DETERMINANTS OF KNOWLEDGE SHARING AMONG SENIOR OFFICERS OF ROYAL MALAYSIA POLICE (RMP)

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MASTER OF SCIENCE (MANAGEMENT)

UNIVERSITI UTARA MALAYSIA

December 2014

DETERMINANTS OF KNOWLEDGE SHARING AMONG SENIOR OFFICERS OF ROYAL MALAYSIA POLICE (RMP)

By

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Research Paper Submitted to
Othman Yeop Abdullah Graduate School of Business,
Universiti Utara Malaysia,
In Partial Fulfillment of the Requirement for the Master of Science (Management)

Othman Yeop Abdullah
Graduate School of Business

Universiti Utara Malaysia

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ABSTRACT

This study aims at investigating the influence of individual, organizational and technology factors on the success of knowledge sharing among senior officers of the Royal Malaysia Police (RMP). Level of education and length of service and knowledge self-efficacy are individual factors; top management support is organizational factor and ICT use is technology factor were used in this study as the independent variables. Respondents of this study were 230 senior officers that rank from Inspector to Superintendent who serve at Criminal Investigation Department (CID), Commercial Crime Investigation Department (CCID) and Narcotics Crime Investigation Department (NCID) at RMP headquarter in Bukit Aman. This study is a quantitative research that formally test the conceptual model developed using Statistical Package for Social Science (SPSS) version 22. Multiple regression and Analysis of Variance (ANOVA) were performed to test the hypotheses of the study. The results indicated that all of the factors (self-efficacy, top management support and ICT use) were positively and significantly related to knowledge sharing and there is no significant difference in knowledge sharing based on level of education and length of service among senior officers of RMP. It is believed that this study could contribute to theories and managerial practices.

Keywords: Knowledge Sharing, Knowledge Self-Efficacy, Top Management Support, ICT Usage, Royal Malaysia Police.

ABSTRAK

Kajian ini bertujuan untuk mengkaji pengaruh faktor individu, organisasi dan teknologi kepada kejayaan perkongsian pengetahuan di kalangan pegawai kanan Polis Diraja Malaysia (PDRM). Tahap pendidikan, tempoh perkhidmatan dan kebolehan berpengetahuan adalah faktor individu; sokongan pengurusan atasan adalah faktor organisasi dan penggunaan ICT adalah faktor teknologi digunakan dalam kajian ini sebagai pembolehubah bebas. Responden kajian terdiri daripada 230 pegawai kanan polis berpangkat Inspektor Polis hingga Penguasa Polis yang berkhidmat di Jabatan Siasatan Jenayah (JSJ), Jabatan Siasatan Jenayah Komersil (JSJK) dan Jabatan Siasatan Jenayah Narkotik (JSJN) Ibu Pejabat Polis Diraja Malaysia, Bukit Aman. Kajian ini menggunakan kaedah penyelidikan kuantitatif yang menguji secara formal model konseptual yang dibangunkan menggunakan Pakej Statistik Untuk Sains Social (SPSS) versi 22. Analisis Regresi Berganda dan Analisis Varians Sehala (ANOVA) telah dijalankan untuk menguji hipotesis kajian. Hasil keputusan kajian menunjukkan bahawa kesemua faktor (kebolehan berpengetahuan, sokongan pengurusan atasan dan penggunaan ICT) mempunyai hubungan signifikan yang positif dengan perkongsian pengetahuan manakala tidak terdapat perbezaan yang signifikan di antara tahap pendidikan dan tempoh perkhidmatan dengan perkongsian pengetahuan dikalangan pegawai kanan PDRM. Kelak, kajian ini diharap dapat menyumbang kepada teori dan amalan pengurusan.

Kata Kunci: Perkongsian Pengetahuan, Kebolehan Berpengetahuan, Sokongan Pengurusan Atasan, Penggunaan ICT, Polis Diraja Malaysia.

ACKNOWLEDGEMENT

Alhamdulillah, grateful thanks to Allah S.W.T for blessing me with an extraordinary strength, passion and patience throughout the journey of completing this research project. I am extremely grateful to the Jabatan Perkhidmatan Awam (JPA), Royal Malaysia Police (RMP), Universiti Utara Malaysia (UUM) and the National Institute of Public Administration (INTAN) for providing me the opportunity to further my study in Management Science.

My deepest gratitude to my supervisor, Dr. Darwina Binti Ahmad Arshad of UUM for her openness, accessibility, inspirational supervision, constructive suggestions, guidance and advice throughout the study. It has enabled me to develop a better understanding of the subject. Working with her has certainly been a pleasant and rewarding experience. My acknowledgment also goes to all lecturers of College of Business, UUM and lecturers and staff of INTAN, Bukit Kiara for their thoughts, knowledge and contribution during the course. My heartfelt appreciation also goes to all my fellow classmates of DSP/SSP session 2013/2014 during the whole process of achieving our Master's degree, particularly those in my group. Their help, dedication, commitment, advice, and a presence have made learning much more meaningful and exciting. The beautiful moments and memories of the time spent together will always be cherished and remembered for the rest of my life. I really appreciate the friendship we have built and hoped it will last. I also would like to express my gratitude to all respondents for their involvement in this study. Without their sincere participations, this study will not be as successful as today.

Finally, I dedicate this work to my family. There is no word to express my gratitude for the support that my wife, Nur Hafida Binti Mazuki has given me. I could not complete this program without her endless love, patience, understanding and encouragement. To my children Iman Shafaris Hakimie and Iman Shamirul Hafizi, thank you for always being by my side. My heartfelt appreciation also goes to all my family members especially to my mother Salmiah Binti Mohd Salleh and my father Ainul Bin Mohd Jani. I pray to the Al-Mighty to grant every individual who has contributed to this research, bountiful of His everlasting guidance and appreciation.

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LIST OF ABBREVIATIONS

Abbreviation		Meaning
ANOVA	=	Analysis of Variance
DV	=	Dependent Variable
GTP	=	Government Transformation Programme
ICT	=	Information & Communication Technology
IP	=	Investigation Paper
IV	=	Independent Variable
KC	=	Knowledge Collecting
KD	=	Knowledge Donating
KM	=	Knowledge Management
KPI	=	Key Performance Indicator
KS	=	Knowledge Sharing
KSE	=	Knowledge Self-Efficacy
M&P	=	Management and Professional
NKRA	=	National Key Result Areas
PCB	=	Public Complaints Bureau
PRO	=	Public Relations Officer
SD	=	Standard Deviation
SPSS	=	Statistical Package for Social Science
TMS	=	Top Management Support
UUM	=	Universiti Utara Malaysia

CHAPTER 1

INTRODUCTION

In this day and age, a factor to the success of the societies and economies depend on how the information and knowledge being shared by the societies. Public and private sectors highlighted the importance of knowledge sharing for organizational performance and efficiency. The capability of individuals in an organization to share knowledge within them is categorized as one of the critical contributing factors for organizational competitiveness. Due to this reason, the study is significant to determine the knowledge sharing as well as to examine the factors that influence knowledge sharing in organizations. This research focused on the public sector or to be more specific government agencies under the federal government, which is Royal Malaysia Police (RMP).

This chapter discusses the background as well as research problems and provides a clearer understanding to explain why this study needs to be investigated. The research questions and objectives of the study are then developed according to the research problems identified. It is then followed by significance and scope of the study of this research. Finally, the organizations of the research paper are detailed out.

1.1 Background of the Study

In today's economy environment, knowledge is a crucial resource because most of the organizations face stiff competition as a result of the globalization and rapid change of technology (Al-Hawamdeh, 2003). Knowledge can become a powerful tool to

change the world, and it is the most valued asset to the organizations to remain competitive (Syed-Ikhsan & Rowland, 2004a). The organization is like humans where knowledge in an organization is the key factors in order to ensure the continuity of the firm legacy (Hassan, 2014). Therefore, for that reason in the modern management of the organizations, people's skills, knowledge, and creativity are described as human capital and becomes increasingly important (Abidin, 2012).

The activity through which knowledge is exchanged between people, friends, and families such as information, skills, expertise, communities, or organizations is called knowledge sharing (Becerra-Fernandez, Gonzalez, & Sabherwal, 2004). On the other hand, knowledge management is a process that consists of three components, namely the existence of knowledge, knowledge sharing and knowledge reaction (Darroch, 2005). By implementing knowledge management in organizations, the management can improve knowledge sharing among employees, between employees and organization, thus can create a competitive advantage. One of the government strategies in order to achieve a higher income country status by year 2020 is by improving knowledge abilities and innovation and inculcating first-world minded as stated in Tenth Malaysia Plan 2011-2015 (RMK-10, 2010). Therefore, the government should think and start to plan for an effective knowledge management system so that the knowledge possessed by each employee will not be unattended, and it can be used to improve overall organizational performance (M. Ismail & Yusof, 2008).

In the public sector, knowledge sharing is central because it can assist governments in improving and to enhance public service delivery (K. M. Wiig, 2002). Knowledge sharing is important to be implemented in the public sector in order to make each of employees exchange their knowledge as well as to create new knowledge in turn to achieve innovative, creative and knowledge-based public services (Azhar, 2012). Knowledge sharing among employees should be applied because not only it added new knowledge to the individual but it can be profitable to the department and the organization as well. However, there are many constraints being experienced by the public sector, which relate to knowledge sharing (Amayah, 2013; Sandhu, Jain, & Ahmad, 2011). According to Papoutsakis (2007), to share knowledge effectively in the organization, top management need to create a knowledge sharing environment that allows employees to interact and communicate with each other without any constraints.

Royal Malaysia Police (RMP) is part of security force structure in Malaysia, with certain powers to guard the harmony and security for the nation. RMP is responsible for sustaining Malaysia as a peaceful country. As part of the public sector agencies, the primary mission of any police forces around the world is to protect life, preserve law and order and also to prevent and detect crime (Luen & Al-Hawamdeh, 2001). The policing system in Malaysia began in 1807 in Penang, after the Charter of Justice declared on March 25, 1807 (Mohd Reduan, 2004). In other words, the police force has been in Malaysia since 207 years ago. Today, RMP plays an integral part in the lives and well-being of 29 million ordinary Malaysians (Department of Statistics Malaysia, 2014) and this reflect in RMP's Vision statement as the lead enforcement

agency in upholding the rule of law, maintenance of peace, public order and national security. RMP headquarter is located at Bukit Aman, Kuala Lumpur.

The RMP leads by an Inspector-General of Police (IGP), and the post is currently held by Tan Sri Dato' Sri Khalid bin Abu Bakar. The constitution, control, employment, recruitment, fund, discipline, duties and powers of the police force is specified and governed by the Police Act 1967. Currently, RMP is the largest enforcement agency in the country with a strength reaching 115,779 personnel where 11,766 of it are senior police officer rank from Inspector to Commissioners of Police (Management Department RMP, 2014). As part of the security force structure in Malaysia, RMP has carried out their responsibility to sustain Malaysia's condition as a peaceful country. Field of the police force nowadays requires a new strategy in line with current requirements. The enhancement of creativity and innovation in solving the crime case is crucial for every police officer (Aliman, 2014). Thus, the police officer should equip themselves with knowledge in line with current requirements and criminal trend.

The structures of RMP, usually, characterized by complicated layers and lines of responsibility (i.e. with different rank of position, experience and level of education) with certain details of information reporting procedures. The disadvantages of those bureaucratic structures are it will slow the processes and raising constraints on information and knowledge flow (Birdi, Allen, Turgoose, McDonald, & Vössing, 2012). The reasons for unsuccessful for knowledge sharing including bureaucratic and complicated processes, working in silos and having incompatible structures, processes

and systems which did not communicate with one another (Birdi et al., 2012). Therefore, to share knowledge effectively, the top management of RMP needs to create an environment that allows all officers to interact and communicate with each other without any constraints. According to Birdi et al. (2012), a police force that has a better knowledge sharing capability, particularly in terms of letting knowledge flow up and down the hierarchy and using formal knowledge storage and management systems, report better ability to adapt to change. According to Luen and Al-Hawamdeh (2001), the management of intelligence and knowledge is a crucial aspect of the work of policing, and police forces need to be proactive in managing both explicit and implicit knowledge.

Knowledge makes one senior officer earned more respect from his men and also respected by the community (Ismail Omar, 2012). The sharing of knowledge among senior officers in the organization is able to add their knowledge individually. Therefore, it would be beneficial for the organization to move forward more effectively in social responsibility that has been entrusted by the public. Sharing knowledge and experience between police officer is able to strengthen the force in the eyes of the world and it is seen as a platform for the development of RMP to the next level and professional (Hishammuddin Tun Hussein, 2012).

Nowadays, the public sectors in Malaysia has been widely questioned by many parties. As taxpayers, each and every one of them has the right to benefit from quick, quality, transparent and efficient public services. RMP as one of the public sectors is no exception in providing the best service to the community. The current rapid

development has resulted in a more challenging and difficult policing tasks. Undeniably, the police as an "operational organization" should have to absorb the knowledge sharing culture among all the senior officers, as well as rank file officers. This culture will ensure that all deployments and operation could successfully achievable while providing the best service to the community. The community does not only need a dynamic, energetic and innovative public sector, but the ability to deliver personalized and customized services from the public sector are also a crucial element. Knowledge and wisdom will enable the public sector strives towards excellence and implement effective plans (Muhyiddin Yassin, 2013).

In 2010, the Malaysia government embarked on an ambitious program that is known as the Government Transformation Program (GTP). The purpose of GTP is to transform the government agencies to become more efficient, and people oriented with the motto “people first, performance now” (Najib Razak, 2013). The GTP has outlined seven National Key Result Areas (NKRA) which will become the focus of the government to improve its service delivery to the public. One of the NKRA main agenda is to reduce crime and also to improve the public service delivery of the RMP. On a mission to reduce the national crime index, the government has put national security at the highest level through these initiatives. There are five key performance indicators (KPI) were set up by the government in order to achieve this mission. There KPIs are 1) to reduce in reported index crime by 5 percent, 2) to reduce in reported street crime by 20 percent, 3) to reduce fear of becoming victims of crime, 4) to increase the number of arrest cases brought to trial (charge rate) and 5) to improve public perception on police performance.

Among the key important initiatives is to restore public faith in the Malaysian justice system by way of increasing the charge-to-investigations paper to 35 percent by 2015 (as being mentioned in KPI number four). Hence, RMP needs to enhance the efficiency of their investigating officers to be quicker in executing their duties. Table 1.1 below shows the investigation paper opened and solved based on police contingent for the year 2013.

Table 1.1

Police Investigation Paper based on Police Contingent 2013

No.	Contingent	2013 (IP Open)	2013 (IP Solved)	Percent %
1	Kuala Lumpur	22,319	12,870	57.7
2	Kelantan	5,737	3,118	54.3
3	Terengganu	3,610	1,959	54.3
4	Perak	7,429	3,985	53.6
5	Selangor	43,060	23,030	53.5
6	Pulau Pinang	7,936	4,208	53.0
7	Perlis	831	439	52.8
8	Pahang	5,257	2,718	51.7
9	Sabah	5,772	2,789	48.3
10	Johor	17,105	7,925	46.3
11	Sarawak	9,191	3,923	42.7
12	Melaka	4,186	1,704	40.7
13	Negeri Sembilan	5,993	1,767	29.5
14	Kedah	8,636	2,272	26.3
	Total	**147,062**	**72,707**	**49.4**

Source: Management Department RMP (2014)

Note: IP – Investigation Paper (Index Crime)

From the data in Table 1.1, it is apparent that only 49.4 percent or equal to 72,707 from total 147,062 investigation paper (IPs) is successfully completed and solved. There are 74,355 or equivalent to 50.6 percent IPs still not resolved. This statistic can be the primary cause of dissatisfaction and the negative perception of the police. Despite impressive national crime index statistics, public perception still feels that the country is not safe, and this perception will be removed in the second phase of the NKRA of reducing crime (Ismail Omar, 2012a).

In addition, after four years NKRA programs were implemented, the public perception towards service delivery provided by the RMP is still unsatisfactory. The inefficiency of service delivery of RMP can be portrayed through the complaints received from the public by the Public Complaints Bureau (PCB). The statistics from Public Complaints Bureau (2014) revealed that the RMP is the agency that received the highest number of complaints for a period of four years. In 2011, 2012, 2013 and 2014 (end of 30 June). There is a total of 2,366 complaints received respectively as shown in Table 1.2. Complaints are mainly with regards to delay, no action taken, failure of enforcement and unsatisfactory quality of services ("Public Complaints Bureau Statistics", 2014).

Table 1.2

Public Complaint Bureau Statistic from 2011 to June 2014

NO	**AGENCY**	**TOTAL COMPLAINTS RECEIVED**				
		2011	**2012**	**2013**	**2014** (End 30 June)	**TOTAL**
1	Royal Malaysia Police (RMP)	841	721	604	200	2,366
2	Public Works Department (JKR)	759	773	385	118	2,035

3	Kuala Lumpur City Hall (DBKL)	571	424	312	68	1,375
4	State Health Department (JKN)	245	510	363	117	1,235
5	State Education Department (JPN)	305	350	313	166	1,134
6	Immigration Department (JIM)	280	251	309	87	927

Source: Public Complaint Bureau (2014)

The increasing number of complaints received, together with the fact that RMP gets the highest number of complaints among other government agencies which reflect the quality of service provided by RMP is below the standard. Among the factors that possibly influence the inefficient management in RMP are leadership, extensive knowledge gaps, motivational factors, motivation and reward, the core values and ethics, discipline and internal controls and culture of the police organization itself (Chuan, 2009). Characteristics of the complaints clearly illustrate the weaknesses in RMP delivery system and one of the possible factors are the lack of knowledge sharing among officers of RMP.

In October 2013, the Auditor-General's Report revealed that RMP has lost RM1.33 million worth of assets including handcuffs, firearms and vehicles between 2010 and 2012. The report also showed that there is poor management of asset loss at RMP headquarters Bukit Aman including Kuala Lumpur, Selangor and Johor contingent police stations (*Auditor General Report*, 2012). In reply to the Auditor General's Report, Inspector General of Police (IGP) Tan Sri Khalid Abu Bakar said, "the main factor is due to lack of knowledge and awareness among officers and members of the team regarding the actions that need to be taken in the event of loss of government

assets". "Every police officers need to take the action to improve their knowledge, awareness and outlining the right work system to prevent this from happening again in the future" ("IGP: Panels formed to probe asset losses - Nation | The Star Online," 2013).

