

THE UNIVERSITY OF HULL

**The Influence of Knowledge Sharing On Performance among
Malaysian Public Sector Managers and the Moderating Role of
Individual Personality**

**being a Thesis submitted for the Degree of
Doctor Philosophy**

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by

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Abstract

There have been recent calls for further research into the sharing of managerial tacit knowledge to enhance individual and organisational performance. This, due to a lack of knowledge of current practices of knowledge sharing, especially in developing countries, has been the motivation behind this research. The study examines the roles of personality traits in facilitating knowledge sharing practices and managerial tacit knowledge transfer among managers working in high and low performance local governments. Specifically, the study examines the direct relationship between knowledge sharing practices and tacit knowledge among 308 managers working in local governments. Secondly, this study explores the differences between knowledge sharing practices, tacit knowledge and individual performance among managers working in high and low performance local governments. Thirdly, this study also explores the role of personality traits as moderators of the relationship between knowledge sharing practices and tacit knowledge with individual performance. A triangulation approach combining questionnaire and interviews was used in the study. The questionnaire was distributed to middle managers of 35 Malaysian local government engaged in a Star Rating System. There were 358 completed questionnaires returned, but only 308 were useable. To support the results from the quantitative data, semi-structured interviews were conducted with 8 managers from Malaysian Local Governments of high and low levels of performance representing 4 main categories: City Hall, City Council, Municipal Council, and District Council.

The results provided general support the majority of hypotheses of the study. Specifically, mentoring programme (competence), individual codification, institutional personalization and institutional codification were related to managerial tacit knowledge transfer. Tacit knowledge associated with managing oneself, managing tasks and managing others were significantly related to knowledge sharing practices. Unexpectedly, there were no significant differences in knowledge sharing practices, levels of accumulated managerial tacit knowledge, or individual performance between high and low performance local governments. Finally, results indicated that the agreeableness dimension of individual personality interacted with mentoring programmes in a way that predicted individual performance. Furthermore, agreeableness and conscientiousness dimensions of personality interacted with tacit

knowledge associated managing self and managing tasks to influence individual performance. The openness dimension interacted with tacit knowledge associated with managing others to influence individual performance.

This study adds to the limited body of empirical research in knowledge management, particularly within the Malaysian public sector. It represents a comprehensive survey and explanation of knowledge management in Malaysia. The relationship between knowledge sharing practices and tacit knowledge variables and their interaction with sub traits of personality in terms of individual performance suggests that it would be beneficial to the Ministry of Housing and Local Government in Malaysia to manage tacit knowledge as a way of enhancing individual performance. Contributions to the theory and practice, limitations and implications of the study are discussed.

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Abbreviations

ANOVA	Analysis of Variance
ASEAN	The Association of South East Asia Nations
BFI	Big Five Inventory
CEO	Chief Executive Officers
CFA	Confirmatory Factor Analysis
CPA	Comprehensive Performance Measurement
EFA	Exploratory Factor Analysis
EPU	Malaysian Economic Planning Unit
FA	Factor Analysis
FFM	Five Factor Model
<i>g</i>	General Intelligence
GDP	Gross Domestic Product
GNI	Gross National Income
HRM	Human Resource Management
IC	Intellectual Capital
ICT	Information, Communication and Technology
IP	Individual Performance
IQ	Intellectual Quotient
IT	Information Technology
ITNB	Malaysian National Institute of Translation
JPA	Public Service Department
KM	Knowledge Management
KMO	Kaiser Meyer Olkin
KMS	Knowledge Management Strategy
KPI	Key Performance Indicators
KS	Knowledge Sharing
KSA	Knowledge, Skills and Ability
KSM	Knowledge Sharing Mechanisms
KSP	Knowledge Sharing Practices
LAMTK	Levels of Accumulated Managerial Tacit Knowledge
LGs	Local Governments
MAMPU	Malaysian Administrative and Modernization Planning Unit
MHLG	Ministry of Housing and Local Government

