knowledge repositories: an empirical investigation. *MIS Quarterly*, 29 (1), 113-143.
- Kelley, H. H., & Thibaut, J. W. (1978). *Interpersonal relations: A theory of Interdependence*. Wiley, New York, 1978.
- Kidwell, J. J., Vander Linde, K., & Johnson, S. L. (2000). Applying Corporate Knowledge Management Practices in Higher Education. *Educause Quarterly*. 4(2000), 28-33.
- Kim, S., & Lee, H. (2006). The impact of organizational context and information technology on employee knowledge-sharing capabilities. *Public Administration Review*, 66(3), 370-385.
- Kline, R. B. (2011). *Principles and practice of structural equation modeling*. New York, Guilford Press.

- Ko, D. G., Kirsch, L. J., & King, W. R. (2005). Antecedents of knowledge transfer from consultants to clients in enterprise system implementations. *MIS Quarterly*, 29 (1), 59-85.
- Kolekofski, K.E., and Heminger, A.R. (2003), "Beliefs and attitudes affecting intentions to share information in an organizational setting", *Information & Management*, 40, 521-32
- Komarraju, M., Musulkin, S., & Bhattacharya, G. (2010). Role of student-faculty interactions in developing college students' academic self-concept, motivation, and achievement. *Journal of College Student Development*, 51(3), 332-342.
- Kowal, J., & Fortier, M. S. (1999). Motivating determinants of flow: Contributions from self-determination theory. *The Journal of Social Psychology*, 139(3), 355-368.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607-610.
- Kristina, M. (2006), 'Essays on interpersonal level knowledge sharing within the Multinational Corporation,' Unpublished, Ph.D. Dissertation, Copenhagen Business School, Denmark. Available online at <http://helecon3.hkkk.fi/diss/?cmd=show&dissid=308&lang=eng>.
- Kumaraswamy, K. S. N., & Chitale, C. M. (2012). Collaborative knowledge sharing strategy to enhance organizational learning. *Journal of Management Development*, 31(3), 308-322.
- Lam, A. (2000). Tacit knowledge, organizational learning and societal institutions: an integrated framework. *Organization studies*, 21(3), 487-513.
- Latham, G. P. (2007). *Work motivation history, theory, research, and practice*. Thousand Oaks, Calif, Sage Publications.
- Lauring, J., & Selmer, J. (2012). Knowledge sharing in diverse organizations. *Human Resource Management Journal*, 22(1), 89-105.
- Leech, N. L., Barrett, K. C., & Morgan, G. A. (2005). *SPSS for Intermediate Statistics Uses and Interpretation*. Mahwah, N.J., Lawrence Erlbaum.
- Leete, L. (2000). Wage Equity and Employee Motivation in Non-Profit and For-Profit Organizations. *Journal of Economic and Behavior Organization*, 43(4), 423-446.

- Lelic, S. (2001), "Creating a knowledge-sharing culture", *Knowledge Management*, 4 (5) 6-9.
- 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, H. F. (2007). Effects of extrinsic and intrinsic motivation on employee knowledge sharing intentions. *Journal of Information Science*, 33(2), 135-149.
- Lin, H. -F. (2007b). Knowledge sharing and firm innovation capability: An empirical study. *International Journal of Manpower*, 28(3/4), 315–332.
- Lind, M., & Ngoma, N. S. (2015). Knowledge Transfer and Team Performance in Distributed Organizations. *International Journal of Knowledge-Based Organizations (IJKBO)*. 5(2), 58-80.
- Link, A. N., Siegel, D. S., & Bozeman, B. (2007). An empirical analysis of the propensity of academics to engage in informal university technology transfer. *Industrial and corporate change*, 16(4), 641-655.
- Locke, E. A., & Latham, G. P. (2004). What should we do about motivation theory? Six recommendations for the twenty-first century. *Academy of Management Review*, 29(3), 388-403.
- Lowendahl, B. R., Revang, Ø, & Fosstenløyken, S. M. (2001). Knowledge and value creation in professional service firms: A framework for analysis. *Human Relations*, 54(7), 911-931.
- Luthans, F. (1998). *Organizational behavior*. New York, McGraw-Hill.
- Machado, M. D. L., Soares, V. M., Brites, R., Ferreira, J. B., & Gouveia, O. M. R. (2011). A look at academics job satisfaction and motivation in Portuguese Higher Education Institutions. *Procedia-Social and Behavioral Sciences*, 29, 1715-1724.
- Machlup, F. (1983). Semantic Quirks in Studies of Information. In the study of information: *Interdisciplinary messages*, 641-671.
- Malik, M. E., & Naeem, B. (2013). Towards understanding controversy on Herzberg theory of motivation. *World Applied Sciences Journal*, 24(8), 1031-1036.
- Mansor, Z. D., & Saparudin, I. N. (2015). Motivational Factors for Academicians in Private Universities to Participate in Knowledge-Sharing Activities. *Pertanika Journal of Social Sciences & Humanities*, 23,101-116.