Therefore, RMP as the leading enforcement agencies in the country in providing services to the public must realize the importance of managing and sharing of knowledge in order to remain relevant to the stakeholders. According to Glomseth, Gottschalk and Solli-Sæther (2007) police investigation process and the successes of those investigations are dependent on efficient and effective knowledge sharing. In solving criminal cases, both tacit and explicit knowledge are of critical importance. The investigation process can be an area where the community can become frustrated, suspicious and do not have confidence in the ability of the police.

1.2 Problem Statement

In recent years, there has been an increasing amount of literature on knowledge sharing, but still there is a limited study in the public sector, especially in the police force as compared to the private sector (Seba, Rowley, & Delbridge, 2012). The limited studies are most probably due to lack of interest in the non-profit nature of public sector firms (Sandhu et al., 2011). For public sector, knowledge sharing is the means to increase continuous performance and is believed to improve the customers and employees satisfaction (Pan & Scarbrough, 1998). Therefore, this lack of research has prompted the researcher to study knowledge sharing within the police force

context due to a significant contribution to the theories and mainly to the practitioners. There are four main reasons that driven the researcher to study knowledge sharing within the police force context.

First and foremost, although there are several studies on knowledge sharing in Malaysia context were done involving the respondents from the government perspective (Azhar, 2012; Sandhu et al., 2011; Syed-Ikhsan & Rowland, 2004a; Yusof, Ismail, Ahmad, & Yusof, 2012). However, a review of existing literature indicates that little research has been undertaken at the police force specifically in Malaysia. An example of this is the study carried out by Sandhu et al. (2011), Syed-Ikhsan and Rowland (2004a) and Yusof et al. (2012) which was conducted with respondents at the ministerial level while a study by Azhar, (2012) only focused on the respondents from the public health care organizations. That aside, a study by Yassin, Sahari, and Salim (2011) was carried out where a respondent is the teachers from the Ministry of Education. Therefore, this is found to be a serious research gap, and this study can be considered an interesting topic to be reviewed.

The second reason that leads to this study is that, based on the statistics discussed in the investigation papers and the complaints received by the Public Complaints Bureau regarding RMP clearly shows that the public perception towards service delivery provided by the RMP and their overall performance is unsatisfactory. One of the possible factors is a lack of knowledge sharing among officers of RMP. It has been suggested that knowledge sharing could significantly affect police investigation performance (Glomseth et al., 2007) and the employees that are willing to share their

knowledge among colleagues will enable the organization to improve its performance and capability (Lin, 2007; Syed-Ikhsan & Rowland, 2004b).

This leads to the third reason for conducting this study. There is a significant amount of research highlighted that there are several factors that may influence knowledge sharing in public sector organizations (Amayah, 2013; M. Ismail & Yusof, 2008; Yao, Kam, & Chan, 2007). There are some researchers categorized them into three main factors (Riege, 2005; Yusof et al., 2012). Those factors are individual factor, organizational factor and technology factor that might affect knowledge sharing in the organization. However, deficiency and inconsistency findings on the link between those factors with knowledge sharing in prior research are still lacking. Hence, it is crucial to be examined in this study.

Work experience, level of education and self-efficacy of police officers are among the individual factors that need to be highlighted in influencing the knowledge sharing. For instance, previous research has identified that self-efficacy is one of the individual factors that may be another key factor of knowledge sharing (Endres, Endres, Chowdhury, & Alam, 2007; Lin, 2007).

Besides, organizational factor which focuses on top management support is one of the critical factors need to be investigated to the success of knowledge sharing in organizations (Ling, Sandhu, & Jain, 2009; Yao et al., 2007). According to Tan and Zhao (2003), top management support is the extent to which employees perceive support and encouragement of knowledge-sharing from top management. Azarbayjani

(2007) highlight the lack of middle management support as a barrier to knowledge sharing in the organization.

Studies have also found that information technology (ICT) facilitates the knowledge creation process by capturing knowledge in real time and making it accessible for future use. ICT use is defined as the degree of technological usability and capability regarding knowledge sharing (Lee & Choi, 2003). ICT also helps to speed up the decision-making process (Al-Alawi, Al-Marzooqi, & Mohammed, 2007; Teerajetgul & Charoenngam, 2006). However, the study on the link between ICT use and knowledge sharing is still vague, specifically in public sector settings.

The last reason for conducting this study is to find out what management practices that can be implemented by RMP in order to encourage sharing of knowledge among officers. Thus, the study need to be done to determine the knowledge sharing as well as to examine the relationship and the factors that influence knowledge sharing among senior officers of RMP. This is due to the fact that knowledge sharing among employees will significantly impact the performance as well as can improve the public service delivery of the public sectors (M. Ismail & Yusof, 2008; Silvi & Cuganesan, 2006). Hence, this research focused on the individual, organizational and technology factors that influence knowledge sharing among senior police officers.

The findings of this research will benefit for RMP in implementing strategic human resource plan and managing knowledge management policies in the future. It is also could provide an indication regarding how the RMP can promote knowledge sharing culture in order to remain relevant and keep sustain on providing the best services to

the public as well as to help government achieves its second mission in NKRA which is to decrease the numbers of crimes.

1.3 Research Questions

This study seeks to address the following research questions:

1.3.1 Is there any difference in knowledge sharing among senior officers of RMP based on the level of education and length of service?

1.3.2 Does knowledge self-efficacy, top management support and ICT use have influence on knowledge sharing among senior officers of RMP?

1.4 Research Objectives

The research questions above led to the development of the following specific research objectives:

1.4.1. To examine the difference in knowledge sharing among senior officers of RMP based on the level of education and length of service.

1.4.2. To determine whether knowledge self-efficacy, top management support and ICT use have influence on knowledge sharing among senior officers of RMP.

1.5 Significance of the Study

As had been stated earlier, knowledge sharing is imperative in helping an organization to achieve the mission, vision and objectives outlined. In order to fill the gaps, the study examines the difference in knowledge sharing among senior officers of RMP based on the level of education and length of service. Furthermore, the study is also determined the influence of individual factor (knowledge self-efficacy), organizational factor (top management support) and technology factor (information and communication technology use) on knowledge sharing.

The results of this quantitative research are expected to make a contribution to the existing literature in knowledge sharing. This study also helps to identify the factor that would prove to be a useful guide in the measurement of knowledge sharing activity among police senior officers of RMP. This study aimed to provide information to RMP management or policy makers about how important to create a stimulating positive knowledge sharing culture.

Findings and results of this study could be useful to RMP in an effort to minimize the level of the knowledge gap between senior officers. In turn, it could provide better performance and quality of services to the public. Hence, the finding of the study also could assist RMP management to create and to find the utmost solution to lessen the problems in maintaining the glory and the relevancy of the force. In addition, they can implement the necessary changes to improve knowledge sharing among members of the police forces who in turn provide better services to the public.

Moreover, the study could cover aspect that has not been carried out by previous researchers on the relationship between the three independent variables and knowledge sharing among senior officers of RMP in Malaysia.

1.6 Scope of the Study

In accordance with the title, the purpose of the study is to examine the influence of knowledge self-efficacy, top management support and ICT use that will affect the adoption of knowledge sharing in the RMP. Thus, this study does not cover other knowledge management activities such as knowledge capture, knowledge use, and knowledge retention.

To prove the hypotheses, the targeted respondents are police officers of the management and professional (M&P) group that are working under Bukit Aman headquarters. The senior police officers from Inspector grade YA13, Assistant Superintendent of Police (ASP) grade YA16, Deputy Superintendent of Police (DSP) grade YA18 and Superintendent of Police grade YA20 are selected as a respondent in this research. This group is the largest population of senior officers of the RMP, and it can represent the whole next senior officer throughout the country to determine to what extent knowledge sharing has been practiced over the years. In addition, this group is much involved with the investigation, operations and law enforcement as well as are responsible for supervising lower rank officers and at the same time need to show the efficiency and credibility of police forces to the public.

In line with the requirement of NKRA to reduce crime, the researcher chose only three departments that are directly involved in the investigation of crime. The said departments are Criminal Investigation Department (CID), Commercial Crime Investigation Department (CCID) and Narcotics Crime Investigation Department (NCID) at the Royal Malaysia Police headquarter in Bukit Aman. The foremost reason for selecting Bukit Aman as a sampling in this study is due to the time constraint and the accessibility. The definitions and descriptions of terminologies of RMP that have been addressed in the study as shown in Appendix C.

1.7 Organizations of Chapters

This chapter is the first out of five chapters in this research paper. The following chapter focuses on the review of the existing literatures on knowledge, knowledge management, knowledge sharing, knowledge self-efficacy, organizational support and ICT use. The literature on the demographic factors, namely levels of education and length of service also discussed. The chapter concludes with the development of the research hypotheses.

Chapter Three continues with a discussion on the method for the study, namely the research design and procedure. This chapter also reports the selection of respondents, instruments of measurement and the development of questionnaires for the research. This chapter ends with a brief description of the data collection method and data analysis techniques that were used to analyze data collected from the survey.

Chapter Four presents the findings of the study obtained from the questionnaires distributed to the respondents. The profiles of respondents, descriptive analysis and the result of the hypotheses will be presented. The findings also were compared to those found in the literature reviewed in Chapter Two.

Chapter Five, the final chapter presents the general discussions and conclusion of the study and the implications for both practitioners as well as researchers. This chapter also concludes with the limitations of the study and some suggestions for future research.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter presents and summarizes the literature on all variables under study that is knowledge sharing as dependent variable and knowledge self-efficacy, top management support and ICT use as independent variables. The literature on the demographic factors, namely levels of education and length of service also discussed. The literature is arranged according to dependent variable and independent variables and the relationship between the two variables. The first part of this chapter discusses dependent variable that is the knowledge sharing, and the second part gives a literature review about independent variables that are involved individual, organizational and technology factors. The third part discusses the relationship between dependent variable and each of variables for independent variables.

2.2 Knowledge

Knowledge is being recognized as a valuable asset in the organization and is an essential resource for any organization (Noor & Salim, 2012). Peter Drucker had acknowledged knowledge as a critical investment asset in any organization and knowledge resources known as knowledge workers will determine the organization competitive advantage of the future (Drucker, 1993). The successful of societies and

economies will rely on upon how well they empowered these valuable assets to be shared, learned, and created so as to add a new value from it.

That statement supported by Jashapara (2010) where according to him, knowledge is generally recognized of its importance as a critical resource for competitive advantage of the organizations. Knowledge cannot be replicated or being replaced because the most significant characteristics of knowledge are uniqueness and originality, which makes it as a vital strategic asset for organizations (Cabrera & Cabrera, 2002).

Davenport and Prusak (1998) mention there are two types of knowledge, the external knowledge (explicit) is a knowledge documented, and internal knowledge (tacit) is knowledge in the form of subjective. Explicit knowledge can be delivered in a formal language and easily share between individuals. While tacit knowledge can be described as personal knowledge based on individual experience and involving other factors such as instinct, personal values and beliefs.

Bender and Fish (2000) stated that knowledge derived from an individual's thought arising from mental ideas, facts, concepts, data, and techniques such as stored in the memory of the individual. Knowledge is built as a result of changing information and enriched by the experience, beliefs and values that it owns. Knowledge formed by someone may not be equal to someone else, even though it received the same information. Wang and Noe (2010) identify that knowledge is considered as the information process of an individual including idea, fact, expertise and judgments that are necessary for the individual, group and association execution.

From the various definitions of knowledge as to date, it will soon become clear that knowledge is difficult to define, and it comes in multiple forms. Nonaka and Takeuchi (1995) highlights the tacit, explicit and implicit knowledge are the types of knowledge widely used among researcher.

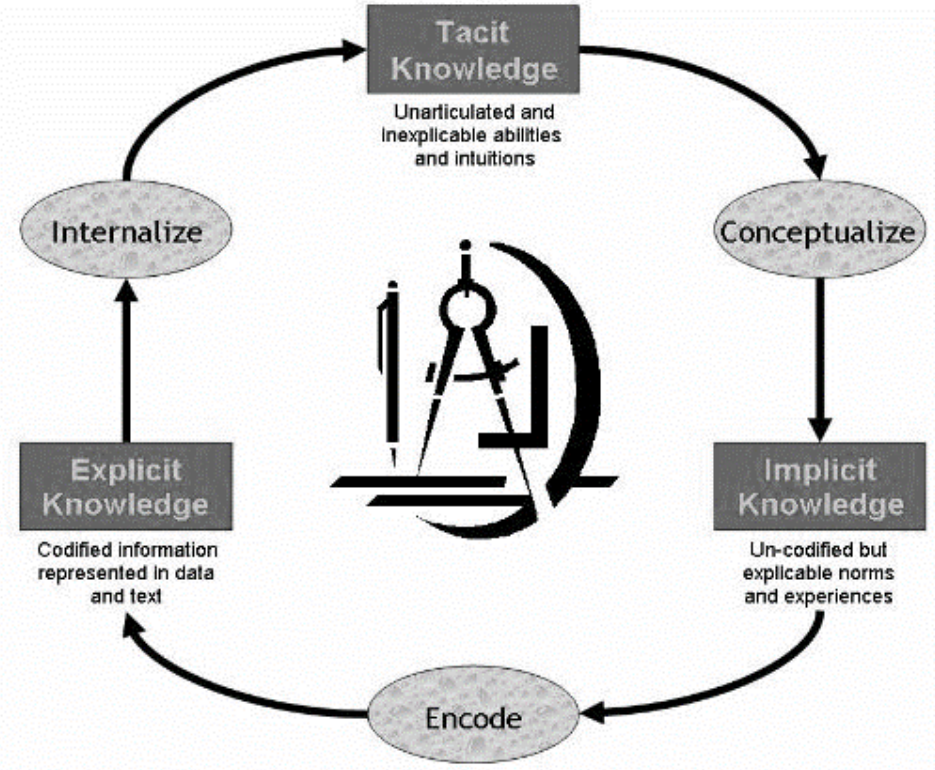

Figure 2.1
Knowledge Culture between Tacit, Explicit and Implicit Knowledge
Source: Nonaka & Takeuchi (1995)

According to Nonaka and Takeuchi (1995), tacit knowledge developed by internal individual processes and stored in human beings such as experience, reflection, internalization or individual talent. It is personally held and may not even recognized as a knowledge by its holder and therefore hard to formalize and communicate. On the contrary, explicit knowledge stored in a mechanical or technological device, such

as documents or databases and easily transmitted between individuals and groups, formal, systematic and therefore easy to communicate and share. While the implicit knowledge is a fundamental to all human knowing and for knowledge management in particular. It has been argued that a large portion of the knowledge required for executing organizational activities and processes.

Nonaka and Takeuchi (1995) claim that the interaction between the tacit and explicit knowledge known as knowledge conversion. They also discussed four different ways in knowledge conversion model as Figure 2.2 below:

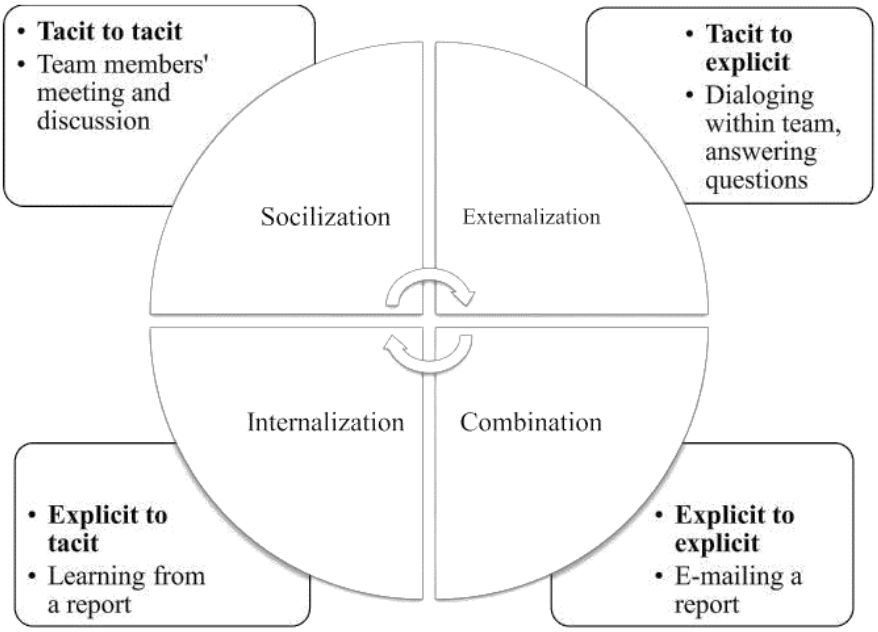

Figure 2.2
Four Different Ways of Knowledge Conversion Model
Source: Nonaka and Takeuchi (1995)

a) Socialization - sharing of tacit knowledge between individuals by spending time, activities, and actively working together on solving problems.

b) Externalization - involves the expression of tacit knowledge into a comprehensible form.
c) Combination - conversion of explicit knowledge into a complex set of knowledge.
d) Internalization - results from the conversion of explicit knowledge into the organization's tacit knowledge.

Nevertheless, Bergeron (2003) has identified the third form of knowledge known as implicit knowledge and located somewhere between tacit and explicit. However, most of the studies only focus on tacit and explicit knowledge because the implicit knowledge is treated as explicit knowledge. Hence, to leverage knowledge resources, the organizations need to employ a good knowledge management system (Davenport & Prusak, 1998).

2.3 Knowledge Management

Darroch (2005) defines knowledge management as a process that consists of three components, namely the existence of knowledge, knowledge sharing and knowledge reaction. Basically, knowledge management refers to the activity of an organization to create, share and exploit knowledge to achieve organizational goals (Sandhu et al., 2011). Wang and Noe (2010) highlights that knowledge sharing is a major factor to the success of knowledge management initiatives in any organizations.

According to Brandenburg and Carroll (1995), an excellent knowledge management will help the organization continue to learn, practical knowledge that can be shared

and used or implicated at any time needed. This means the application of the concept of effective knowledge sharing within an organization through the collection, use and retention of knowledge between human capitals in the organization can solve any issues that arise.

Al-Hawamdeh (2003) points out those knowledge management activities consist of five principal dimensions, namely knowledge capture, knowledge creation, knowledge use (leverage), knowledge retention and knowledge sharing. He also claims that the knowledge sharing is the most important dimension of knowledge management activities among all. Knowledge sharing can be considered as the most critical aspect in knowledge management as without knowledge sharing, knowledge cannot be retained nor can it be created (Yassin et al., 2011).