MMR	Moderator Multiple Regression
MP	Mentoring Programme
MPG	Management and Professional Group
MRS	Malaysian Remuneration System
MSA	Measure of the Sampling Adequacy
NDP	National Development Policy
NEP	New Economic Policy
NHS	National Health Service
NPM	New Public Management
NRS	New Remuneration System
NVP	National Vision Policy
OL	Organisational Learning
PAF	Principal Axis Factoring
PBT	Pihak Berkuasa Tempatan
PCA	Principal Component Analysis
PT	Personality Traits
PTK	Competency Level Assessment
R & D	Research and Development
RM	Ringgit Malaysia
SEA	Service Excellence Award
SECI	Socialization, Externalization, Combination and Internalization
SEM	Structural Equation Modelling
SD	Standard Deviation
SIRIM	Standards and Industrial Research Institute of Malaysia
SPSS	Statistical Package for Social Sciences
SRS	Star Rating System
SSR-LG	Star Rating System Local Governments
TK	Managerial Tacit Knowledge
TKIM	Tacit Knowledge Inventory for Managers
UK	United Kingdom
US	United States
VIF	Variance Inflation Factor

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Chapter 1

Introduction

1.1 Background of Research

In the public sector there is an increasing demand to produce knowledgeable managers capable of generating a high quality of work for citizens and policy makers (Hassan, 2010). This is particularly the case among frontline government servants, whose services are seen as representing the government. This situation calls for public managers to produce more work in a shorter time. It also creates a major challenge for public servants, as the nature of their jobs requires both tacit and explicit knowledge; however tacit knowledge is more useful in managerial practices (Bennet & Bennet, 2008; Hu et al., 2009).

Wagner and Sternberg (1987) claim that the ability to acquire and manage tacit knowledge indicates managerial success. Using tacit knowledge is one of the main strategies to keep talent, loyal, and productive employees (Smith, 2000). Further, for it to be successful, knowledge must first be accessible and it must be possible to derive benefit from it (Abdullah, 2005; Girard & McIntyre, 2010, Nonaka et al., 2000, Smith, 2001). In particular, tacit knowledge must be kept from flowing out through retirement, outsourcing, downsizing, mergers and terminations. In this regard, a knowledge sharing approach should be able to utilise the talent, perspectives, and ideas of members and create common understandings, particularly regarding work (Hackman, 1987). To share this valuable knowledge in practical ways, some researchers have suggested knowledge sharing mechanisms consisting of personalization and codification techniques (Boh, 2007; Hansen et al., 1999), and mentoring programmes (Bozeman & Feeney, 2009; Eddy et al, 2005; Lankau & Scandura, 2002) are often used to exchange ideas, experiences and skills among members.

Although knowledge sharing has an effect on performance, some people are unwilling to share their knowledge. This is likely to be due to individual differences such as personality (Mooradian et al., 2006), which is critical for organisational knowledge creation (Nonaka & Toyama, 2003; Von Krogh et al., 2000). It is reasonable to expect that not all personality styles will be equally effective because of the nature of tacit

knowledge and how it is acquired from experience and practices (Sloan, 2004). Thus, this study seeks to propose and examine linkages of knowledge sharing practices (KSP) and managerial tacit knowledge (TK) contributing to individual performance (IP) through a detailed consideration of personality traits among managers working in high and low performing local governments (LGs).

1.2 Research Problem

Knowledge has been shown as an asset in any organisation, with a critical part of it being intangible knowledge (Alwis & Hartmann, 2008; Cohen & Prusak, 2000). Intangible knowledge assets exist in the tacit dimensions of knowledge, built up over time in people's heads, hands and relationships (Swap et al., 2001). However, knowledge management (KM) also includes managing tangible intellectual capital such as copyrights, patents, licenses, royalties, gathering, organizing and sharing the organisation's information and knowledge assets, creating work environments to share and transfer knowledge among workers and leveraging knowledge (Smith, 2001).

The study of tacit knowledge is important because it is related to practical intelligence and employee behaviour that is acquired through experience (Wagner, 1987). Consequently, individuals in possession of tacit knowledge are able to do work productively. Thus, measures of tacit knowledge should be particularly useful in explaining individual differences in job performance that arise from the processes of learning and practice (Hedlund et al., 2003).