- Marsh, H. W., & Hocevar, D. (1985). Application of confirmatory factor analysis to the study of self-concept: First and higher order factor models and their invariance across groups. *Psychological Bulletin*, 97(3), 562-582.
- Maslow, A. H., Frager, R., & Cox, R. (1970). *Motivation and Personality* (Vol. 2). J. Fadiman & C. McReynolds (Eds.). New York: Harper & Row.
- Masron, T. A., Ahmad, Z., & Rahim, N. B. (2012). Key Performance Indicators vs. Key Intangible Performance among Academic Staff: A case study of a public university in Malaysia. *Procedia-Social and Behavioral Sciences*, 56, 494-503.
- Mawoli, M. A., & Babandako, A. Y. (2011). An evaluation of staff motivation, dissatisfaction and job performance in an academic setting. *Australian Journal of Business and Management Research*, 1(9), 1-13.
- McAdam, R., & Reid, R. (2000). A comparison of public and private sector perceptions and use of knowledge management. *Journal of European Industrial Training*, 24(6), 317-329.
- McDermott, R., & O'Dell, C. (2001). Overcoming cultural barriers to sharing knowledge. *Journal of Knowledge Management*, 5(1), 76-85.
- Megginson, L. C., Mosley, D. C., & Pietri, P. H. (1983). *Management, concepts, and applications*. New York, Harper & Row.
- Meyer, P. (2002), "Improvisation power". *Executive Excellence*, 19(12), 17-18.
- Morris, M., Venkatesh V., Ackerman, P. (2005). Gender and Age Differences in employee decisions about new technology: An extension to the theory of planned behavior. *IEEE Transactions on Engineering Management*. 52(1), 69-84.
- Muhammad, N., Rahman, B. A., Rahman, W. Z. A., Asma'Rashidah Idris, S. M. S., & Jusoff, K. (2011). Knowledge management practices (KMP) and academic performance in Universiti Teknologi Mara (UITM) Terengganu, Malaysia. *World Applied Sciences Journal*, 12(12), 21-26.
- Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, 23(2), 242-266.
- Nassuora, A. B. (2011). Knowledge Sharing in Institutions of Higher Learning. *Management*, 1(3), 29-36.



- Neisser, U., Boodoo, G., Bouchard, T., Boykin, A., Brody, N., Ceci, S., Halpern, D., Loehlin, J., Perloff, R., Sternberg, R., & Urbina, S. (1966). Intelligence: Knowns and unknowns. *American Psychologist*, 51, 77–101
- Nejadhussein, S., & Azadbakht, P. (2011). Knowledge management readiness in a university in Iran: Perceptions and factors for initiating. *Journal of Knowledge-based Innovation in China*. 3(3), 172-183.
- Nelson, D.L. & Quick, J.C. (2003), *Organizational Behaviour: Foundation, Realities and Challenges* (4th ed.), Australia: Thomson South-Western.
- Netemeyer, R. G., Bearden, W. O., & Sharma, S. (2003). *Scaling Procedures: Issues and Applications*. Sage Publications.
- Newman, Sheldon W. (1962). Differences between early and late respondents to a mailed survey. *Journal of Advertising Research*. Vol. 2, 37-39.
- Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization Science*, 5(1), 14-37.
- Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company: how Japanese companies create the dynamics of innovation*. New York, Oxford University Press.
- Nonaka, I., Von Krogh, G., & Voelpel, S. (2006). Organizational knowledge creation theory: evolutionary paths and future advances. *Organization studies*, 27(8), 1179-1208.
- Nunnally, J. C. (1967). *Psychometric Theory*. New York, McGraw-Hill.
- Nwadiani, M., & Akpotu, N. E. (2002). Academic staff turnover in Nigerian universities (1990-1997). *Education*, 123(2), 305-312.
- O'Dell, C. and Grayson, C.J. (1998), "If only we knew what we know: identification and transfer of internal best practices", *California Management Review*, Vol. 40(3), 154-74.
- Olatokun, W., & Nwafor, C. I. (2012). The effect of extrinsic and intrinsic motivation on knowledge sharing intentions of civil servants in Ebonyi State, Nigeria. *Information Development*, 28(3), 216-234.
- Oliver, S., & Reddy Kandadi, K. (2006). How to develop knowledge culture in organizations? A multiple case study of large distributed organizations. *Journal of knowledge management*, 10(4), 6-24.
- Organ, D. W. (1989). Organizational citizenship behavior: the good soldier syndrome. *The Academy of Management Review*. 14(2), 294-297