Darroch (2005) on the other hand defines knowledge management as a process that consists of three components, namely the existence of knowledge, knowledge sharing and knowledge reaction. From the findings of his study, there is a positive relationship between knowledge management with higher profits or benefits to the organization. He also found that knowledge management could be exploited by organizations to create opportunities in the competition as well as to improve organizational performance. Therefore, knowledge sharing is one of the main activities in knowledge management and has gained increasing attention as it is critical to organizational effectiveness particularly in the public sector.

2.4 Knowledge Sharing

A review of the literature on the previous study about knowledge sharing represents that there is no general definition of knowledge sharing because many researchers have described knowledge sharing from their own perspective (Wu & Zhu, 2012). According to Nonaka and Takeuchi (1995), knowledge sharing is a process of transfer of tacit or explicit knowledge in interaction between individuals. Explicit knowledge is cognitive that can be expressed in formal speech and exchanged in the form of data. In contrast, tacit knowledge is the knowledge that is difficult to transfer to another person by way of writing it down or verbalizing it. It is can only be transferred in a face-to-face situation. Noor and Salim, (2012) described knowledge sharing as the process of transferring knowledge from a person to another in the organization.

Sharing of knowledge or knowledge sharing becomes an important role in carrying out activities in any organization to increase public service delivery (K. Wiig, 1999). In five years back, many organizations have tried to realize the exchange of knowledge in various ways. Knowledge sharing is an important step in the knowledge management because it can help the organizations leverage their most valued assets in the shape of employees by sharing their knowledge with each other (Wasko & Faraj, 2005). The primary importance of knowledge sharing among employees is to enable them to resolve any problems that arise besides reducing overlapping works, hence can enhance learning and help to build the knowledge workforce (Ong, Yeap, Tan, & Chong, 2011).

Knowledge can be shared informally without the specific intention to do so such as through face-to-face interactions or through formal channels such as telephones or emails (Amayah, 2013). Nevertheless, there are two challenges that an organization may face to encourage knowledge sharing. First, tacit knowledge by nature is very hard to be shared, and secondly knowledge sharing is a voluntary act (W.-B. Lin, 2008). In other words, knowledge sharing will only happen if employees are willing to share their knowledge with their colleagues.

Knowledge sharing between individuals is explained by Ipe (2003) as "the process by which knowledge held by an individual is converted into a form that can be understood, absorbed, and used by other persons" (p. 341). Knowledge sharing may not occur if employees are not willing to share their knowledge and expertise. Sharing knowledge is something difficult to an individual (Davenport & Prusak, 1998) and usually people may not willing to share their knowledge unless it is useful and beneficial to them (Ryu, Ho, & Han, 2003). Knowledge sharing needs the capability and the willingness of individuals to engage in knowledge sharing. It may not happen if employees are not willing to share their knowledge and expertise. In the absence of effective knowledge sharing, organizations may fail to integrate critical knowledge, abilities and skills of experts to achieve innovative and sophisticated work (Breu & Hemingway, 2004).

People willing to share their knowledge will expect others to reciprocate, in the same way, for mutual benefit and achieving organizational goals (Adler & Kwon, 2002; Lin, 2007). The willingness and eagerness of individuals to share knowledge is crucial

to organizations, as knowledge sharing is not only simple information sharing, but is also about stimulating the exchange of thoughts, experiences and ideas amongst individuals within an organization (W. K. W. Ismail, Nor, & Marjan, 2009).

Hooff and Ridder (2004) and de Vries (2006) found that knowledge sharing can be categorized into two dimension: knowledge donating and knowledge collecting. Knowledge donation or disseminating can be defined as an individual's willingness to share his or her intellectual capital and know-how with others colleagues (de Vries, 2006; Lin, 2007). On the contrary, knowledge collection or receiving can be described as a person's willingness to consult, adapt and accept new intellectual capital and know-how from his or her colleagues (de Vries, 2006; Lin, 2007). According to Goh (2002) the above two knowledge sharing dimension is similar to knowledge transfer whereby it involved knowledge source and knowledge recipient.

2.5 Knowledge Sharing in Public Sector Organizations

A review of the literature revealed that most of the researchers on knowledge sharing are more focused on the private sector. Despite this, public sector hasn't received much attention from the research due to the nature of the public sector as a non-profit organization (Sandhu et al., 2011; Syed-Ikhsan & Rowland, 2004b). Milner (2000) mentions that the public sector and private sector organizations differ in a number of ways. According to Pandey and Wright (2006), organizational goals in the private sector are less difficult to measure and less conflicting if compared to public sector organizations and they are not influenced diversely by political impacts. Public

organizations could be altogether different from each one in turn, taking into account ownership of the organization, control and funding (Willem & Buelens, 2007).

According to Chiem (2001), knowledge sharing in the public sector has also clouded by bureaucracy. In the public sector, most employees consider that knowledge sharing may lead to loss of power, and this conviction makes it troublesome to push knowledge sharing in the public sector. Other researchers found that the public sector encounters more defers in all cases compared to the private sector, and the public sector makes more utilization of the formal channels between employee and manager (Bretschneider, 1990).

Earlier studies of knowledge sharing have put stress on similarities and differences between private and public sector organizations, and factors that influence knowledge sharing. It is more difficult to share knowledge in public sector organizations because most people associate knowledge with power and their promotion opportunities (Liebowitz & Chen, 2004). Liebowitz and Chen (2004) argue that in most of the government agencies, employees save knowledge limited to themselves because the sharing of knowledge was viewed as reducing the employee's position, power or and status.

Other studies have kept tabs on some of the factors that influence knowledge sharing in the public sector. Most knowledge sharing studies, nonetheless, are conducted in private sector organizations compared to the public sector organizations. The reason could be because of the status of public sector as non-profit organizations (Syed-Ikhsan & Rowland, 2004a). The public sectors refer to all non-profit organizations

which include government agencies that functioning and performs some form of public services. For non-profit organizations like public sectors, "knowledge sharing represents ways to increase continuous performance and is thought to improve the customers and employees satisfaction" (Pan & Scarbrough, 1998).

A study by Yao, Kam, and Chan (2007) investigated how culture, attitudes, and barriers affect knowledge sharing in a Hong Kong government department. The main finding of the study that was conducted was that the Chinese culture remained as a barrier to knowledge sharing. Public sector organizations need to have knowledge about "know what", "know where", "know if", "know when", and 'know why' and this entire set of knowledge will never be available with one individual. It is only by sharing each other's knowledge that an organization can think of being successful (Sandhu et al., 2011). Thus, there is a growing interest for further research on knowledge sharing in the public sector.

In the context of public sector in Malaysia, previous researchers have done some studies on knowledge sharing. Study by M. Ismail and Yusof (2008) identified 12 factors affecting knowledge sharing in public organizations in Malaysia which can be categorized into three categories, namely individual, organizational and technological factors.

A study by Basiran (2010) that investigated the level of knowledge sharing and the differences based on rank and experience among officers of Fire and Rescue Department of Malaysia (FRDM). From the result, the level of knowledge sharing is low, and there are differences between rank and experience on knowledge sharing

among officers. The result also shows that individual factors that are self-efficacy is the most significant relationship with knowledge sharing. However, there are limitations to the study because out of 307 of respondents only ten senior officers (grade 41 and above) become the respondents in the study. Hence, this surely will influence the overall result of the study.

Daud (2010) did another study on knowledge sharing in the public sector in Malaysia context. A study at the National Defense University of Malaysia is to determine the level of knowledge sharing practice and the difference between civilian and military staff. The result shows that the level of knowledge sharing processes is good, but there are significant different level of knowledge sharing process between civilian and military staff.

2.6 Knowledge Sharing in Police Force

There is an increasing body of work on knowledge management and knowledge sharing in the public sector organization by a previous researcher, but however still there is very limited studies have been done on knowledge sharing particularly in police forces Chiem (2001).

As a part of the public service, the primary task of police forces is to protect life and property, enforce the law and order, and prevent and be aware of crime (Luen & Al-Hawamdeh, 2001). Therefore, knowledge is a most valuable aspect for each of police officers and they need to act proactive in managing their both explicit and implicit

knowledge, increasing their know-hows in knowledge management and in promoting and facilitating knowledge sharing.

Knowledge sharing is a key process in learning activities, for example; police investigations and the successes of those investigations are dependent on efficient and effective knowledge sharing (Glomseth et al., 2007). According to Dean, Filstad, and Gottschalk (2006), police investigation units represent to a knowledge-intensive and time-critical environment and this and the immeasurable amount of knowledge that police officers need, infer that police officers are knowledge workers. Both tacit and explicit knowledge are of critical importance in solving criminal cases. However, in most of the law enforcement agencies in any country, police officers tend to hoard knowledge instead of sharing because they believe keeping knowledge brings them power, promotion and money because of the hierarchical system (Oyarce, 2012).

Glomseth et al., (2007) insisted the importance of knowledge sharing on the performance of police investigations and suggested that knowledge sharing is influenced by occupational culture. Four dimensions of occupational culture were identified: team culture, planning culture, theoretical culture, and traditional culture, but only the extent of team culture was found to have a significant influence on the extent of knowledge sharing and performance in police investigations.

2.7 Factors Influencing Knowledge Sharing

Literature has identified numerous barriers on knowledge sharing because people are reluctant to share knowledge. Since knowledge sharing can be defined as unusual

actions of a person, so the top management needs to understand the factors that make their employees share their knowledge in order for the organization to fully leverage the knowledge of their employees (M. Ismail & Yusof, 2008). According to Nonaka (1994) the most important factors to the success of knowledge sharing in the organization was individual and organizational commitment.

Lin (2007) highlights that the knowledge sharing occurs at the individual and organizational level. At the individual level, knowledge sharing occurs by way of interaction between colleagues in order to get something done more quickly and more efficiently. Whereas, at the organizational level, knowledge sharing occurs by way of capturing, reusing, organizing and shifting experience-based knowledge that exists within the organization and making the said knowledge available to every employee in the organization. However, there are some researchers categorized them into three main factors (Riege, 2005; Yusof et al., 2012). Those factors are individual factor, organizational factor and technology factor that might affect knowledge sharing in the organization. Furthermore, the empirical research suggests a lack of consensus on the key determinants of knowledge sharing. For the purpose of this study, individual factors of level of education, work experience and knowledge self-efficacy, organizational factor of top management support and technology factor of ICT use have been chosen to be studied.

2.7.1 Individual Factors

This study examines two variables on individual factor that is demographic variables (level of education and length of service) and knowledge self-efficacy.

2.7.1.1 Demographic Variables

There have been several studies in the literature reporting that 'middle manager' play an important to knowledge sharing activities. According to Nonaka and Takeuchi (1995), middle managers play a crucial role in the organizational knowledge-creation processes. Senior executives are the key decision-makers, and they are familiar with multiple aspects of their organizations (Lin, 2007). This is supported by the study of Bryant (2003), who found out that managers play an important role to create a knowledge sharing culture in organizations and employees are more likely to share their knowledge when they get praised by their managers.

Goh, Gan, and Ryan (2006) mention that knowledge sharing is only valid at the managerial level and less effective at a lower level because at the management level, making the right decisions is important. Thus, knowledge sharing is an effective decision-making medium. While for the lower level, they just follow the orders and instruction given by their immediate manager, thus sharing knowledge will not be noted. The lower level employees are more emphasized on information sharing rather than knowledge sharing.

2.7.1.2 Knowledge Self-Efficacy

Self- efficacy is an essential element in Bandura's Social Learning Theory. Bandura (1977) defines self-efficacy is the beliefs and judgments of individual about their capabilities to learn and performs as well as the willingness of an individual to perform certain activities. In his article, Bandura (1977) identifies the three

dimensions of self-efficacy that are magnitude or level, strength and generality. The first dimension magnitude or level relates to the level of task difficulty where individuals may differ in their self-belief of being able to perform the task of varying difficulty. Strength is the second dimension of self-efficacy, states to whether the individual view regarding magnitude is strong or weak. Hence, an individual may be dissimilar in their confidence in accomplishing a given level of performance. The last dimensions specify the amount to which the expectation is generalized across situations.

Self-efficacy can be defined is an ideal theory to understand why would someone chooses to share his knowledge in some contexts and not in others (Hu, 2010). An individual with a higher self-efficacy may share their knowledge and experience more willingly than those with low self-efficacy because those with higher self-efficacy would express a positive judgment on their capabilities which then motivate them to share the knowledge with others (Okyere-Kwakye & Nor, 2011). Previous studies have identified that self-efficacy is one of the individual factors that may be another major determinant of knowledge sharing (Endres et al., 2007; Lin, 2007). Self-efficacy is the factor that would help motivate a person to share their knowledge to another person in organizations (Wasko & Faraj, 2005).

For the purpose of this study on knowledge sharing, self-efficacy is an ideal theory to understand why a person chooses to share knowledge in some contexts and not in others. According to Spreitzer (1995) and Chen and Hung (2010), knowledge self-efficacy is an employee's judgment and confidence of their capability to share and to

provide knowledge that is valuable to the others in the organization. A person involved in the sharing of useful knowledge will feel more confident in what they are doing.

According to Kankanhalli, Tan, and Wei (2005), knowledge self-efficacy can be shown in the form of people believing that the knowledge they share can help to solve job related problems, improve work efficiency and can make a difference to the organization. Bock and Kim (2002) suggest that the self-efficacy can be considered as a critical factor of self-motivational source for knowledge sharing. Their findings uncover that the individual's judgment of their contribution to organizational performance has a positive effect on knowledge sharing.

2.7.2 Organizational Factor

In this study, top management support is used as organizational factor and would act as the independent variables (IV) that can affect the knowledge sharing. According to Eisenberger, Huntington, Hutchison, and Sowa (1986), organization support consisted of individual who put an effort to create a believed that an organization appreciates the contribution of their subordinates. Meanwhile, according to Muhamad and Sagir (1998) support means supplied by the communications manager, assistant, and assistance in support of their subordinates. The same opinion was also in elaborate by Ansari (1990); support can be recognized as the organization to support and assist the activities of the members of the organization. Three elements explain this idea enough support to influence the culture of an organization.

The value of this support exists when employees feel organizational concern (to support and take care of the welfare of the employees), employees will feel beholden to the organization. Thus, it will increase the sense of obligation and personal emotional bond with the employee organization and encourage them to be more committed (Eisenberger et al., 1986). According to Sheridan (1992), the interaction between managers and employees with respect to supportiveness and goal setting, as well as job design were likewise key drivers of employee engagement.

2.7.3 Technology Factor

Information communication technology (ICT) use is one of the independent variables (IV) that can affect the knowledge sharing. Previous studies on knowledge management have reported that the ICT tools such as internet, intranet, and knowledge bases is an important enabler of knowledge sharing in the workplace which it allows employees to access, store and share their knowledge (Song, 2002). ICT tools such as groupware, online databases, intranet, blog and social media used as a medium of the mediator to facilitate communication and knowledge sharing processes in the organization (Koh & Kim, 2004). Syed-Ikhsan and Rowland (2004b) concluded that ICT application systems are very important in helping organizations develop and increase the knowledge of their employees. ICT allows employees to create and share knowledge effectively, thus can contribute to the performance of the organization.

Technology helps to reduce the distance barriers because employees can share their knowledge through communication channel implemented in organizations such as Internet discussion groups, online forum or electronic meeting application software

besides it helps in changing the social interaction between individuals in the organization (Hendriks, 2004). While top management believes that the ICT is a key enabler in the flow of knowledge, many researchers still tend to focus others factor to improve knowledge sharing in the workplace (Frank Leistner, 2010). ICT facilitates the knowledge creation process by capturing knowledge in real time and making it accessible for future use. ICT also helps to speed up the decision-making process (Al-Alawi et al., 2007; Teerajetgul & Charoenngam, 2006).

2.8 Research Framework

The research framework is the conceptual model of how one theorizes or logical relationship between several factors that have been identified as necessary for the study area (Sekaran, 2003). A research framework enables the researcher to hypothesize as well as to test the relationship between the variables involved in order to expand the understanding of the related research area of study.

As presented in Figure 2.3, the research framework is a series of relationships of the variables under study. Moving from left to the right, the independent variables (IV) are individual factor (knowledge self-efficacy), organizational factor (top management support) and technology factor (ICT use) and knowledge sharing as a dependent variable (DV).

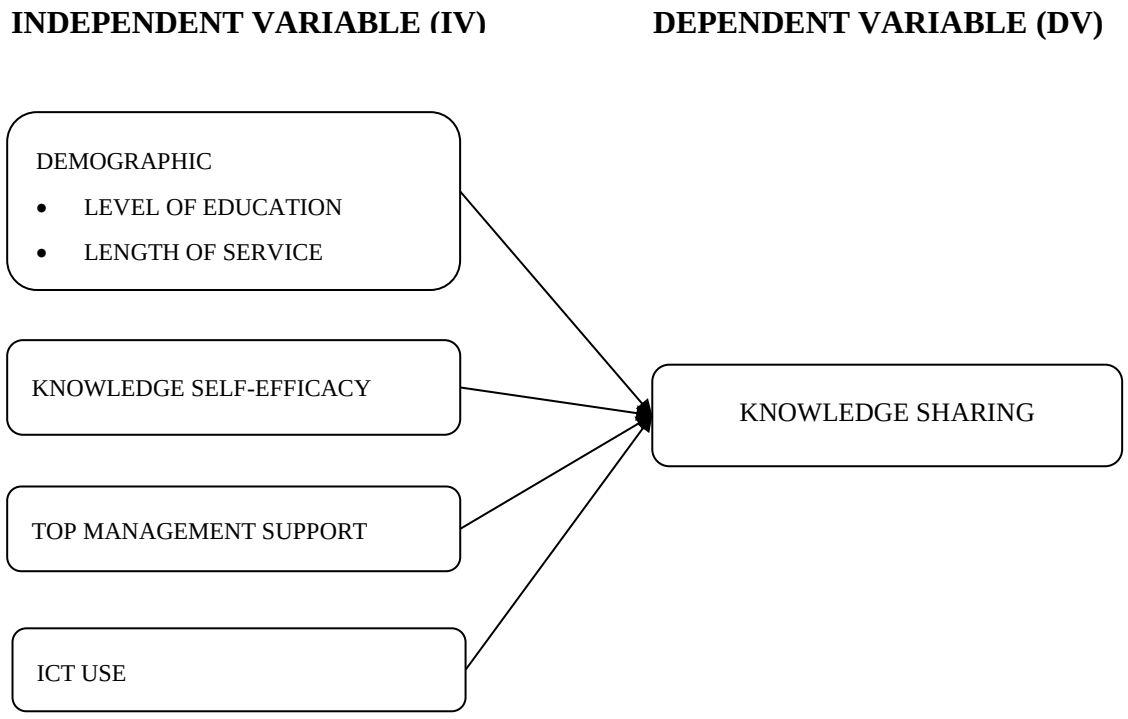

Figure 2.3
Research Framework

In this study, the research framework is required in order to know the link of one variable to other variables. Therefore, under the research framework, there are two variables that are dependent variable (DV) and independent variables (IV). Variables are anything that can take different or changing values. The dependent variable also known as the criterion variable is a variable of interest to researchers.