This is particularly relevant today because employees must keep pace with a rapidly-advancing knowledge economy in which subordinates often know more than their superiors and experience becomes secondary (Maccoby, 2009). Hence, knowledge is of the foremost importance and as a result, knowledge sharing becomes a mechanism for sharing personal knowledge with others and this enables employees to develop skills and competences. It also helps employees to place an increased value on their work (Grant, 1996; Spender, 1996). This happens as a result of the innovations that come about when people share their personal knowledge with others and this in turn has an effect on job performance. Nonaka and Takeuchi (1995) and Jackson et al. (2006) support the claim that knowledge sharing can convert general ideas into innovative products and services.

Therefore, the characteristics of knowledge management can be seen in how knowledge sharing (either tacit or explicit) increases people's learning and productivity. Knowledge sharing refers to a type of activity associated with learning processes that involves people in sharing their talents with others (Smith, 2001). Knowledge sharing is a channel for knowledge flow among employees, even more critical with tacit knowledge because participants must feel comfortable sharing their mental model, values and beliefs, tentative thoughts and intuition (Nonaka et al., 2000; Platts & Yeung, 2000).

A person's willingness to share knowledge is influenced by psychological traits (O'Neill & Adya, 2007) such as personality (Cabrera et al., 2006). Hence, the personalities of individuals will enhance certain behaviours in some people whilst minimising them in others. For example, some people are against sharing their knowledge because they assume that it is a source of power or status (Gupta & Govindarajan, 2000; Kim & Mauborgne, 1998; Porter, 1985) or hiding knowledge (Connelly et al., 2012) because they wish to gain personal advantage (Cho et al., 2007; Husted & Michailova, 2002). In certain circumstances, some people are well informed whilst others are poorly informed. Since the individual is a fundamental player in knowledge sharing activities, what employees think and how they behave has an effect on their working behaviour (Witt et al., 2002). Research on knowledge sharing shows personality can influence knowledge sharing behaviour (Mooradian et al., 2006), transfer and promotion of tacit knowledge and complex knowledge (Higgins & Kram, 2001; Uzzi, 1997) and transfer activities and productivity assessments (Barrick & Mount, 1991; Salgado, 1997). However these studies examine direct relationship, but not examine interaction. Shoda and Mischel (1993), Tett and Burnett (2003) and Wang and Noe (2010) suggest future study to examine the influence of personality and situational factors in knowledge sharing.

The purpose of this study is to provide an insight into the situation of knowledge sharing practices identified above with the overall objective of assisting public administration in the development of an effective mechanism for sharing tacit knowledge, also taking into account the interaction of personality traits, as public sector successes are influenced by many factors; not only financial but also human (Boyne, 2002). Managing human intelligence has become a key strategy and a competitive

resource (Yusoff, 2005) in the knowledge age because an individual who has knowledge contributes to the success of an organisation through work productivity (Grant, 1996; Ipe, 2003; Rahman, 1984). In the context of Malaysian local government, competitiveness can be seen in terms of competition to gain a high rating in the Star Rating System (SRS) assessment.

To the best of the researcher's knowledge, this is the first research to have attempted such an analysis about sharing managerial tacit knowledge and its psychological aspects in the context of Malaysia, and particularly in Malaysian local government with its star rating system performance. Initially, this study was derived from a suggestion for future research in studies of tacit knowledge by Mahmud (2006) and Davidson et al. (2007). These studies suggested that future research should explore the mechanisms through which tacit and explicit knowledge are captured, and passed on to others in order to develop the full capacity of managers; at the same time, losing knowledge will impact on the organisation. On the other hand, the limitation of his study was that it dealt only with the selected Malaysian public sector, and therefore replication is recommended in a variety of contexts to enable findings and implications to be accepted with greater confidence and generalised to other populations.

1.3 Context of Study

In the public sector, knowledge sharing plays an important role in preventing knowledge loss (Cong & Pandya, 2003). In the case of retirement of civil servants and frequent transfers of knowledge workers across government departments creates new challenges for the retention of knowledge, the preservation of institutional memory and the training of new staff (Cong & Pandya, 2003; Davidson et al., 2007; OECD, 2003).

Public and private organisations base their work on knowledge (Alvensson, 1993). The public sector in particular is knowledge intensive, as its main activities are the development and provision of knowledge (Starbuck, 1992; Willem & Buelens, 2007). Apart from this, the new features of the public sector are partnership building, coalition forming and network managing, which create a challenge for public services. At the same time, public servants are expected not just only deliver public services economically and efficiently but also to be creative, enterprising and innovative (Macaulay & Lawton, 2006; Mahbob, 2010). Public officers are expected to use

knowledge to shape public demands and ideas about what constitutes the common good in order to increase effectiveness and quality with limited resources (Wiig, 2002).