- Osborne, J. W., & Overbay, A. (2004). The power of outliers (and why researchers should always check for them). *Practical assessment, research & evaluation*, 9(6), 1-12.
- Osterloh, M., & Frey, B. S. (2000). Motivation, knowledge transfer, and organizational forms. *Organization Science*, 11(5), 538-550.
- P. Kollock, The economies of online cooperation: gifts and public goods in Cyberspace. In M. Smith and P. Kollock (eds), *Communities in Cyberspace* (Routledge, New York, 1999) 220–39.
- P.M. Blau . *Exchange and Power in Social Life*. (John Wiley, New York, 1964).
- Padilla-Meléndez, A., & Garrido-Moreno, A. (2012). Open innovation in universities: What motivates researchers to engage in knowledge transfer exchanges? *International Journal of Entrepreneurial Behavior & Research*, 18(4), 417-439.
- Pinder, C.C. (1998), *Work Motivation in Organizational Behaviour*, Upper Saddle River, New Jersey: Prentice-Hall.
- Pinsonneault, A., & Kraemer, K. L. (1993). Survey research methodology in management information systems: an assessment. *Journal of Management Information Systems*, 10(2), 75-105.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903.
- Polanyi, M. (1966). *The tacit dimension*. Garden City, N.Y., Doubleday.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879-891.
- Preedy, V. R., & Watson, R. R. (2010). *Handbook of disease burdens and quality of life measures*. New York, NY, Springer.
- Prichard, C. (2000). *Managing knowledge: critical investigations of work and learning*. New York, St. Martin's Press.
- Probst, G., Raub, S., & Romhardt, K. (2000). *Managing knowledge: building blocks for success*. New York. John Wiley & Sons.
- Prof. Ahmed Al Wahadneh (2015, March 3).Scientific Publications at Jordanian universities shocking numbers, *TLB news*, Retrieved August 8, 2016,

النشر العلمي في الجامعات الأردنية. أرقام صادمة  
<http://www.talabaneews.net/ar> #.V7G4yJh97IU.

- Rahab, P., & Wahyuni (2013). Predicting Knowledge Sharing Intention Based on Theory of Reasoned Action Framework: An Empirical Study on Higher Education Institution. *American International Journal of Contemporary Research* 3(1), 138-147
- Rahman, M. S., Osmangani, A. M., Daud, N. M., & AbdelFattah, F. A. M. (2016). Knowledge sharing behaviors among non-academic staff of higher learning institutions: Attitude, subjective norms and behavioral intention embedded model. *Library Review*, 65(1/2), 65-83.
- 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.
- Rasli, A., 2006. *Data analysis and beyond: A practical guide for post-graduate social scientists*. Penerbit, UTM, Skudai, Malaysia.
- Reychav, I., & Weisberg, J. (2004). Antecedents and outcomes of knowledge management: an individual-level model. In *Proceedings of Fifth European Conference on Knowledge Management (5th ECKM)*, Conservatoire National des Arts et Métiers, Paris, France, 30 September-1 October 2004 (pp. 749-760).
- Reychav, I., & Weisberg, J. (2010). Bridging intention and behavior of knowledge sharing. *Journal of Knowledge Management*, 14(2), 285-300.
- Riege, A. (2005). Three-dozen knowledge-sharing barriers managers must consider. *Journal of Knowledge Management*, 9(3), 18-35.
- Rowley, J. (1996). Motivation and academic staff in higher education. *Quality Assurance in Education*, 4(3), 11-16.
- Rowley, J. (2000). Is higher education ready for knowledge management? *International Journal of Educational Management*, 14(7), 325-333.
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25(1), 54-67.
- Sajeva, S. (2014). Encouraging Knowledge Sharing among Employees: How Reward Matters. *Procedia-Social and Behavioral Sciences*, 156, 130-134.