The independent variables also known as the predictor variable can influence the dependent variable in both ways a positive or negative (Sekaran, 2003). Thus, it can be concluded that, when there is a positive value or an increase in independent variables, the dependent variable would also increase and vice versa. Therefore, it

gives either positive or negative value based on the result of the independent variables.

2.9 Development of Hypotheses

The hypotheses of the study is a recommendation or a statement of temporary assumptions about the relationship between two variables or more be tested by the researcher. According to Uma Sekaran (2003), a hypothesis is a logical relation that estimated a relationship between two or more variables expressed in the form of statements that can be tested.

This research has four variables, namely knowledge sharing, demographic, knowledge self-efficacy, top management support and ICT use. Knowledge sharing among senior police officers would be the dependent variable (DV) thus become the primary factor throughout this research. Meanwhile, the remaining variables, namely demographic factor, knowledge self-efficacy, top management support and ICT use would act as the independent variables (IV) that can affect the knowledge sharing.

2.9.1 Selected Demographic Variables

Previous studies indicated that there were mixed results on the relationship between demographic factors and knowledge sharing. Several demographic variables such as age, gender, highest education and experience level have been studied by several researchers as barriers on knowledge sharing in an organization (Riege, 2005).

A study of 50 managers and experts working in the Institute for International Energy Studies in Middle East country have reported that demographic characteristics have no difference in the amount of respondents knowledge sharing. The demographic characteristics in the said study are gender, work experience, the level of education and field of education (Abili, Thani, Mokhtarian, & Rashidi, 2011). Similarly, Ojha (2005) confirmed that there was no significant difference between education level and knowledge sharing behavior among employees of a software development team.

The above findings have also been supported by a study on demographic factors with knowledge sharing quality of public sector in Malaysia by M. Ismail and Yusof (2009). The results indicate that demographic factors such as gender, age, level of education, job position and tenure of service does not influence knowledge sharing quality among public officers in central agencies in Malaysia. Likewise, a study by Pangil and Nasurdin (2008) on 114 employees of Research and Development companies in Malaysia has indicated that working experience do not significantly influenced knowledge sharing.

In another study, Low H. H., Omain, S. Z. and Md Som, H. (2000) studied the factors that influence knowledge sharing among senior management in small and medium industries in Malaysia. The study found that the education level affects the sharing of knowledge in which the educated employees are easier to share their knowledge. An employee with a higher education background might be more inclined to share his knowledge with other colleagues (Amin, Hassan, Ariffin, & Rehman, 2011).

Consequently, senior officer's level of education and length of service are the demographic profiles that have been chosen to be investigated. The reason to investigate this demographic factor with the dependent variable involved is to examine the differences between each of them. The researcher uses one-way ANOVA to test the level of education and length of service. In addition, below hypotheses are developed in order to answer the research question and research objective in this study.

H1: There is a no significant difference in knowledge sharing based on the level of education among senior officers of RMP.

H2: There is a no significant difference in knowledge sharing based on length of service among senior officers of RMP.

2.9.2 Relationship between Knowledge Self-Efficacy and Knowledge Sharing

Lin (2007) in his study of 50 private sector organizations, found that individual with high knowledge self-efficacy and enjoyment in helping other have more positive intentions and attitudes toward knowledge sharing behavior. Lin (2007) also points out that to develop a greater active willingness to both donate and collect knowledge in the organizations, employees need to believe in themselves that they can contribute something to organizations by sharing their knowledge to the colleagues.

Lu, Leung, and Koch (2006) have performed two studies on the impact of individual and interpersonal factors on knowledge sharing among middle managers at fives

organizations. The findings show that the self-efficacy positively increased knowledge sharing in the organization.

Based on the above discussion, the following hypotheses are proposed:

> H3: Knowledge self-efficacy has positively influences senior officer's willingness to sharing knowledge.

2.9.3 Relationship between Top Management Support and Knowledge Sharing

Bryant (2003) in his study about transformational leadership styles on knowledge management points out that managers play an important role to create a knowledge sharing culture in organizations and also employees are more likely to share their knowledge when they get praised by their managers. In short, to make the organization more efficient and to create sustainable competitive advantage, the managers need to increase organization level of knowledge creating, sharing and exploiting as well as to manage their knowledge assets effectively. A study among teaching staff from both public and private universities in Malaysia by Sohail and Daud (2009) found that management's support for knowledge sharing is significant predictors of positive knowledge sharing culture.

Wang and Noe (2010) stress out that when management is supportive of knowledge sharing, employees will recognize that a knowledge sharing culture is prevalent. Employee's perception of organizational support creates the feeling of acceptance and belongingness, so that there is motivation to work consistently for the achievement of organizational goals (Idris, 2012).

Lu, Leung, and Koch (2006) have performed two studies on the impact of individual and interpersonal factors on knowledge sharing among middle managers in the People's Republic of China. Lu et al. (2006) used quantitative data, and the respondents are middle-level manager from fives organization were selected as participants in the study. The result shows that the organizational support led to higher application of information and communication technologies (ICT) thus resulting in more knowledge sharing.

The study by Yao et al., (2007) at the public sector department, Hong Kong found that the two factors that influence the level of knowledge sharing the most are management support and incentives. The study among the executives who are working in an American based multinational company (MNC) in Malaysia done by (Ling et al., 2009). Based on a sample of 81 executives, the researcher has concluded that a critical factor to the success of knowledge sharing in that MNC Company is because of the top management support.

Therefore, the following hypothesis is proposed:

> H4: Top management support has positively influences senior officer's willingness to sharing knowledge.

2.9.4 Relationship between ICT Use and Knowledge Sharing

Al-Alawi et al. (2007) studied on the elements that influence knowledge sharing among employees of public sector organizations and private sector in Bahrain. The factors studied are interpersonal trust, reward systems, employee communications and

information systems. The result shows that the communication and information systems have positively influenced on knowledge sharing among employees.

Low H. H., Omain, S. Z. and Md Som, H. (2000) studied the factors that influence knowledge sharing among senior management in small and medium industries in Malaysia. The study found that the two factors that affect the level of knowledge sharing the most are leadership and technology.

The study on knowledge sharing behavior among undergraduate students in Malaysia led by Ong et al. (2011) was found that among the elements making the barriers to knowledge exchange is information and communications technology (ICT), lack of self-confidence, external constraints, self-centeredness and social attributes. However, ICT was found to be a major barrier among all. Results of the study also reveal that online communication was a primary knowledge sharing method used by students.

The study by Teerajetgul and Charoenngam (2006) to examining the relationships between knowledge factors and the knowledge creation process in Thai construction firms found that the ICT will help to speeds up the decision making process as well as can facilitate the improvement of project performance.

Based on the above discussion, the following hypothesis is proposed:

> H5: ICT use has positively influences senior officer's willingness to sharing knowledge.

2.10 Conclusions

This chapter has discussed the concepts, definitions, the variables study and findings by previous researchers on knowledge sharing. Also, five hypotheses have been developed to be tested in this study. In the next chapter, Chapter 3, method of the study is discussed.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

The research methodology is one of the essential components in the study because it includes a thorough understanding of the research process to be undertaken by the researcher later. It is also central to helping the researcher achieve the objectives of the study.

Besides, it explains on how the research methodology process of collecting data and information for research findings to answer the research questions, as pointed out by the researcher in Chapter One. In this chapter, the researcher discussed systematically beginning from research design, population and sampling technique, data collection, an instrument, pilot study and techniques of data analysis.

3.2 Research Design

The result of research is determined by the research design and method, which in turn are determined by the aim of the research. The researcher should use the design that best suits the objective of his research or the final results may be invalid and may have adverse effects on other researchers who refer to his work (Piaw, 2012). Therefore, the quantitative research approach is found to be most appropriate for this study in order to examine the knowledge sharing among senior officers of RMP

which involves a relationship with the factors such as the knowledge self-efficacy, top management support and ICT use.

The primary data for this study was collected through distribution of the questionnaire. In addition, the time horizon for this study is cross-sectional instead of a longitudinal study. The reason for cross-sectional because, the data for this study are gathered just once over a certain period of times in order to answer all the research questions mentioned in Chapter One.

The unit of analysis consists of individual that is the senior officer's rank of Inspector to Superintendent and working in the Criminal Investigation Department (CID), Narcotics Crime Investigation Department (NCID) and Commercial Crime Investigation Department (CCID), Royal Malaysia Police headquarter in Bukit Aman that engage in knowledge sharing.

3.3 Population and Sampling

According to Sekaran (2003), population refers to the entire group of people, events, or things of interest that can be a focus for the researcher to investigate. A sample is a subset of the population, and it includes some members selected from it. Sampling is the process of selecting an appropriate number of elements from the population, so that results from analyzing the sample can be generalizable to the population.

3.3.1 Population

As stated earlier in Chapter One, the target population for this study is a senior police officer rank of Inspector, Assistant Superintendent (ASP), Deputy Superintendent (DSP) and Superintendent who serves in the Criminal Investigation Department (CID), Commercial Crime Investigation Department (CCID) and Narcotics Crime Investigation Department (NCID) at Bukit Aman Police Headquarters only. The population of this research is 546 senior police officers that have been classified in management and professional group. The detailed statistics of the population frame are depicted in Table 3.1 as below.

Table 3.1

Number of Police Senior Officers

Rank	**Grade**	**RMP's Investigation Department**			**Total**
		CID	**NCID**	**CCID**	
Superintendent	YA20	28	7	25	60
DSP	YA18	32	16	42	90
ASP	YA16	38	46	74	158
Inspector	YA13	126	61	51	238
Total		224	130	192	**546**

Source: Management Department RMP (2014)

Table 3.2 below provides the statistics of the populations based on male and female officers according to rank and department.

Table 3.2

Number of Police Senior Officers according to Gender

Rank	**Grade**	**RMP's Investigation Department**			**Total**
		CID	**NCID**	**CCID**	

		M	F	M	F	M	F	
Superintendent	YA20	24	4	5	2	24	1	60
DSP	YA18	28	4	14	2	37	5	90
ASP	YA16	32	6	41	5	67	7	158
Inspector	YA13	101	25	51	10	27	24	238
Total		185	39	111	19	155	37	**546**

Source: Management Department RMP (2014)

From Table 3.3 below, the percentage of male officers is 82.6 percent (N=451) as compared to female officers that are only 17.4 percent (N=95). This data suggests that the male officers are more than female officers in Bukit Aman police headquarter with aspect ratio is 4:1.

Table 3.3

Percentage Police Senior Officers according to Gender

Gender	Populations	Percentage
Male	451	82.6%
Female	95	17.4%
Total	**546**	100%

Source: Management Department RMP (2014)

3.3.2 Sample Size

Determining the sample size is very crucial and according Krejcie and Morgan (1970), the suggested sample size corresponding to the population size as depicted in Table 3.2 is 226 samples. Table 3.4 below shows the Krejcie and Morgan (1970) sample size determination table to help future researchers determine the sample size.

The calculation was based on p =.05 where the probability of committing a type I error is less than 5 percent or p < .05.

Table 3.4

Krejcie and Morgan's sample size determination table

Population	Sample	Population	Sample
10	10	460	210
30	28	**550**	**226**
60	52	600	234

Source: Chua Yan Piaw (2013)

3.3.3 Sampling Technique

According to Sekaran and Bougie (2010), if all subgroups have an equal number of elements, researcher should choose proportionate stratified random sampling since the procedure will ensure each subpopulation that exists in the total population is well represented. Since samples for this study are from three different departments of RMP, the researcher used proportionate stratified random sampling to collect the data from the samples, which represent all the population's characteristics. Figure 3.1 below shows the formula for proportionate stratified random sampling.

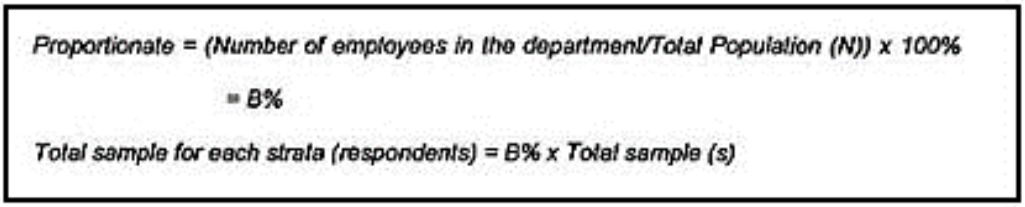

Figure 3.1

Proportionate Stratified Random Sampling Formula

Therefore, proportionate stratified random sampling results 92 samples from CID, 54 samples of NCID and 80 samples of CCID, as calculated in Table 3.5 below.

Table 3.5

Proportionate Stratified Random Sampling

Department	Population	Proportionate (%)	Sample Size
Criminal Investigation Department (CID)	224	41	92
Narcotics Crime Investigation Department (NCID)	130	24	54
Commercial Crime Investigation Department (CCID)	192	35	80
Total	546	100%	226

However, taking into consideration the response rates in Malaysia, a total of 300 senior officers is invited to participate in the study.

3.4 Operational Definitions and Measurements

Operational definition is a concept to render it measurable which is done by looking at the behavioral dimensions, facts or properties denoted by the concept a most the

construct being used in this study (Sekaran, 2003). The construct being used is knowledge sharing that consists two dimensions, namely knowledge donating and collecting, knowledge self-efficacy, top management support and ICT use.

In conducting the study, researcher used a structured questionnaire. All measurements used are derived from previous studies that have been published in academic journals. All responses in this study were made on a Likert five-point scale. The five-point scale was adopted because it is the most common scaled-response form used by recent researchers (Gwinner, 2006) and the ability to provide the most accurate measurement (Hair, Black, Babin, & Anderson, 2010).

3.4.1 Demographic Variables

There are eight items which assess demographic profiles of samples and it helps the researcher to understand respondents better based on their department, gender, age, marital status, educational level, races, rank and length of service.

3.4.2 Knowledge Sharing

In this study, knowledge sharing can be defined and is related to an action that refers to people's behavior or action in sharing or not sharing knowledge, donating and collecting knowledge. Knowledge donating (KD) defines as the process of individuals communicating their personal intellectual capital to others. Whereas, knowledge collecting (KC) defines as the process of consulting colleagues to encourage them to

share their intellectual capital. The knowledge sharing definition adapted from Hooff and Weenen (2004).

The knowledge sharing instrument was adapted from a study by Lin (2007) which consist of seven items. In sum, Table 3.6 presents the list of items for knowledge sharing and from where the questionnaire was adapted.

Table 3.6

Knowledge Sharing Items

Variables	Items	Authors
Knowledge Donating (KD)	1. When I have learned something new, I tell my colleagues about it. (KD1) 2. When they have learned something new, my colleagues tell me about it. (KD2) 3. Knowledge sharing among colleagues is considered normal in my department. (KD3)	Adapted from Lin (2007)
Knowledge Collecting (KC)	4. I share information I have with colleagues when they ask for it. (KC1) 5. I share my skills with colleagues when they ask for it. (KC2) 6. Colleagues in my department share knowledge with me when I ask them to. (KC3) 7. Colleagues in my department share their skills with me when I ask them to. (KC4)	Adapted from Lin, (2007)

3.4.3 Knowledge Self-Efficacy

In the study, knowledge self-efficacy is an employee judgment of their capability to share knowledge that is valuable to the organization. This definition is being adapted from Spreitzer (1995). The instrument for knowledge self-efficacy was adapted with adjustment from Van from Spreitzer (1995) which consist of four items. Table 3.7

presents the list of items for knowledge self-efficacy and from where the questionnaire was adapted.

Table 3.7

Knowledge Self-Efficacy Items

Variables	Items	Authors
Knowledge Self-Efficacy (KSE)	1. I am confident in my ability to provide knowledge that others in my department consider valuable. (KSE1) 2. I have the expertise required to provide valuable knowledge for my department. (KSE2) 3. It really makes a difference when I share my knowledge with colleagues. (KSE3) 4. I can provide more valuable knowledge than most of other employees. (KSE4)	Adapted from Spreitzer (1995) and Lin, (2007)

3.4.4 Top Management Support

According to Tan and Zhao (2003), the definition of top management support is the extent to which employees perceive support and encouragement of knowledge-sharing from top management. The instrument for top management support was adapted from Tan and Zhao (2003) and consist of four items. Table 3.8 presents the list of items for top management support and from where the questionnaire was adapted.

Table 3.8

Top Management Support Items

Variables	Items	Authors

Top Management Support (TMS)	1. Top managers think that encouraging knowledge sharing with colleagues is beneficial. (TMS1) 2. Top managers always support and encourage employees to share their knowledge with colleagues. (TMS2) 3. Top managers provide most of the necessary help and resources to enable employees to share knowledge. (TMS3) 4. Top managers are keen to see that the employees are happy to share their knowledge with colleagues. (TMS4)	Adapted from Tan and Zhao (2003)

3.4.5 ICT Use

According to H Lee and Choi (2003), the definition of ICT use is the degree of technological usability and capability regarding knowledge sharing. The instrument for the last variables which are ICT use was adapted from Lee and Choi (2003) and consist of four items. Table 3.9 presents the list of items for ICT use and from where the questionnaire was adapted.

Table 3.9

ICT Use Items

Variables	Items	Authors

Information and Communication Technology use (ICT)	1. Employees make extensive use of electronic storage (such as online databases and data warehousing) to access knowledge. (ICT1) 2. Employees use knowledge networks (such as groupware, intranet, virtual communities, etc.) to communicate with colleagues. (ICT2) 3. My department uses technology that allows employees to share knowledge with other persons inside the organization. (ICT3) 4. My department uses technology that allows employees to share knowledge with other persons outside the organization. (ICT4)	Adapted from Lee and Choi (2003)

3.5 Layout of Questionnaire

This study was conducted by using a questionnaire form in *Bahasa Melayu*, but each question is followed by English translation. The purpose of providing bilingual language of the questionnaire is to maximize the level of understanding among the respondents and to give further understanding pertaining each item asked (Holden, Fekken, & Jackson, 1985). Furthermore, it aims to ease the respondents to answer in the language that they preferred.