- Salkind, D. N. J. J. (2006). *Encyclopedia of Measurement and Statistics*. Thousand Oaks, SAGE Publications.
- Salmi, J. (2009). *The Challenge of Establishing World-Class Universities*. Washington DC: The World Bank.
- Sarvary, M. (1999). Knowledge Management and Competition in the Consulting Industry. *California Management Review*, 41 (2), 95-107.
- Saunders, Mark, Philip Lewis, and Adrian Thornhill.(2003). *Research methods for business students*. 3rd ed. London: Prentic-Hall.
- Sawhney, M., & Prandelli, E. (2001). Communities of Creation: Managing Distributed Innovation in Turbulent Markets. *IEEE Engineering Management Review*, 29(1), 6-24.
- Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A., & King, J. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of educational research*, 99(6), 323-338.
- Schulz, M. (2001). The uncertain relevance of newness: Organizational learning and knowledge flows. *Academy of Management Journal*, 44(4), 661-681.
- Seba, I., Rowley, J., & Lambert, S. (2012). Factors affecting attitudes and intentions towards knowledge sharing in the Dubai Police Force. *International Journal of Information Management*, 32(4), 372-380.
- Sekaran, U. (2003). *Research methods for business: A skill-building approach*. New York, John Wiley & Sons.
- 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.
- Seyoum, Y. (2016). Analysis of faculty member's attitude towards academic development endeavors in some selected Ethiopian universities. *International Journal of Instruction*, 9(1), 49-64.
- Shaari, R., Rahman, S. A. A., & Rajab, A. (2014). Self-Efficacy as a Determined Factor for Knowledge Sharing Awareness. *International Journal of Trade, Economics and Finance*, 5(1), 39-42.
- Shanshan, S. (2014). A Comprehensive Relational Model of Factors Influencing Knowledge Sharing: An Empirical Study. *International Journal of Knowledge Management (IJKM)*, 10(1), 1-25.

- Shanti, T. I., Janssens, J. M. A. M., & Setiadi, B. (2016). University support, motivation to learn, emotional adjustment, and academic performance. *Asian Journal of Basic and Applied Sciences*, 3(1), 1-14.
- Sharratt, M., & Usoro, A. (2003). Understanding knowledge sharing in online communities of practice. *Electronic Journal of Knowledge Management*, 1(2), 187-196.
- Shaughnessy, J. J., & Zechmeister, E. B. (1985). *Research Methods in Psychology*. Alfred A. Knopf.
- Shaughnessy, J. J., Zechmeister, E. B., & Zechmeister, J. S. (2012) 9th. *Research Methods in Psychology*. AMGH Editora.
- Sheppard, B. H., Hartwick, J., & Warshaw, P. R. (1988). The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research. *Journal of Consumer Research*, 15(3), 325-343.
- Siddique, A., Aslam, H. D., Khan, M., & Fatima, U. (2011). The impact of academic leadership on faculty's motivation, and organizational effectiveness in higher education system. *International Journal of Business and Social Science*, 2(8), 184-191.
- Siegel, D. S., Waldman, D. A., Atwater, L. E., & Link, A. N. (2003). Commercial knowledge transfers from universities to firms: improving the effectiveness of university–industry collaboration. *The Journal of High Technology Management Research*, 14(1), 111-133.
- Slocombe, T. E. (1999). Applying the theory of reasoned action to the analysis of an individual's polychronicity. *Journal of Managerial Psychology*, 14(3/4), 313-324.
- Smerek, R. E., & Peterson, M. (2007). Examining Herzberg's theory: Improving job satisfaction among non-academic employees at a university. *Research in Higher Education*, 48(2), 229-250.
- Sohail, M. S., & Daud, S. (2009). Knowledge sharing in higher education institutions: Perspectives from Malaysia. *Vine*, 39(2), 125-142.
- Song, Z., & Chon, K. (2012). General self-efficacy's effect on career choice goals via vocational interests and person–job fit: A mediation model. *International Journal of Hospitality Management*, 31(3), 798-808.

- Stenius, M., Hankonen, N., Ravaja, N. & Haukkala, A. (2016). Why share expertise? A closer look at the quality of motivation to share or withhold knowledge. *Journal of Knowledge Management*, 20(2), 181-198.
- Stenmark, D. (2000). Leveraging tacit organizational knowledge. *Journal of Management Information Systems*, 17(3), 9-24.
- Stewart, T., & Ruckdeschel, C. (1998). Intellectual capital: *The new wealth of organizations*. 37(7), 56–59,
- Su, C. T., & Parham, L. D. (2002). Generating a valid questionnaire translation for cross-cultural use. *American Journal of Occupational Therapy*, 56(5), 581-585.
- Sudirman, I. & Habibie (2014). Dominant Factors Influencing Knowledge Sharing Among Employees at PT Inco Tbk Indonesia. *American Journal of Business and Management*, 3(4), 224-236.
- Suhr, D.D., 2006. *Exploratory or Confirmatory Factor Analysis*. Cary: SAS Institute.
- Supar, N. (2012). Technological factors affecting knowledge sharing among academic staff in selected Malaysian higher educational institutions and the effect on performance. *Journal of Education and Vocational Research*, 3(7), 234-241.
- Susanty, A. I., Wardhana, A., Hidayatunnisa, D., & Auliya, N. (2014). Extrinsic and Intrinsic Motivation Influence Employees' Performance through Knowledge Sharing, a paper published in *International Conference on Emerging Trends in Academic Research*, November 25-26, 2014. Bali, Indonesia, 446-454.
- Sutton, M. (2006). Knowledge citizen's approach to knowledge sharing, rewards and incentive. *South African Journal of Information Management*, 8(3).
- 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.
- T. Davenport and L. Prusak, (1998). *Working Knowledge*. Harvard Business School Press, Cambridge, MA.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Multivariate analysis of variance and covariance. Using multivariate statistics*, 3, 402-407.

- Tan, C. N. L. (2016). Enhancing knowledge sharing and research collaboration among academics: the role of knowledge management. *Higher Education*, 71(4), 525-556.
- Tan, C. N. L., & Ramayah, T. (2014). The role of motivators in improving knowledge sharing among academics. *Information Research: An International Electronic Journal*, 19(1), 1-19.
- Tan, T. H., & Waheed, A. (2011). Herzberg's motivation-hygiene theory and job satisfaction in the Malaysian retail sector: The mediating effect of the love of money. *Asian Academy of Management Journal*, 16(1), 73-94.
- Taylor, J. (2006). "Big is Beautiful." Organisational Change in Universities in the United Kingdom: New Models of Institutional Management and the Changing Role of Academic Staff. *Higher Education in Europe*, 31 (3), 251-273.
- Teh P.-L., Chong C.-W., Yong C.-C., & Yew S.-Y. (2011). Do the big five personality factors affect knowledge sharing behaviour? A study of Malaysian universities. *Malaysian Journal of Library and Information Science*. 16(1), 47-62.
- Tella, Adeyinka, Ayeni, C. O., & Popoola, S.O. (2007). Work Motivation, Job Satisfaction, and Organisational Commitment of Library Personnel in Academic and Research Libraries in Oyo State. *Library Philosophy & Practice*, 9(1), 1-16.
- Terpstra, V. (1991). *The cultural environment of international business*. Cincinnati, South-Western Pub. Co.
- Tian, J., Nakamori, Y., & Wierzbicki, A. P. (2009). Knowledge management and knowledge creation in academia: a study based on surveys in a Japanese research university. *Journal of Knowledge Management*, 13(2), 76-92.
- Ting, J. Y., & Majid, M. S. (2007). Knowledge-sharing patterns of undergraduate students in Singapore. *Emerald Group Publishing*, 56 (6), 485-494.
- Tiwana, A. (2000). *The knowledge management toolkit: practical techniques for building a knowledge management system*. Upper Saddle River, NJ, Prentice
- Tohidinia, Z., & Mosakhani, M. (2010). Knowledge sharing behaviour and its predictors. *Industrial Management & Data Systems*, 110(4), 611-631.
- Trochim, W. (2001). *The Research Methods Knowledge Base* (2nd Ed). Cincinnati, OH: Atomic Dog Publishing.