The questionnaire was translated, and back-translated (back-translation techniques) according to the method described by Brislin (1970). The translated version was then checked by two language teachers to verify the clarity of the sentences and also to correct any spelling and grammatical mistakes.

Each respondent in this survey received seven-page questionnaire (with a cover letter attached). The seven-page questionnaire consisted of three sections; namely Section

A, Section B and Section C as presented in Table 3.10 below. Section A is about respondent's background/demography statistics and followed by Section B and C consist of questions that represent the independent variables and dependent variable in the study. The questionnaire used in this study is shown in Appendix B.

Table 3.10

Summary of Questionnaire Design

Section	Variables	No. of Items	Items
A	Demographic Data	8	Section A: Item 1-8
B	Knowledge Self-Efficacy	4	Section B: Item 1-4
	Top Management Support	4	Section B: Item 5-8
	Information and Communication Technology (ICT) use	4	Section B: Item 9-12
C	Knowledge Sharing	7	Section B: Item 13-19

Each question in Section A requires the respondent to indicate in the box provided and fill in manually will be a real value. Conversely, in sections B and C, the respondent require to circle (O) the degree of agreement to each statement using a five-point Likert scale format (1) Strongly Disagree, (2) Disagree, (3) Uncertain, (4) Agree, and (5) Strongly Agree.

3.6 Pilot Test

A pilot test is a method to pre-test the reliability of the questionnaires prior to conducting the actual research in order to achieve the objective of the study. The questionnaires must be tested through a pilot test to identify whether it has the

weakness contained in the forms or not. This test is needed in order to know the level of understanding of the respondents against instructions and the words contained in the questionnaires (Hassan, 2014).

This pilot test was done among senior officers who working at Management Department in Bukit Aman police Headquarters and conducted on the 9 September 2014. There are 30 respondents were randomly selected to participate in the pilot test in line with the minimum requirement for statistical analysis (Sekaran, 2003). The pilot test was to determine if the questions listed meet the understanding of the respondents and the requirement of the study. A copy of the pilot test analyzes' results has attached as Appendix D.

3.6.1 Reliability Test

The reliability of the questionnaire was tested by using Cronbach's Alpha or called Cronbach's Coefficient Alpha to show the internal consistency of the questionnaire. Cronbach's Alpha is usually used by the researchers as the sole indicator of the scale's quality. Cronbach's Alpha ranges in value from 0 to 1.0. Hence, 0 means no consistency and 1.0 means complete consistency (Zikmund, Babin, Carr, & Griffin, 2009). However, some studies have considered the reliability of .60 is acceptable (Sekaran & Bougie, 2010). Table 3.11 presents the scales of Cronbach's alpha:

Table 3.11

Cronbach's Alpha (α) Scales

	Range of scales	**Consistency/Reliability**
1.	0.80 – 0.99	Very Good

2.	0.70 – 0.80	Good
3.	0.60 – 0.70	Fair
4.	0.60 and below	Poor

The reliability test by Lin (2007) for knowledge sharing found that the Cronbach's alpha lies in the range between good to very good. The results from the researcher's pilot study on knowledge sharing show that the internal consistency of the scales at .84. Similarly, the results for the two dimensions of knowledge sharing (donating and collecting knowledge) show that the internal consistency of the scales ranges from .88 to .91 as presented in Table 3.12 below.

Table 3.12

Cronbach's Alpha from Pilot Study for Knowledge Sharing (n = 30)

Dependent Variable	**No. of items**	**Cronbach's Alpha**	
		Lin (2007)	**Pilot Test**
Knowledge Sharing	7	-	.84
1. Knowledge Donating	3	.78	.84
2. Knowledge Collecting	4	.80	.91

Similarly, the reliability test by Lin (2007) for the independent variables found that the Cronbach's Alpha also lies in the range between good to very good. Meanwhile, the researcher's pilot study show that top management support and ICT use variables are in the range good to very good that is scaled ranges from .77 to .81. Only knowledge self-efficacy is in the fair range of .65, but it's still acceptable according to Sekaran and Bougie (2010).

According to Hair et al. (1995), if the knowledge self-efficacy Cronbach's Alpha was too low which is under .60, the researcher need to find out which of the items need to be removed from the measure to increase the interim consistency. In this case, it doesn't happen because the Cronbach's Alpha is above .60. Furthermore, the findings can be supported by the result of the previous study at .86 that was done in the study by Lin (2007) as shown in Table 3.13 below.

Table 3.13

Cronbach's Alpha from Pilot Study for Independent Variables (n = 30)

Independent Variables	**No. of items**	**Cronbach's Alpha**	
		Lin (2007)	**Pilot Test**
Knowledge self-efficacy	4	.86	.65
Top management support	4	.72	.81
ICT use	4	.83	.77

3.7 Data Collection Procedure

This study relies heavily on primary data. The sample is compatible with this study because the sample is made up of those who are in police forces and understand the tasks and problems occur in the department where they serve. For the purpose of this study, all data is gathered via questionnaire. This data collection method is advantageous due to it is relatively low cost, no interviewer bias; no prior arrangement is needed and the facts of anonymity among respondents (Schermerhorn & Chappell, 2000). The secondary data of this study gathered from the relevant articles, books and literature reviews to verify the research objective.

The data were collected using a structured questionnaire, which consists of 19 items. The questionnaires were sent to Training Division of each department that is CID, CCID, and NCID, together with official covering letter from INTAN, Bukit Kiara. Appendix A presents a copy of the said letter. Meanwhile, the respective officers in the Training Division of each department were also personally contacted to before the questionnaires were sent to them.

The researcher self-administers the questionnaires by hand to them on 2 September 2014. Then, the questionnaires were distributed to all respondents from the rank of Inspector to Superintendent from each department on 3 September 2014. The researcher has assisted by the said respective officer from each department in distributing the questionnaire. Each respondent was first briefed about the purpose of the survey and all information given is used for the study only. Respondents were given ample time to complete a questionnaire with the researcher monitoring without any influence.

The respondents then were given five days to complete the questionnaires and were requested to return the completed questionnaires for the researcher‘s analysis. From a population of 546 senior officers from CID, CCID and NCID department at Bukit Aman headquarters, 300 questionnaires were distributed, and a total of usable 230 questionnaires was obtained within the time stipulated.

3.8 Technique of Data Analysis

After all relevant data had been gathered from the respondents, it was analyzed for the final result in order to answer the research question and objectives. The data was computed by the software called Statistical Package for Social Science (SPSS Version 22.0).

Among the reason, the data analysis is vital not only to see through the result, but it helps the researcher to achieve the objective of the study. Basic statistical methods of descriptive statistics, as well as inferential statistics, were used in this study.

3.8.1 Descriptive Analysis

Descriptive statistics such as frequency, percentage, mean, standard deviations were used to describe the demographic characteristics of the respondent (Sekaran & Bougie, 2010). The researcher has carried out the frequency analysis, such as department, gender, age, and marital status, level of education, race, rank and length of service.

The skewness and kurtosis were also tested in determining the normality of the data. According to Hair, Anderson, Tatham, and Black (1995), the acceptable range for skewness statistics is between ±2.00, whereas for kurtosis statistics is between ±3.00. Then the normality is assumed.

3.8.2 Correlation Analysis

Inferential statistics is conducted to describe the characteristics of the research subjects by identifying the relationship between the dependent and independent variables (Piaw, 2013). A correlation analysis was carried out to explain the relationships among all variables in the study. The test of one-way analysis of variance (ANOVA) was used to examine the impact of demographic factors that is the level of education and length of service of the dependent variable and can be used for measuring the first research question.

On the other hand, Pearson's correlation was used to describe the relationship between two variables that exist naturally in the environment. Pearson's Correlation measures three characteristics, which are the direction of the relationship, the form of the relationship and the degree of the relationship (Sekaran & Bougie, 2010). Pearson correlation analyzes are to examine the relationship between knowledge self-efficacy, top management support, ICT use and knowledge sharing.

Based on Pallant (2010), the symbol of a correlation are *r* and the value of the correlation coefficient that can range from -1.00 to 1.00. This value will indicate the strength of the relationship between two variables. A correlation of 0 indicates no relationship at all, the correlation of 1.0 indicates a perfect positive correlation, and a value of -1.0 indicates a perfect negative correlation. The interpretation of the strength of correlation as showed in Table 3.14 below.

Table 3.14

Interpretation of Strength of Correlation

	Correlation value, *r*	**Strength of relationship**
1.	± 0.70 or higher	Very High
2.	± 0.50 to ± 0.69	High
3.	± 0.30 to ± 0.49	Moderate
4.	± 0.10 to ± 0.29	Low
5.	± 0.01 to ± 0.09	Very Low
6.	0.0	No relationship

Source: Pallant (2010)

A correlation analysis of any magnitude or sign, regardless of its statistical significance, does not imply causation (Zikmund et al., 2009). In other words, correlation analysis provides no evidence of cause and effect.

3.8.3 Regression Analysis

In order to investigate the effects of various combinations of and interactions among variables, multivariate statistical analyzes must be used. For that reason, multiple regression analysis was performed to test which factor has a significant contribution towards knowledge sharing and can be used to measure the second research question.

According to Sekaran (2003), multiple regression analysis provides the understanding of how much variance in the dependent variable is explained by the independent variables which cannot be identified from correlation analysis. As for this study, multiple regression was conducted to determine the predictive power of the independent variables (knowledge self-efficacy, top management support and ICT

use) toward the dependent variable (knowledge sharing) and which of the factors are the most important in explaining knowledge sharing among the respondents.

3.9 Summary of Hypotheses Testing

Specifically, the study used several statistical analyzes procedures. In addition, the process of coding and categorization of data is an important step and has been made before the data analysis is carried out. Table 3.15 provides the summary of the test of hypotheses of this study.

Table 3.15

Research Hypotheses

	Statement of Hypotheses	Statistical Test
H1	There is no significant difference in knowledge sharing among senior officers based on the level of education in RMP.	One-way ANOVA
H2	There is no significant difference in knowledge sharing among senior officers based on length of service in RMP.	One-way ANOVA
H3	Knowledge self-efficacy has positively influences senior officer's willingness to sharing knowledge.	Multiple Regression
H4	Top management support has positively influences senior officer's willingness to sharing knowledge.	Multiple Regression
H5	ICT use has positively influences senior officer's willingness to sharing knowledge.	Multiple Regression

3.10 Conclusions

This chapter explains in detail in relation to the applied research methodology. It includes a description of the population and the location chosen for the study, sample

selection methods, including the number of respondents involved in the study, the instrument that describes the questionnaire and the manner of independent and dependent variables. This chapter also described how researcher performs data collection procedures and methods used to analyze the data. The next chapter discusses the results and discussion of the research.

CHAPTER 4

RESULTS AND FINDINGS

4.1 Introduction

This chapter presents the analysis of responses obtained from the questionnaires distributed to the respondents. The findings of this chapter will answer the research objectives that have been discussed in Chapter One. Descriptive and inferential analyzes were executed using the Statistical Package for Social Science (SPSS) version 22 for Windows.

4.2 Response Rate

In any studies, the first thing that is usually reported is the response rates. The response rate is equal to the number of questionnaires received divided by the number of questionnaires sent out. A total of 300 questionnaire form has been distributed to three departments of the Royal Malaysia Police headquarter in Bukit Aman, namely the Criminal Investigation Department (CID), Commercial Crime Investigation Department (CCID) and Narcotics Crime Investigation Department (NCID).

From total 300 unit questionnaires, fortunately, 230 unit's questionnaires were completed. Therefore, there are 76.7 percent of respondent rate was obtained (see Table 4.1 below). Most of the questionnaires received were answered completely, and there is no questionnaire that has been dropped off. Based on Sekaran and Bougie

(2010), if more than 25 percent of items are not fully answered, the questionnaire is subject to be drop and not include it in the data set for analysis.

Table 4.1

Sample Study Response Rate

Questionnaire Distributed	**300**
Returned questionnaires	230
Incomplete questionnaires	0
Usable questionnaire	230
Response rate (230/300)	76.7%

4.3 Demographic Profile of Respondents

Section A of the questionnaire consists of eight items which assess the demographic profile of the respondents. The items are department, gender, age, and marital status, level of education, race, rank and length of service. The full analysis of demographic and background of the respondent is shown in Appendix E.

Detailed descriptive statistics on the participants' demographic profile are presented in Table 4.2. It is noted that out of 230 respondents in this research, the majority of the respondents working in a CID department (37.8 percent) and followed by NCID department (35.2 percent). Most of the respondents is a male with 75.7 percent out of 230 respondents, and 84.8 percent are married. It can be concluded that from three departments of the Royal Malaysia Police headquarter in Bukit Aman, there are a large number of male officers as compared to female officers.

Most of the respondents are a bachelor's degree holder (49.6 percent), and 81.3 percent are Malay. Out of 230 respondents, 55.7 percent are Inspector, and 41.7 percent had served RMP between 6 to 10 years.

Table 4.2

Demographic Profile of Respondents

Department	Frequency	Percentage
Department:		
Criminal Investigation Department (CID)	87	37.8%
Commercial Crime Investigation Department (CCID)	62	27%
Narcotics Crime Investigation Department (NCID)	81	35.2%
Gender:		
Male	174	75.7%
Female	56	24.3%
Marital Status:		
Single	30	13%
Married	195	84.8%
Widow/Widower	5	2.2%
Level of Education:		
Masters	32	13.9%
Degree	114	49.6%
Diploma/STPM	78	33.9%
SPM	6	2.6%
Race:		
Malay	187	81.3%
Chinese	14	6.1%

Department	Frequency	Percentage
Indian	12	5.2%
Others	17	7.4%
Rank:		
Superintendent (YA20)	13	5.7%
DSP (YA18)	29	12.6%
ASP (YA16)	60	26.1%
Inspector (YA13)	128	55.7%
Length of Service:		
1-5 Years	34	14.8%
6-10 Years	96	41.7%
11-15 Years	25	10.9%
16-20 Years	25	10.9%
21-25 Years	21	9.1%
More than 25 years	29	12.6%

Note: Total respondents = 230

Table 4.3 presents the average age of the respondents. It is noted that the average age of senior officers selected as respondents in this study are at the middle-aged where the average age is 37 years old (SD = 8.12 years). The youngest respondent is 26 years old while the oldest respondent is 59 years old.

Table 4.3

Respondents Average Age (years)

Mean	Std. Deviation	Min	Max
36.84	8.123	26	59

Note: n = 230

4.4 Data Screening

Data screening was done to ensure that the data collected is clean and ready for further statistical analysis. This is important so that the data are reliable, useful and valid to test the causal theory.

4.4.1 Missing Data

The analysis of missing data showed that there is zero percent of missing values for all items in the questionnaire. Thus, there is no missing values in the data. The full results for missing value analysis were in Appendix E.

4.4.2 Normality

The normality of distribution of data was examined by the skewness and kurtosis value for each variable. An informal approach to testing normality is to compare a histogram of the sample data to a normal probability curve. The empirical distribution of the data (the histogram) should be bell-shaped and resemble the normal distribution. According to Hair et al. (2010) the acceptable range for skewness statistics is between ±2.00, whereas for kurtosis statistics is between ±3.00.

A visual inspection of the histograms of every sample data shows that all of the variables were normally distributed. Appendix E illustrates the histogram to examine

the normality distribution for the variables. In the same way, the result in Table 4.4 shows that data for all of the variables in this study have a normal distribution due to the value of the skewness and kurtosis which lies within the range of ±2.00 for skewness and ±3.00 for kurtosis. Hence, it is suggested that all of the variables were normally distributed and did not deviate the normality test requirement.

Table 4.4
Normality Test of the Variables

Variables	KSE	TMS	ICT	KS
Kurtosis	.426	.946	.473	.956
Skewness	-.196	-.706	-.655	-.181

4.5 Mean and Standard Deviation of Collected Data

Descriptive analysis of each item measure was examined in order to explain the mean, median, mode, range and standard deviation of the variables. However, only the mean and standard deviation are the most common descriptive statistics used by the researcher for interval and ratio scaled data (Sekaran & Bougie, 2010). According to Hair et al. (2010), mean values can be categorized into three levels; low 1.00 to 2.25, moderate 2.26 to 3.75 and high 3.76 to 5.00. Mean value based on five-point scale.

Table 4.5 presents the summary of the descriptive analysis for the summated major variables of minimum value, maximum value, mean and standard deviation for knowledge self-efficacy, top management support and ICT use as independent variables and knowledge sharing as dependent variable.

Based on Table 4.5 the mean value for knowledge self-efficacy on a Likert five-point scale are M = 4.03, SD .489 with a minimum value is 2.25, and maximum value is 5.00. The top management support variables mean value on a five-point scale are M = 4.01, SD = .619 with a minimum value of 2.00 and maximum value of 5.00. ICT use variables mean value on a five-point scale are M = 3.70, SD = .705 with minimum value is 1.25 and maximum value of 5.00. Finally, the knowledge sharing variable mean value on a five-point scale are M = 3.98, SD = .517 with a minimum value is 2.00 and maximum value of 5.00.

The findings show that all the factors are being practiced among senior officers of RMP. The most frequent were knowledge self-efficacy (4.03) and top management support (4.01) while ICT use is less frequent (3.70) if compared to the other two independent variables. The findings furthermore indicate that knowledge sharing (3.98) also being practiced among senior officers of RMP. The full analysis of means and standard deviations shows at the Appendix E.

Table 4.5

Descriptive Statistics for Independent and Dependent Variables (n=230)

Variables	Min	Max	Mean	Std. Deviation
Knowledge Self-Efficacy (KSE)	2.25	5.00	4.031	.4887
Top Management Support (TMS)	2.00	5.00	4.014	.6195
ICT use (ICT)	1.25	5.00	3.704	.7052
Knowledge Sharing (KS)	2.00	5.00	3.985	.5177

4.5.1 Knowledge Self-Efficacy

The mean and standard deviation of independent variable "knowledge self-efficacy" are being represented in Table 4.6 below. The most dominant factor in measuring the variable is an item "*I am confident in my ability to provide knowledge that others in my department consider valuable*" with a mean value of 4.28 and SD .608. In contrast, the item "*I can provide more valuable knowledge than most of other employees*" scored the lowest mean value that is 3.72. The overall average mean for knowledge self-efficacy is 4.03 and SD .488. The finding provides evidence that the level of senior officer's judgment about their capability to share knowledge that is valuable to the organization is high.

Table 4.6

Knowledge Self-Efficacy Means and Standard Deviation Test of each item

Items	Mean	Std. Deviation
I am confident in my ability to provide knowledge that others in my department consider valuable. (KSE1)	4.28	.608
I have the expertise required to provide valuable knowledge for my department. (KSE2)	4.04	.710
It really makes a difference when I share my knowledge with colleagues. (KSE3)	4.08	.732
I can provide more valuable knowledge than most of other employees. (KSE4)	3.72	.788
Average (knowledge self-efficacy)	4.03	.488

4.5.2 Top Management Support

The mean and standard deviation of independent variable "top management support" are being represented in Table 4.7 below. The item "*Top managers think that encouraging knowledge sharing with colleagues is beneficial*" has the highest value of mean which is 4.41 and SD .692 while the lowest mean value is item "*Top managers provide most of the necessary help and resources to enable employees to share knowledge*" which is 3.55 and SD .884. The overall average mean for top management support is 4.01 and SD .619. The findings also suggest that the perceive support and encouragement of knowledge-sharing from top management of RMP is high.

Table 4.7

Top Management Support Means and Standard Deviation Test of each item

Items	Mean	Std. Deviation
Top managers think that encouraging knowledge sharing with colleagues is beneficial. (TMS1)	4.41	.692
Top managers always support and encourage employees to share their knowledge with colleagues. (TMS2)	4.29	.746
Top managers provide most of the necessary help and resources to enable employees to share knowledge. (TMS3)	3.55	.884
Top managers are keen to see that the employees are happy to share their knowledge with colleagues. (TMS4)	3.80	.836
Average (top management support)	4.01	.619

4.5.3 ICT Use

The mean and standard deviation of independent variable "ICT use" are being represented in Table 4.8 below. The most dominant factor in measuring the variable is item "*Employees use knowledge networks (such as groupware, intranet, virtual communities, etc.) to communicate with colleagues*" with mean value of 3.87 and SD .939 while the lowest mean value is item "*My department uses technology that allows employees to share knowledge with other persons outside the organization*" which is 3.40 and SD .937. The overall average mean for ICT use is 3.70 and SD .705. This finding indicates that the management encourages and provides the use of ICT application among officers in the organization as a medium of knowledge sharing.

Table 4.8

ICT Use Means and Standard Deviation Test of each item

Items	Mean	Std. Deviation
Employees make extensive use of electronic storage (such as online databases and data warehousing) to access knowledge. (ICT1)	3.82	.882
Employees use knowledge networks (such as groupware, intranet, virtual communities, etc.) to communicate with colleagues. (ICT2)	3.87	.939
My department uses technology that allows employees to share knowledge with other persons inside the organization. (ICT3)	3.73	.932
My department uses technology that allows employees to share knowledge with other persons outside the organization. (ICT4)	3.40	.937
Average (ICT use)	3.70	.705

4.5.4 Knowledge Sharing

Mean and standard deviation of items in measuring "knowledge sharing" is shown in Table 4.9. The item "*I share my skills with colleagues when they ask for it*" has the highest mean, which is 4.10 and SD .773. Despite this, the item "*When they have learned something new, my colleagues tell me about it*" scored the lowest value mean which is 3.73 and SD .807. The overall average mean for knowledge sharing is 4.79 and SD .518. It also shows that the knowledge sharing among senior officers is at a high level.

Table 4.9

Knowledge Sharing Means and Standard Deviation Test of each item

Items	Mean	Std. Deviation
When I have learned something new, I tell my colleagues about it. (KD1)	4.07	.687
When they have learned something new, my colleagues tell me about it. (KD2)	3.73	.807
Knowledge sharing among colleagues is considered normal in my department. (KD3)	3.97	.787
I share information I have with colleagues when they ask for it. (KC1)	4.02	.806
I share my skills with colleagues when they ask for it. (KC2)	4.10	.773
Colleagues in my department share knowledge with me when I ask them to. (KC3)	4.02	.733
Colleagues in my department share their skills with me when I ask them to. (KC4)	4.04	.723
Average (knowledge sharing)	3.99	.518

4.6 Analysis of Variance (ANOVA)

A one-way Analysis of Variance (ANOVA) is useful for determining if the significant differences in mean scores on the dependent variable exist across two or more groups. In addition, ANOVA is a relevant analysis of the sampling method that already implemented in order to statistically compare differences between each group. The groups are categories of level of education and length of service.

Hypothesis 1: There is no significant difference in knowledge sharing among senior officers based on the level of education in RMP.

One-way ANOVA was performed to analyze the existence of demographic differences that are the level of education of the respondents on knowledge sharing. The outcome of the analysis can be seen in Table 4.10 below.

Table 4.10

Results of One-way ANOVA on Level of Education

	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	.466	3	.155	.577	.631
Within Groups	60.911	226	.270		
Total	61.377	229			

Based on the one-way ANOVA analyses, it was found that there were no significant differences in knowledge sharing based on the respondents' level of education which the value of $F(3,226) = .577$, $p = .631 > .05$. These results indicate that education

qualification does not have a degree of influence on knowledge sharing among senior officers of RMP. Therefore, hypothesis H1 was accepted.

Hypothesis 2: There is no significant difference in knowledge sharing among senior officers based on length of service in RMP.

One-way ANOVA was performed to analyze the existence of demographic differences that are the length of service of the respondents on knowledge sharing. The outcome of the analysis done is as Table 4.11 below.

Table 4.11

Results of One-way ANOVA on Length of Service

	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	.541	5	.108	.398	.850
Within Groups	60.836	224	.272		
Total	61.377	229			

Based on the one-way ANOVA analyses, it was found that there were no significant differences in knowledge sharing based on the respondents' length of service which the value of $F(5,224) = .398$, $p = .850 > .05$. Therefore, hypothesis H2 was accepted.

4.7 Correlation Analysis

Table 4.12 presents the Pearson correlations of variables for the 230 respondents who participated in the study. The internal consistency reliabilities (Cronbach's Alpha) of

the research measures are reported in parenthesis along the diagonal of the correlation table. The reliability test measured the inter-item consistency using Cronbach's Alpha values Sekaran and Bougie (2010). A copy of the reliability analyzes' results has attached as Appendix D.

The results of the reliability analysis on knowledge sharing show that the internal consistency of the scales ranges at .82. Similarly, the result for two dimensions of knowledge sharing (donating and collecting knowledge) shows that the internal consistency of the scales ranges from .74 to .88. On the other hand, the reliability analysis of the independent variables in this study indicates that top management support and ICT use are in scale ranges from .76 to .79. Whereas, only knowledge self-efficacy is in the fair range of .63, but it's still acceptable according to Sekaran and Bougie (2010).

According to Hair et al. (2010), reliabilities with less than .60 are deemed poor while those in the range of .70 ranges are acceptable, and those above .80 are considered good. However, some studies have considered the reliability of .60 is acceptable (Sekaran and Bougie, 2010). Therefore, in this study all the reliability Alphas for all variables are considered good except knowledge self-efficacy that was falling under fair reliability. Hence, the internal consistency and reliability of the measure used in this study is acceptable and can be considered good for the inferential analysis later.

In the correlation analysis, the researcher examined whether the independent variables have a relationship with dependent variable or not. Correlation examines the association between two metric variables (Hair et al., 2010). It is measured by a

correlation coefficient. In this study, Pearson's correlation tests were performed to determine whether knowledge self-efficacy, top management support and ICT use have any relationship towards knowledge sharing. The interpretation of the strength of correlation as shown in Table 3.14 above and Appendix E for the full result.

The values of Pearson correlations as presented in Table 4.12 shows the relationships between the three independent variables and dependent variable. There was a positive relationship between knowledge self-efficacy and knowledge sharing, top management support and knowledge sharing and ICT use and knowledge sharing that was significant at .01 levels.

The-inter correlation analysis results show there is a strong and positive relationship between top management support and knowledge sharing (r = .43, n = 230), which was significant at .01 level. A strong and positive relationship for top management support indicates that the high support from the top management of RMP will increase knowledge sharing among the police officers in RMP.

The second highest correlation was between ICT use and knowledge sharing. There is a moderate and positive relationship (r = .39, n = 230), which was significant at .01 level. The moderate and positive relationship for ICT use indicates that increases in ICT support were correlated with increases the knowledge sharing among police officers.

On the contrary, the relationship is weak and positive between knowledge self-efficacy and knowledge sharing (r = .279, n = 230), which was significant at .01 level. The weak and positive relationship for knowledge self-efficacy shows that if officer's

knowledge self-efficacy is increased, subsequently it will also increase the knowledge sharing among them.

Table 4.12

Scale Reliabilities and Correlations of Variables

Variables	KSE	TMS	ICT	KS
Knowledge Self-Efficacy (KSE)	(.63)			
Top Management Support (TMS)	.174**	(.79)		
ICT use (ICT)	.117	.454**	(.76)	
Knowledge Sharing (KS)	.279**	.425**	.390**	(.82)

*Note**. Correlation is significant at the 0.01 level (2-tailed)*

4.8 Regression Analysis

Due to two or more independent variables used by the researcher to make a prediction towards dependent variable, so the multiple regression analysis is appropriate and used in this study. Multiple regression analysis was used to analyze either the independent variable involved, namely knowledge self-efficacy, top management support and ICT use influence knowledge sharing as a dependent variable.

For this analysis, three hypotheses are tested to ensure whether the independent variables are able to influence dependent variable that is in line with the objectives of the study. The detail analysis of multiple regressions can be referred in Appendix E.

Table 4.13 below shows the result of the tested model using multiple regression analysis. Collectively, the result explained that R Square value is .269, and the model was statistically significant. This result demonstrates that 26.9 percent of the variance

in knowledge sharing among senior officers was explained by the three independent variables that is knowledge self-efficacy, top management support and ICT use as predictors of knowledge sharing. The remaining 73.1 percent of officer's knowledge sharing was contributed by other factors not included in this study. This model is highly significant, as indicated by the F-value = 27.719 and significant value is .000 ($p < .05$). This model also showed that knowledge self-efficacy, top management support and ICT use affected knowledge sharing among senior officers of RMP.

Table 4.13

Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
1	.588a	.269	.337	.50319	27.719	.000

Predictors: (constant), knowledge self-efficacy, top management support, ICT use

Dependent Variable: knowledge sharing

Note: n = 230

The outputs of the regression test done individually as presented in Table 4.14 below.

Table 4.14

Regression Results of Independent Variables on Knowledge Sharing

Model	Unstandardised coefficient		Standardized coefficient		
	B	**Std. Error**	**Beta**	***t***	**Sig.**
(Constant)	1.529	.295		5.181	.000
Knowledge Self-Efficacy (KSE)	.214	.061	.202	3.501	.001
Top Management Support (TMS)	.235	.054	.282	4.369	.000

ICT use (ICT)	.175	.047	.238	3.724	.000

R square = .269
Adjusted *R* square = .259
F value = 27.719
Durbin-Watson = 1.796

Dependent Variable: Knowledge Sharing

The results showed that all of the three independent variable factors were significant predictors of knowledge sharing since the significant value less than .05 ($p < .05$). Among the three predictors, top management support ($\beta = .282$, $t = 4.37$, $p = .000$) had the highest and significant standardized beta coefficient, which indicated that top management support, was the most important variable in predicting the knowledge sharing.

The second highest predictor was ICT use ($\beta = .238$, $t = 3.72$, $p = .000$) and significant standardized beta coefficient, which indicated that information and technology application is the second most important variable in predicting the knowledge sharing. The lowest predictors in predicting knowledge sharing among three were knowledge self-efficacy ($\beta = .202$, $t = 3.5$, $p = .001$) and also significant standardized beta coefficient.

Hypothesis 3: Knowledge self-efficacy has positively influenced senior officer's willingness to sharing knowledge.

The findings of Pearson's Correlation (see Table 4.5) showed that the relationship is weak and positive between knowledge self-efficacy and knowledge sharing ($r = .279$,

n = 230), which was significant at .01 level. The weak and positive relationship for knowledge self-efficacy indicates that if officer's knowledge self-efficacy is increased, subsequently it will also increase the knowledge sharing among them.

However, the findings on multiple regression analysis (see Table 4.14) indicated that there is a positive significant relationship between knowledge self-efficacy and knowledge sharing as demonstrates (β = .214). The significant value is at p = .001 which is less than .05 (p < .05). Thus, the Hypothesis 3 was accepted. It means that the knowledge self-efficacy factor is able to influence overall knowledge sharing processes among senior officers of RMP.

Hypothesis 4: Top management support has positively influenced senior officer's willingness to sharing knowledge.

Based on Pearson's correlation analysis (see Table 4.5) it showed that there is a strong and positive relationship between top management support and knowledge sharing (*r* = .43, *n* = 230), which was significant at .01 level. A strong and positive relationship for top management support indicates that the high support from the top management of RMP will increase knowledge sharing among the senior officers in RMP.

Besides that, the result from multiple regression analysis (see Table 4.14) indicated that there is positive significant relationship between top management support and knowledge sharing processes in RMP as (β = .282). The model of the study showed statistical significance of p = .000 which is less than .05 (p < .05). Based on this β

value, the result showed that top management support factor has affected knowledge sharing processes among senior officers of RMP. Thus, Hypothesis 4 was accepted.

Hypothesis 5: ICT use has positively influenced senior officer's willingness to sharing knowledge.

The findings from Pearson's Correlation (see Table 4.5) indicated there is a moderate and positive relationship between ICT use and knowledge sharing (r = .39, n = 230), which was significant at .01 level. The moderate and positive relationship for ICT use indicates that increases of ICT support were correlated with increases the knowledge sharing among senior officers.

Complementary to this, the multiple regression analysis (see Table 4.14) showed that there is positive significant relationship between ICT use and knowledge sharing as (β = .238). This model reached statistical significance of p = .000 which is less than .05 ($p < .05$). Based on this β value, the result showed that ICT use has positive influences towards knowledge sharing processes among senior officers of RMP. Therefore, Hypothesis 5 was accepted.

4.9 Summary of Hypotheses Testing

Table 4.15 indicates briefly about the hypotheses results which analyzed by the researcher. An analysis of Variance (ANOVA) explained that the two hypotheses are supported. Meanwhile, an analysis of multiple regression coefficients explained that

all the three hypotheses are supported and have a significance influence between independent variables and dependent variable.

Table 4.15

Summary of Hypotheses Testing

	Statement of hypotheses	Results
H1	There is no significant difference in knowledge sharing among senior officers based on the level of education in RMP.	Supported
H2	There is no significant difference in knowledge sharing among senior officers based on length of service in RMP.	Supported
H3	Knowledge self-efficacy has positively influenced senior officer's willingness to sharing knowledge.	Supported
H4	Top management support has positively influenced senior officer's willingness to sharing knowledge.	Supported
H5	ICT use has positively influenced senior officer's willingness to sharing knowledge.	Supported

4.10 Conclusions

This chapter presented and discussed the findings of the study. Based on the results obtained, all of the factors were positively and significantly related to knowledge sharing and there is no significant difference in knowledge sharing based on level of education and length of service among senior officers of RMP. The next chapter will discuss the research implications, limitations, recommendation and direction for future research.

CHAPTER 5

DISCUSSIONS, RECOMMENDATIONS AND CONCLUSIONS

5.1 Introduction

In this last chapter, the researcher provides a brief overview and summarize the findings that obtained from the Chapter Four. It is important that the researcher need to conclude and provides a recommendation in this study that based on the research findings. The section of this chapter is divided into the following categories, namely research implication, recommendation of the research, suggestions for future research, limitation of the study and conclusion.

Research implication is divided into two components that include theoretical and practical implication. The recommendations of research include opinion from the researcher. Besides that, the researcher also provides a suggestion for future research subsequently to enhance the value of the study that benefitting many parties in the future. This chapter can facilitate the reader to understand the implication of this study, recommendation, and the suggestion for the future research.

5.2 Summary of the Research

The main purpose of this study is to examine the difference in knowledge sharing among senior officers of RMP based on the level of education and length of service as well as to determine whether knowledge self-efficacy, top management support and

ICT use have influence on knowledge sharing. One-way analysis of variance (ANOVA) and multiple regressions were conducted to test the research hypotheses.

One-way ANOVA was used to examine the impact of demographic factors, namely the level of education and length of service on knowledge sharing and can be used to measuring the first research question. Conversely, multiple regression analysis was conducted to determine whether there is a significant relationship between knowledge self-efficacy, top management support and ICT use on knowledge sharing and can be used to measuring the second research question.

The findings revealed that both that there were no significant differences in the level of education and length of service towards knowledge sharing among senior officers. Meanwhile, the findings also revealed that all three independent variables were significantly positively related influence on knowledge sharing.

5.2.1 Relationship between Level of Education and Knowledge Sharing

In this study, the findings explained that there were no significant differences in the level of education towards knowledge sharing among senior officers. It means that, senior officers have to understand how to manage knowledge even though they have different level of education. These findings are similar and in line with previous studies by Ojha (2005), M. Ismail and Yusof (2009) and Basiran (2010).

Therefore, the management of RMP must have a good knowledge management strategy to ensure all police officers know their roles and keep them aware of the kinds of knowledge that need to be managed and shared.

5.2.2 Relationship between Length of Service and Knowledge Sharing

It is found that there was no significant difference in knowledge sharing level among senior officers of RMP based on their length of services. The results of this study are similar to the study of 50 managers and experts working at the Institute for International Energy Studies in Middle East by Abili, Thani, Mokhtarian, and Rashidi (2011). The study reported that the demographic characteristic that is work experience have no difference in the amount of respondents knowledge sharing.

The result of the study was also consistent with Syed-Ikhsan and Rowland (2004), in their study on knowledge management strategy in a public organization in Malaysia. They found out employees who have working experience of more than 20 years are less confident on how knowledge can be managed effectively and efficiently rather than those who have less working experience. In that case, the length of services among senior officers has no difference on knowledge sharing.

Therefore, the management of RMP should have a plan on how knowledge could be maintained and shared among police officers. For instance, the management has to encourage new police officers to gain knowledge through learning, training and get more experience from seniors.