- Tseng, C. P., Chang, M. L., & Chen, C. W. (2012). Human factors of knowledge sharing intention among Taiwanese enterprises: a preliminary study. *Human Factors and Ergonomics in Manufacturing & Service Industries*, 22(4), 328-339.
- Tyler, Tom R. (2003). Trust within Organizations. *Personnel Review*, 32(5), 556-568.
- Ukwayi, J. K., Uko, E. S., & Udida, L. A. (2013). A Critical Analysis of Career Stress Among Academic Staff of Tertiary Institutions in Cross River State. *Journal of Educational and Social Research*, 3(2), 15.
- Van Dinther, M., Dochy, F., & Segers, M. (2011). Factors affecting students' self-efficacy in higher education. *Educational Research Review*. 6(2), 95-108.
- Venkatesh, V. C. Speier and M.G. Morris. (2002). User acceptance enablers in individual decision making about technology. *Decision Sciences*, 33, 297-316.
- Venkatesh, V., & Davis, F. D. (1996). A model of the antecedents of perceived ease of use: Development and test. *Decision sciences*, 27(3), 451-481.
- Von Hippel, E. (1994). "Sticky information" and the locus of problem solving: implications for innovation. *Management Science*, 40(4), 429-439.
- Wang, S., & Noe, R. A. (2010). Knowledge sharing: A review and directions for future research. *Human Resource Management Review*, 20(2), 115-131.
- 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.
- Wasko, M., & Faraj, S. (2000). "It is what one does": Why people participate and help others in electronic communities of practice. *The Journal of Strategic Information Systems*, 9(2), 155-173.
- Wei Chong, C., Yen Yuen, Y., & Chew Gan, G. (2014). Knowledge sharing of academic staff: A comparison between private and public universities in Malaysia. *Library Review*, 63(3), 203-223.
- Welschen, J., Todorova, N., & Mills, A. M. (2012). An investigation of the impact of intrinsic motivation on organizational knowledge sharing. *International Journal of Knowledge Management (IJKM)*, 8(2), 23-42.
- Williams, B., Brown, T. & Onsmann, A., 2012. Exploratory factor analysis: A five-step guide for novices. *Australasian Journal of Paramedicine*, 8(3), p.1.



- Wood, F. (1990). Factors influencing research performance of university academic staff. *Higher Education*, 19(1), 81-100.
- Wright, P. M., & Noe, R. A. (1996). *Management of organizations*. Chicago, IL: Irwin.
- Yang, C., & Chen, L. -C. (2007). Can organizational knowledge capabilities affect knowledge sharing behavior? *Journal of Information Science*, 33(1), 95–109
- Yao, L. J., Kam, T. H. Y., & Chan, S. H. (2007). Knowledge sharing in Asian public administration sector: the case of Hong Kong. *Journal of Enterprise Information Management*, 20(1), 51-69.
- Yeon, K., Wong, S. F., Chang, Y., & Park, M.-C. (2015). Knowledge sharing behavior among community members in professional research information centers. *Information Development*, Retrieve from <http://idv.sagepub.com/cgi/doi/10.1177/0266666914566512>
- Yi, J. (2009). A measure of knowledge sharing behavior: Scale development and validation. *Knowledge Management Research & Practice*, 7, 65–81.
- 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.
- Zawawi, A. A., Zakaria, Z., Kamarunzaman, N. Z., Noordin, N., Sawal, M. Z. H. M., Junos, N. M., & Najid, N. S. A. N. (2011). The Study of Barrier Factors in Knowledge Sharing: A Case Study in Public University. *Management Science and Engineering*, 5(1), 59-70.
- Zhang, X., Chen, Z., Vogel, D., Yuan, M., & Guo, C. (2010). Knowledge-sharing reward dynamics in knowledge management systems: Game theory-based empirical validation. *Human Factors and Ergonomics in Manufacturing & Service Industries*, 20(2), 103-122.
- Zhou, A. Z., & Fink, D. (2003). Knowledge management and intellectual capital: an empirical examination of current practice in Australia. *Knowledge Management Research & Practice*, 1(2), 86-94.
- Zikmund, W., Babin, B., Carr, J., & Griffin, M. (2012). *Business Research Methods*, Cengage Learning, Australia South-Western
- Zoubi, D. M. (2009). Knowledge management awareness and its related operations and their impact on knowledge management utilization at Jordanian universities. *International Journal of Knowledge Management (IJKM)*, 5(4), 60-84.