5.2.3 Relationship between Knowledge Self-Efficacy and Knowledge Sharing

Knowledge self-efficacy with knowledge sharing was the first independent variables tested and the research results found that knowledge self-efficacy was significantly positively related to knowledge sharing. These findings indicated that knowledge self-efficacy has affected on knowledge sharing among senior officers. Thus, it provides evidence that the level of senior officer's judgment about their capability to share knowledge that is valuable to the organization is high.

The results are consistent with previous studies that have found knowledge self-efficacy to be a major determinant in influencing knowledge sharing (Endres et al., 2007; Lin, 2007). A study by Basiran (2010) at Fire and Rescue Department of Malaysia (FRDM) also shows that the knowledge self-efficacy is the most significant relationship with knowledge sharing.

Senior officers who exhibit high knowledge self-efficacy attains better knowledge sharing processes in RMP because it would help motivate officers to share their knowledge with other officers in RMP. Furthermore, the scholars also found that knowledge self-efficacy is an ideal theory to understand why officers choose to share knowledge in some contexts and not in others. Hence, officers will feel more confident about what they can do (Chen & Hung, 2010; Wasko & Faraj, 2005).

According Bandura's theory, individual self-efficacy is from the past mastery experiences (Bandura, 1978). Therefore, steps to be taken by the management of RMP to increase senior knowledge self-efficacy to share knowledge is through officer's experience. If the officers feel by sharing of knowledge will give benefit to

the organizations, he will continue to participate in knowledge sharing activities in the future. So in order to facilitate officers drawing on their past experiences to harness and share knowledge. The management should provide some strategies to strengthen the training system and program to increase senior officers' self-efficacy so that the officers would believe they would be able to share valuable knowledge in the organization.

Another strategy the management of RMP should provide is through empowerment. Empowerment also can offer the advantages over the traditional top-to-bottom culture in the police force. The study by Gagné (2009) showed that an empowerment is related to the follower's needs for competence and autonomy, which are crucial conditions for an efficient knowledge creation and innovation. In empowering organizational structure, management are capable of increases senior officers' self-efficacy. Therefore, the senior officers are more likely to share knowledge with one another before and during the decision process. Hence, it is necessary for the management to set up systems that will motivate the employees to share knowledge positively and willingly.

5.2.4 Relationship between Top Management Support and Knowledge Sharing

Top management support with knowledge sharing was the second independent variables tested and the research results found that top management support was significantly positively related to knowledge sharing. Among the three factors, top management support had the highest and significant standardized beta coefficient,

which indicated that top management support was the most important variable in predicting the knowledge sharing.

The result of this study is consistent with the findings of the previous studies. Surveys of 172 employees from 50 large organizations in Taiwan that conducted by Lin (2007), found that the top management support factors significantly influence knowledge sharing. Besides, the study among the executives who working in an American based multinational company (MNC) in Malaysia made by Ling, Sandhu, and Jain (2009) has concluded that a critical factor to the success of knowledge sharing in that MNC Company is because of the top management support.

Complementary to this, the research study by Lu, Leung, and Koch (2006) among middle managers in the People's Republic of China also found that organizational support led to higher application of information and communication technologies (ICT) thus resulting in more knowledge sharing. The said results also similar to the study by Yao et al., (2007) at the public sector department in Hong Kong, found that the factors which influence the level of knowledge sharing the most are a management support factor.

The evidence from this finding suggests that in order to ensure that these senior officers of RMP are equipped with the necessary knowledge and skills, the top management should give a particular attention to provide an adequate training program as well as to facilitate more on social interaction culture at workplace in achieving organizational success. Top management also needs to create a knowledge

sharing environment that allows police officers to interact and communicate with each other without any constraints (Papoutsakis, 2007).

5.2.5 Relationship between ICT Use and Knowledge Sharing

The hypothesis is accepted and shows significant positive influence of information and communication technology application towards knowledge sharing among senior officers of RMP. This factor is the second highest predictor to knowledge sharing among the three factors which indicated that the information and technology use is important in promoting and facilitating knowledge sharing. Information Technology (ICT) tools such as internet, intranet, and knowledge bases is an important enabler of knowledge sharing in the workplace which it allows employees to access, store and share their knowledge (Song, 2002).

The present finding also supports Syed-Ikhsan and Rowland (2004b) study which concluded that ICT application systems are crucial in helping organizations develop and increase the knowledge of their employees. ICT allows employees to create and share knowledge effectively, thus can contribute to the performance of the organization (Hadil, 2010).

5.3 Implication of Study

The study is able to emphasize several important things that some parties need to concern. Thus, this part illustrates the division of research implication into two categories - theoretical and practical implications.

5.3.1 Theoretical Implication

Studies in the field of knowledge sharing are mostly done in the private sectors as compared to the public sector. Although, there are several studies in Malaysia context was done on respondents from the government perspective. However, a review of existing literature indicates that little research has been undertaken at the police force in Malaysia.

In general, the findings from this study can enhance the contribution to expanding the existing knowledge, mainly related to the topic of knowledge sharing. According to Drucker (1993), the only meaningful resource in today's world is knowledge. Although this study focuses on a police organization, the research questions and hypotheses can be proposed to other government agencies that may be different in one or more factors.

More importantly, the findings from this study can make a few contributions to the current literature. Thus, it can increase the collection of knowledge sharing research in Malaysia context due to the lack of studies on this topic before. The researcher also hopes that this study will help the readers to improve their knowledge, understanding, and attract readers to do research on the knowledge sharing topic in the future.

5.3.2 Practical Implication

In terms of practical implications, there are some implications of this research for practitioners. First, the findings from this study can be useful in enhancing public policy towards effective management and implementation of knowledge sharing programs in RMP.

Secondly, top management of RMP needs to realize the value of the knowledge that exists within the minds of each officer. Then, the management can develop a strategy to not only promote the sharing of knowledge within police officers in the organization, but also encourage them to act upon that knowledge in turn can be a benefit to the police organization. In many government agencies, including RMP, people keep their knowledge close to the heart as they move through the ranks because of this paradigm "knowledge is power" (Liebowitz & Chen, 2004).

Therefore, the management should be thinking and start to plan for an effective knowledge management system so that the knowledge possessed by each employee will not be unattended. Thus, by implementing the knowledge management in the organization, the management can improve knowledge sharing among employees, between employees and organization for creating competitive advantages. The management also must find ways to motivate the employees and highlight the benefits that employees and the organization will gain through the knowledge sharing activities.

5.4 Limitations and Direction for Future Research

The first limitation of the study is confined to the police force and thus it cannot be generalized to all other public sector agencies. The sample for this study is also limited to three police departments, namely Criminal Investigation Department (CID), Commercial Crime Investigation Department (CCID) and Narcotics Crime Investigation Department (NCID). Thus, the views are strictly limited to this department. In addition, some of the senior police officers involved in the daily operation and the investigation, and this is expected to affect the process of data collection later. The study is limited to the extent of the honesty and sincerity of the respondent in reply to the questions through a questionnaire to reflect respondent's true confessions. There are also required data that cannot be disclosed due to confidentiality and restricted.

The second limitation which recognized from this research is a time constraint. The time provided to conduct this study is only limited to five months (June to November). The time constraint has reduced the respondent's response rate (76.7 percent, n = 230). Therefore, if a more realistic time is provided, then the response rate might have increased which, in turn would allow for more accurate generalizations. Due to this, the researcher focuses on a sample that accessible to him only. This study only focused on senior police officers from three departments worked in Bukit Aman Police Headquarters. It was felt that with a longer time horizon, it would be possible to get more data from other departments that would enable a generalization be made to all senior officers of RMP throughout Malaysia.

Third limitation identified as the other factors that may affect knowledge sharing among senior officers of RMP. The fact that the three factors explained only 26.9 percent of the variance in knowledge sharing among senior officers discussed in this study still leaves 73.1 percent factors unexplained. In other words, there are other additional factors that are important in explaining knowledge sharing that have not been considered in this study, but may have significant influence on knowledge sharing. Further research might be necessary to explain more of the variance in knowledge sharing. So there are other factors such as attitude, reward, and culture that need to be examined which perhaps could be a link to knowledge sharing.

The fourth and last limitation, this study is a cross-sectional design in which data were gathered at one point within the period of study. This is due to the time to complete the study was very limited. This may not be able to capture the development issues and causal connections between variables of interest. Future research, however, will certainly benefit from collecting longitudinal data

5.5 Recommendation

There are multiple recommended strategies by the researcher that can be implemented by the RMP to improve the day-to-day operation.

First and foremost strategy is to enhance the quality of the officers. Each investigating officer should be given an adequate training so that they have the proper expertise in investigation field. Thus, it will improve the overall performance of the department if the investigation officers have the appropriate knowledge and skills to perform a task.

The management also needs to establish a mentor-mentee program where a higher rank officer will teach one or two junior officers to ensure that the junior officers are familiar with the intricacies and knowledge required to perform the investigative duty, which is of benefit to solving the crime.

The second strategy that can be implemented is to establish a knowledge management system. This could produce a set of helpful tips and guidelines to handle daily tasks collected from the experience of senior officers so the tacit knowledge will not be lost and will be useful for other officers. Knowledge portal, community of practice and knowledge forum can be created where any knowledge and information can be uploaded to the portal and shared by all the investigation officers nationwide.

The third strategy is to upgrade and improve the Information Storage System in order to ensure that the information is kept safe and readily available when needed by the investigation officers. The management also needs to upgrade and improve the current information collection and storage system. Building a computerized data system that can store a copy of all information to facilitate information retrieval will be highly beneficial. The system will be enhanced with safety features and can be retrieved only by certain individuals. Management also needs to establish an information sharing system between divisions where all the related common information and facts that has been used consistently and correctly remain intact.

The fourth strategy is to empower the usage of the ICT software and system where the management needs to invest a significant amount of money in providing adequate ICT systems by improving the current systems and integrating reporting related systems as

well as software to ease the management duty of monitoring reports and current status in efforts to make the best decisions. Optimize the use of the inter-department intranet and e-mail in an effort to help in implementing daily tasks, especially for sending information, meeting calling memos, alerts, and others. ICT allows employees to create and share knowledge effectively, thus can contribute to the performance of the organization.

The last recommended strategy is the involvement of top management. The management needs to continuously provide support to promote the knowledge sharing behavior among officers. Management also should think and start to restructure a proper incentive, reward and recognition that can be provided to those officers who are involved in the knowledge sharing process.

5.6 Conclusions

The aim of this study was to examine the difference in knowledge sharing among senior officers of RMP based on the level of education and length of service as well as to determine whether knowledge self-efficacy, top management support and ICT use have influence on knowledge sharing. The results of this study have indicated that all the three factors were positively and significantly related to knowledge sharing and there is no significant difference in knowledge sharing based on demographic factors, namely the level of education and length of service among senior officers of RMP.

Based on the findings, this study has discussed the research hypotheses and provide some recommendations towards the management of the RMP and for future research.

For the conclusion, in order for knowledge sharing to be effective in the police force, it is important for the top management of RMP to identify the related factors that will influence knowledge sharing. The management also needs to educate the police officer on the importance of sharing knowledge and ideas among colleagues who have been identified as the positive factors in promoting innovative in the police force. Subsequently, this will help the RMP to strive for excellence in order to contribute to the achievement of the Government Transformation Programme (GTP) to reduce crime and also to improve the public service delivery of the RMP under the National Key Results Areas (NKRA).

REFERENCES

Abidin, Z. (2012). *The Influence of Transformational Leadership Styles on Knowledge Management: The Moderating Role of Organizational Structure Among Administrators*. *Universiti Utara Malaysia*. Universiti Utara Malaysia.

Abili, K., Thani, F. N., Mokhtarian, F., & Rashidi, M. M. (2011). The role of effective factors on organizational knowledge sharing. In *Procedia - Social and Behavioral Sciences* (Vol. 29, pp. 1701–1706). doi:10.1016/j.sbspro.2011.11.415

Adler, P. S., & Kwon, S.-W. (2002). Social capital: Prospects for a new concept. *Academy of Management Review*, *27*(1), 17–40. doi:10.2139/ssrn.979087

Al-Alawi, A. I., Al-Marzooqi, N. Y., & Mohammed, Y. F. (2007). Organizational culture and knowledge sharing: critical success factors. *Journal of Knowledge Management*, *11*(2), 22–42. doi:10.1108/13673270710738898

Al-Hawamdeh, S. (2003). Communities of practice. *Knowledge Management: Cultivating Knowledge Professionals*, 121–137. doi:10.1016/B978-1-84334-037-9.50015-1

Aliman, F. (2014). *The Study on Factors Influencing the Incidence of Improvisation among Police in Sibu, Sarawak*. *Universiti Utara Malaysia*. Universiti Utara Malaysia.

Amayah, A. T. (2013). Determinants of knowledge sharing in a public sector organization. *Journal of Knowledge Management*, *17*(3), 454–471. doi:10.1108/JKM-11-2012-0369

Amin, A., Hassan, M. F., Ariffin, M. B. M., & Rehman, M. (2011). Knowledge Sharing: Two-Dimensional Motivation Perspective and the Role of Demographic Variables. *Journal of Information & Knowledge Management*. doi:10.1142/S0219649211002882

Ansari, M. A. (1990). *Managing people at work: Leadership styles and influence strategies*. Sage Publications. Retrieved from http://www.amazon.com/Managing-people-work-Leadership-strategies/dp/817036194X

Auditor General Report. (2012). *National Audit Department* (p. 71).

Azarbayjani, M. (2007). *Variables that affect employee knowledge sharing in a government-owned public service organization*. *Pepperdine University*.

Pepperdine University. Retrieved from http://books.google.com/books?hl=en&lr=&id=szBWMDtF_RsC&oi=fnd&pg=PR8&dq=Variables+That+Affect+Employee+Knowledge+Sharing+In+A+Government-Owned+Public+Service+Organization&ots=gCtaQZTCft&sig=eu_jTcEVnPKZHqQ_0pDJDlMGRRw

Azhar, N. H. B. B. (2012). *Motivation Factors On Knowledge Sharing Among Public Sector Organizations In Malaysia*. *Universiti Sains Malaysia*. Universiti Sains Malaysia. Retrieved from http://medcontent.metapress.com/index/A65RM03P4874243N.pdf

Azhar Harun & Nawi Abdullah. (2004). Metodologi Penyelidikan Ekonomi dan Sains Sosial. Thomson Learning. (TSDAS Digital Library : HB131 Azhh)

Bandura, A. (1978). Social Learning Theory of Aggression. *Journal of Communication*, *28*(3), 12–29. doi:10.1111/j.1460-2466.1978.tb01621.x

Basiran, Sobberi (2010). *Tahap dan factor-faktro menyumbang kepada perkongsian maklumat: Satu kajian di Jabatan Bomba dan Penyelamat Malaysia*. Universiti Utara Malaysia.

Becerra-Fernandez, I., Gonzalez, A., & Sabherwal, R. (2004). *Knowledge management: Challenges, solution, and technologies*. Prentice Hall. Retrieved from http://www.amazon.com/Knowledge-Management-Challenges-solutions-technologies/dp/0131016067

Bender, S., & Fish, A. (2000). The transfer of knowledge and the retention of expertise: the continuing need for global assignments. *Journal of Knowledge Management*, *4*(2), 125–137. doi:10.1108/13673270010372251

Bergeron, B. (2003). *Essentials of knowledge management*. John Wiley & Sons. Retrieved from http://books.google.com/books?hl=en&lr=&id=_kqAtfejnhkC&oi=fnd&pg=PR7&dq=Essentials+of+Knowledge+Management&ots=km0C7wu9tC&sig=Z1f5SwkVmztG56XAJ4mzmky2t5c

Birdi, K., Allen, K., Turgoose, C., McDonald, I., & Vössing, J. (2012). Knowledge Sharing Capabilities and Best Practices in Police Organizations: Studies of Policing in Ten European Countries. *University of Sheffield*, (August 2010).

Bock, G. W., & Kim, Y.-G. (2002). Breaking the Myths of Rewards. *Information Resources Management Journal*, *15*(2), 14–21. doi:10.4018/irmj.2002040102

Brandenburg, A. M., & Carroll, M. S. (1995). Your place or mine?: The effect of place creation on environmental values and landscape meanings. *Society & Natural Resources, 8*(5), 381–398. doi:10.1080/08941929509380931

Bretschneider, S. (1990). Management information systems in public and private organizations: An empirical test. *Public Administration Review, 50*(5), 536. doi:10.2307/976784

Breu, K., & Hemingway, C. J. (2004). Making organisations virtual: the hidden cost of distributed teams. *Journal of Information Technology, 19*(3), 191–202. doi:10.1057/palgrave.jit.2000018

Brislin, R. W. (1970). Back-Translation for Cross-Cultural Research. *Journal of Cross-Cultural Psychology, 1*(3), 185–216. doi:10.1177/135910457000100301

Bryant, S. E. (2003). The Role of Transformational and Transactional Leadership in Creating, Sharing and Exploiting Organizational Knowledge. *Journal of Leadership & Organizational Studies*, *9*(4), 32–44. doi:10.1177/107179190300900403

Cabrera, A., & Cabrera, E. (2002). Knowledge-sharing dilemmas. *Organization Studies*, 1–24. Retrieved from http://oss.sagepub.com/content/23/5/687.short

Chen, C.-J., & Hung, S.-W. (2010). To give or to receive? Factors influencing members' knowledge sharing and community promotion in professional virtual communities. *Information & Management*, *47*(4), 226–236. doi:10.1016/j.im.2010.03.001

Chiem, P.X. (2001), "In the public interest: government employees also need incentives to share what they know", *Knowledge Management Magazine*, August

Chuan, L. K. (2009). *Hubungan Antara Budaya Organisasi Dengan Prestasi Kerja : Satu Kajian Di Pasukan Polis Diraja Malaysia*. *Universiti Utara Malaysia*.

Darroch, J. (2005). Knowledge management, innovation and firm performance. *Journal of Knowledge Management*, *9*(3), 101–115. doi:10.1108/13673270510602809

Daud, Tawil (2010) *Pengaruh Budaya Organisasi Terhadap Proses Perkongsian Pengetahuan di Universiti Pertahanan Nasional Malaysia (UPNM).* Universiti Utara Malaysia.

Davenport, T. H., & Prusak, L. (1998). Working Knowledge-How Organizations Manage What They Know. *Harvard Business School Press*, *5*, 193–211. doi:10.1145/347634.348775

De Vries, R. E. (2006). Explaining Knowledge Sharing: The Role of Team Communication Styles, Job Satisfaction, and Performance Beliefs. *Communication Research*, *33*(2), 115–135. doi:10.1177/0093650205285366

Dean, G., Filstad, C., & Gottschalk, P. (2006). Knowledge Sharing in Criminal Investigations: An Empirical Study of Norwegian Police as Value Shop. *Criminal Justice Studies*, *19*(4), 423–437. doi:10.1080/14786010601083694

Drucker, P. (1993). *Post-Capitalist Society*. *Harper Business* (p. 38).

Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology*, *71*(3), 500–507. doi:10.1037//0021-9010.71.3.500

Endres, M. L., Endres, S. P., Chowdhury, S. K., & Alam, I. (2007). Tacit knowledge sharing, self-efficacy theory, and application to the Open Source community. *Journal of Knowledge Management*, *11*(3), 92–103. doi:10.1108/13673270710752135

Frank Leistner. (2010). *Mastering Organizational Knowledge Flow*. *Knowledge Creation Diffusion Utilization* (pp. 1–208).

Gagné, M. (2009). A model of knowledge-sharing motivation. *Human Resource Management*, *48*(4), 571–589. doi:10.1002/hrm.20298

Glomseth, R., Gottschalk, P., & Solli-Sæther, H. (2007). Occupational culture as determinant of knowledge sharing and performance in police investigations. *International Journal of the Sociology of Law*, *35*(2), 96–107. doi:10.1016/j.ijsl.2007.03.003

Goh, G., Gan, G., & Ryan, C. (2006). Kajian Malaysia, Vol. XXIV, No. 1 & 2, 2006. *Kajian Malaysia*, *XXIV*, 97–128.

Goh, S. C. (2002). Managing effective knowledge transfer: an integrative framework and some practice implications. *Journal of Knowledge Management*, *6*(1), 23–30. doi:10.1108/13673270210417664

Gwinner, C. (2006). *5-point vs. 6-point Likert Scales One*. Retrieved from http://www.infosurv.com/wp-content/uploads/2011/01/Likert_Scale_Debate.pdf

Hadil, B. M. (2010). *Keberkesanan Proses Pengurusan Pengetahuan Sektor Awam Melalui Sokongan Teknologi Maklumat dan Komunikasi (ICT)*. *Universiti Utara*

Malaysia. Universiti Utara Malaysia. Retrieved from http://etd.uum.edu.my/3717/

Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1995). *Multivariate Data Analysis: With Readings*. *Statistics* (Vol. 151, pp. 1–5). doi:10.2307/2983017

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis*. *vectors* (p. 816). doi:10.1016/j.ijpharm.2011.02.019

Hassan, S. (2014). The Influence Of Learning Organization Towards The Performance: A Study on SME of Manufacturing Firms in JB. *Universiti Utara Malaysia*.

Hendriks, P. (2004). Assessing the role of culture in knowledge sharing. *... European Conference in Organization, Knowledge, ...*. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.381.2109

Holden, R. R., Fekken, G. C., & Jackson, D. N. (1985). Structured personality test item characteristics and validity. *Journal of Research in Personality*, *19*(4), 386–394. doi:10.1016/0092-6566(85)90007-8

Hooff, B. Van Den, & Ridder, J. a. De. (2004). Knowledge sharing in context: the influence of organizational commitment, communication climate and CMC use on knowledge sharing. *Journal of Knowledge Management*, *8*(6), 117–130. doi:10.1108/13673270410567675

Hooff, B. van den, & Weenen, F. de L. van. (2004). Committed to share: commitment and CMC use as antecedents of knowledge sharing. *Knowledge and Process Management*, *11*(1), 13–24. doi:10.1002/kpm.187

Hu, W. W. (2010). Self-efficacy and individual knowledge sharing. In *Proceedings - 3rd International Conference on Information Management, Innovation Management and Industrial Engineering, ICIII 2010* (Vol. 2, pp. 401–404). doi:10.1109/ICIII.2010.261

Hussein, H. T. (2012). Perkongsian ilmu bantu perkasa PDRM. *Utusan Malaysia*. Retrieved October 03, 2014, from http://www.utusan.com.my/utusan/info.asp?y=2012&dt=0327&pub=Utusan_Malaysia&sec=Dalam_Negeri&pg=dn_06.htm

Idris, A. (2012). *Employees' career Values, Perceived Organizational Support And Career Success*. *Universiti Utara Malaysia*. Universiti Utara Malaysia. Retrieved from http://etd.uum.edu.my/3529/7/s810698.pdf

IGP: Panels formed to probe asset losses - Nation | The Star Online. (2013). *The Star*. Retrieved October 03, 2014, from

http://www.thestar.com.my/News/Nation/2013/10/03/IGP-Panels-formed-to-probe-asset-losses/

Ipe, M. (2003). Knowledge Sharing in Organizations: A Conceptual Framework. *Human Resource Development Review*, *2*(4), 337–359. doi:10.1177/1534484303257985

Ismail, M., & Yusof, Z. (2008). Factors affecting knowledge sharing in public organizations in Malaysia. *Knowledge Management International Conference …*, 165–171. Retrieved from http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:Factors+Affecting+Knowledge+Sharing+In+Public+Organizations+In+Malaysia#0

Ismail, M., & Yusof, Z. (2009). Demographic factors and knowledge sharing quality among Malaysian government officers. *Communications of the IBIMA*, *9*. Retrieved from http://www.ibimapublishing.com/journals/CIBIMA/volume9/v9n1.pdf

Ismail, W. K. W., Nor, K. M., & Marjan, T. (2009). The Role of Knowledge Sharing Practice in Enhancing Project Success. *Interdisciplinary Journal Of Contemporary Research in Business*, *1*, 34–53.

Jashapara. (2010). *Knowledge Management: An Integrated Approach* (2nd ed.). Prentice Hall. Retrieved from http://www.pearson.ch/HigherEducation/MISManagementInformation/1449/9780273726852/Knowledge-Management-An-Integrated.aspx

Kankanhalli, A., Tan, B., & Wei, K. (2005). Contributing knowledge to electronic knowledge repositories: an empirical investigation. *MIS Quarterly*, *29*(1), 113–143. Retrieved from http://www.jstor.org/stable/25148670

Koh, J., & Kim, Y.-G. (2004). Knowledge sharing in virtual communities: an e-business perspective. *Expert Systems with Applications*, *26*(2), 155–166. doi:10.1016/S0957-4174(03)00116-7

Krejcie, R., & Morgan, D. (1970). Determining sample size for research activities. *Educ Psychol Meas*, *38*, 607–610. Retrieved from http://eric.ed.gov/?id=EJ026025

Lee, H., & Choi, B. (2003). Knowledge Management Enablers, Processes, and Organizational Performance: An Integrative View and Empirical Examination. *Journal of Management Information Systems*, *20*(1), 179–228. Retrieved from http://mesharpe.metapress.com/index/HWAF71LG2P2NPX3F.pdf

Liebowitz, J., & Chen, Y. (2004). Knowledge Sharing Proficiencies: The Key to Knowledge Management. *Handbook on Knowledge Management 1: Knowledge*

Matters, 409–424. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=20353688&site=ehost-live

Lin, H.-F. (2007). Knowledge sharing and firm innovation capability: an empirical study. *International Journal of Manpower*, *28*(3/4), 315–332. doi:10.1108/01437720710755272

Lin, W.-B. (2008). The effect of knowledge sharing model. *Expert Systems with Applications*, *34*(2), 1508–1521. doi:10.1016/j.eswa.2007.01.015

Ling, C. W., Sandhu, M. S., & Jain, K. K. (2009). Knowledge sharing in an American multinational company based in Malaysia. *Journal of Workplace Learning*, *21*(2), 125–142. doi:10.1108/13665620910934825

Low H. H., Omain, S. Z. & Md Som, H. (2000), *Knowledge sharing amongst Malaysia small and medium enterprise,* Project Report. Universiti Teknologi Malaysia

Lu, L., Leung, K., & Koch, P. T. (2006). Managerial Knowledge Sharing: The Role of Individual, Interpersonal, and Organizational Factors. *Management and Organization Review*, *2*, 15–41. doi:10.1111/j.1740-8784.2006.00029.x

Luen, T. W., & Al-Hawamdeh, S. (2001). Knowledge management in the public sector: principles and practices in police work. *Journal of Information Science*, *27*(5), 311–318. doi:10.1177/016555150102700502

Milner, E. M. (2000). *Managing Information and Knowledge in the Public Sector* (1st ed.). Abingdon, UK: Routledge. doi:10.4324/9780203458631

Mohd Najib Abdul Razak. (2013). GTP - Government Transformation Programme: Malaysia. *Pemandu*. Retrieved November 02, 2014, from http://www.pemandu.gov.my/gtp/Press_Releases-@-Malaysia_on_Track_to_Become_High_Income_Nation_by_2020_With_The_National_Transformation_Programme.aspx

Mohd Reduan A. (2004). *Panduan dan Rujukan PTK Polis. Kuala Lumpur*: Red One Enterprise.

Muhamad, J., & Sagir, R.M.(1998). *Pengurusan Organisasi*. Bangi: Universiti Kebangsaan Malaysia.

Nonaka, I. (1994). A Dynamic Theory of Organizational Knowledge Creation. *Organization Science*, *5*, 14–37. doi:10.1287/orsc.5.1.14

Nonaka, I., & Takeuchi, H. (1995). Global Organizational Knowledge Creation. In *KnowledgeCreating Company* (pp. 197–223).

Noor, N., & Salim, J. (2012). The influence of individual, organizational and technological factors on knowledge sharing in the private sector in Malaysia. ... *Retrieval & Knowledge Management (…*, (July), 4–6. Retrieved from http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=6205028

Ojha, A. (2005). Impact of team demography on knowledge sharing in software project teams. *South Asian Journal of Management*. Retrieved from http://www.questia.com/library/journal/1P3-926141181/impact-of-team-demography-on-knowledge-sharing-in

Okyere-Kwakye, E., & Nor, K. M. (2011). Individual Factors and Knowledge Sharing. *American Journal of Economics and Business Administration*, *3*, 66–72.

Omar, I. (2012a). IGP: We will work towards making the public feel safer - Nation | The Star Online. *The Star Online*. Retrieved November 03, 2014, from http://www.thestar.com.my/News/Nation/2012/10/03/IGP-We-will-work-towards-making-the-public-feel-safer/

Omar, I. (2012b). Program Sarjana UKM Untuk Pegawai Polis Dilanjut. *UKM News Portal*. Retrieved October 03, 2014, from http://www.ukm.my/news/index.php/ms/berita-kampus/953-ukm-masters-programme-for-the-police-extended.html

Ong, H.-B., Yeap, P.-F., Tan, S.-H., & Chong, L.-L. (2011). Factors influencing knowledge sharing among undergraduate students: A Malaysian perspective. *Industry and Higher Education*, *25*(2), 133–140. doi:10.5367/ihe.2011.0035

Oyarce, G. (2012). *Knowledge-sharing practices among Turkish peacekeeping officers*. *University Of North Texas*. University Of North Texas. Retrieved from http://digital.library.unt.edu/ark:/67531/metadc149588/m2/1/high_res_d/dissertation.pdf

Pallant, J. (2010). *SPSS Survival Manual: A step by step guide to data analysis using SPSS* (4th ed.). Open University Press. Retrieved from http://www.amazon.co.uk/SPSS-Survival-Manual-guide-analysis/dp/0335242391

Pan, S. L., & Scarbrough, H. (1998). A socio-technical view of knowledge-sharing at Buckman Laboratories. *Journal of Knowledge Management*, *2*(1), 55–66. doi:10.1108/EUM0000000004607

Pandey, S., & Wright, B. (2006). Connecting the dots in public management: political environment, organizational goal ambiguity, and the public manager's role

ambiguity. *Journal of Public Administration Research and …*. Retrieved from http://jpart.oxfordjournals.org/content/16/4/511.short

Pangil, F., & Nasurdin, A. M. (2008). Demographics factors and knowledge sharing behavior among R&D employees. *Universiti Utara Malaysia*. Retrieved from http://repo.uum.edu.my/1899/

Papoutsakis, H. (2007). Sharing knowledge in the organisation: A retrospective analysis and an empirical study. *Electronic Journal of Knowledge Management*, *5*, 231–244. Retrieved from http://proxy.lib.sfu.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2008-13805-012&site=ehost-live

Piaw, C. Y. (2012). *Mastering Research Methods*. McGraw-Hill Education. Retrieved from http://www.mphonline.com/books/nsearchdetails.aspx?&pcode=9789675771415

Piaw, C. Y. (2013). *Mastering Research Statistics* (1st ed.). McGraw-Hill Education. Retrieved from http://www.amazon.com/Mastering-Research-Statistics-Chua-Piaw/dp/9675771690

Population Projection of Malaysia (2014), Department Statistics of Malaysia

Public Complaints Bureau Statistics 2011-2014. (2014). *Prime Minister's Department*. Retrieved October 03, 2014, from http://www.pcb.gov.my/en/complaint/statistics-by-year

Riege, A. (2005). Three-dozen knowledge-sharing barriers managers must consider. *Journal of Knowledge Management*. Retrieved from http://www.emeraldinsight.com/journals.htm?articleid=1502137&show=abstract

Ryu, S., Ho, S. H., & Han, I. (2003). Knowledge sharing behavior of physicians in hospitals. *Expert Systems with Applications*, *25*(1), 113–122. doi:10.1016/S0957-4174(03)00011-3

Sandhu, M. S., Jain, K. K., & Ahmad, I. U. K. (2011). Knowledge sharing among public sector employees: Evidence from Malaysia. *International Journal of Public Sector Management*, *24*(3), 206–226. doi:10.1108/09513551111121347

Schermerhorn, J. R., & Chappell, D. (2000). *Introducing Management*. *John Wiley & Sons Canada, Ltd*. John Wiley & Sons Canada, Ltd.

Seba, I., Rowley, J., & Delbridge, R. (2012). Knowledge sharing in the Dubai Police Force. *Journal of Knowledge Management, 16*(1), 114–128. doi:10.1108/13673271211198972

Sekaran, U. (2003). *Research Methods for Business: A Skill Building Approach* (4th ed.). Wiley. Retrieved from http://as.wiley.com/WileyCDA/WileyTitle/productCd-0471203661.html

Sekaran, U., & Bougie, R. (2010). *Research Methods for Business: A Skill Building Approach* (5th ed.). Wiley. Retrieved from http://www.amazon.com/Research-Methods-Business-Building-Approach/dp/0470744790

Senior Officers Population Statistic (2014), Management Department, Royal Malaysia Police, Bukit Aman Kuala Lumpur

Sheridan, J. E. (1992). Organizational Culture and Employee Retention. *Academy of Management Journal*, *35*(5), 1036–1056. doi:10.2307/256539

Silvi, R., & Cuganesan, S. (2006). Investigating the management of knowledge for competitive advantage: A strategic cost management perspective. *Journal of Intellectual Capital*, *7*(3), 309–323. doi:10.1108/14691930610681429

Sohail, M. S., & Daud, S. (2009). Knowledge sharing in higher education institutions: Perspectives from Malaysia. *The Journal of Information and Knowledge Management Systems*, *39*(2), 125–142. doi:10.1108/03055720910988841

Song, S. (2002). An Internet Knowledge Sharing System. *Journal of Computer Information Systems*, *42*, 25. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=buh&AN=6654336&site=ehost-live&scope=site

Spreitzer, G. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of Management Journal*, *38*(5), 1442–1465. Retrieved from http://amj.aom.org/content/38/5/1442.short

Syed-Ikhsan, S. O. S., & Rowland, F. (2004a). Benchmarking knowledge management in a public organisation in Malaysia. *Benchmarking: An International Journal*, *11*(3), 238–266. doi:10.1108/14635770410538745

Syed-Ikhsan, S. O. S., & Rowland, F. (2004b). 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. doi:10.1108/13673270410529145

Tan, H. H. H., & Zhao, B. (2003). Individual- and Perceived Contextual-Level Antecedents of Individual Technical Information Inquiry in Organizations. *The Journal of Psychology*, *137*(6), 597–621. doi:10.1080/00223980309600637

Teerajetgul, W., & Charoenngam, C. (2006). Factors inducing knowledge creation: empirical evidence from Thai construction projects. *Engineering, Construction*

and Architectural Management, *13*(6), 584–599. doi:10.1108/09699980610712382

Unit, T. E. P. (2010). *Tenth Malaysia Plan 2011-2015*. Prime Minister's Department.

Wang, S., & Noe, R. (2010). Knowledge sharing: A review and directions for future research. *Human Resource Management Review*. Retrieved from http://www.ucdenver.edu/academics/colleges/CLAS/Centers/writing/Documents/HR_Managament.pdf

Wasko, M., & Faraj, S. (2005). Why should I share? Examining social capital and knowledge contribution in electronic networks of practice. *MIS Quarterly*. Retrieved from http://www.jstor.org/stable/25148667

Wiig, K. (1999). What future knowledge management users may expect. *Journal of Knowledge Management*. Retrieved from http://www.emeraldinsight.com/journals.htm?articleid=883678&show=abstract

Wiig, K. M. (2002). Knowledge management in public administration. *Journal of Knowledge Management*, *6*(3), 224–239. doi:10.1108/13673270210434331

Willem, a., & Buelens, M. (2007). Knowledge Sharing in Public Sector Organizations: The Effect of Organizational Characteristics on Interdepartmental Knowledge Sharing. *Journal of Public Administration Research and Theory*, *17*, 581–606. doi:10.1093/jopart/mul021

Wu, Y., & Zhu, W. (2012). An integrated theoretical model for determinants of knowledge sharing behaviours. *Kybernetes*, *41*(10), 1462–1482. doi:10.1108/03684921211276675

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. doi:10.1108/17410390710717138

Yassin, F., Sahari, N., & Salim, J. (2011). A framework of knowledge sharing through ICT for teachers in Malaysia. *Electrical Engineering and …*, (July). Retrieved from http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=6021754

Yusof, Z. M., Ismail, M. B., Ahmad, K., & Yusof, M. M. (2012). Knowledge sharing in the public sector in Malaysia: a proposed holistic model. *Information Development*, *28*(1), 43–54. doi:10.1177/0266666911431475

Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2009). *Business Research Methods* (8th ed.). Cengage Learning. Retrieved from http://www.amazon.com/Business-Research-Methods-Edition-Qualtrics/dp/1439080674