However, the government sector seems to be lagging behind in the formation of knowledge management (Taylor & Wright, 2004; Yao et al., 2007) since governments servant are sometimes perceived as lazy, unambitious and less than competence (Meier, 2004). The private sector is different; in this sector knowledge management skills have been widely used and have resulted in improved organisations, greater efficiency, increased effectiveness and profitability (Gao et al., 2008; Yao et al., 2007). In the private sector, the mechanisms of knowledge sharing practices such as codification and personalization are used to manage knowledge. For example, Ernst and Young and Andersen Consulting use codification to manage explicit knowledge and knowledge assets are listed in the manual procedures for a variety of tasks and situations. Reusing knowledge can save time, cost and effort (Hansen et al., 1999). For instance, McKinsey and Company and Bain and Company use personalization to manage tacit knowledge. Employees use analytic, business problem and creative skills to examine unique business problem skills and glean knowledge (Hansen et al., 1999; Rahman, 2004). Indeed, the recent trend in many public services across the globe has been to adopt the successful management techniques and methods developed in the private sector or in a commercial setting (Common, 2011).

The focal country of this study is Malaysia, one of the developing countries (Tooley et al., 2010). Malaysia was selected for investigation because management reforms (changes) in the public sector are the priority for the government (Common, 2001; Common, 2004a) and administrative reforms have been inspired by Western managerial techniques (Common, 2004a). In recent years there has been a successful transition of state-owned organisations operated by central planning arrangements to a market economy principle by emphasising knowledge management. Far more importantly, the Malaysian government aims to develop public sector performance through Vision 2020 (Common, 2001; Mohamed, 2003). In order to achieve the aim, the government developed strategies for increasing government performance in the 9th Malaysia Plan through the creation of 'first class human capital' (Adam 2010; Government of Malaysia, 2008). Hence, the government needs workers constantly to upgrade the

knowledge and skills that they gain from their daily work in order to turn Malaysia into a developed country (Zainuddin, 2000).

The government annually spends millions of Malaysian ringgit (RM) to upgrade public servants' skills. The recent efforts by the government to increase the skills and knowledge of public servants have included the provision of RM110 million to skills development and training centres to enhance skills in the workforce in the 2010 national budget (Najib, 2009). Therefore, people are looking for value for money in goods and services provided by public servants using their knowledge and skills gain in informal and formal training (Buang, 2010).

The Malaysian government realised that increased levels of performance, effectiveness and efficiency can be supported by knowledge management practices (Kasim, 2008). In addition, the former Malaysian Minister of Finance emphasised that Malaysia had made a paradigm shift from a production-based economy (p-economy) to a knowledge-based economy (k-economy) as a result of the government's effort to develop high levels of human capital in the 21st century (Zainuddin, 2000).

There are other reasons why Malaysia should develop towards a k-economy. For example, there are increased levels of economic and human development in economies that are driven by brain power, and a wealth of information, skills and knowledge (Economic Master Plan, 2002). This Malaysia plan focuses on frontline government agencies such as local governments (LGs). As frontline agencies, LGs have a close relationship with public needs and they need to provide the best value to the community (Hartley & Allison, 2002). LGs also have a responsibility to share knowledge via technology and human resource management tools such as mentoring systems. Moreover, LGs provide a diverse range of services to external customers as part of their responsibilities as regulators (Brysland & Curry, 2001). Malaysian LGs are also known as 'closed services', which makes them different to other agencies. This means that managers work in these organisations from the beginning of their work placement until they retire. Basically, LGs' employees cannot simply move or transfer to another LG; they will serve in one particular LG for the whole of their service. This situation probably permits the accumulation of considerable managerial tacit knowledge since they are involved in the same working environment for a long time. Thus, this scenario

raises interesting points for study and may produce significant findings that managers have managerial tacit knowledge that can be shared to improve human capital in LGs.

Furthermore, in the Malaysian public sector, the field of knowledge management is still at an early stage and there are debates about knowledge management practices (Zahidul et al., 2007). Even so, a wide range of mechanisms for knowledge sharing and re-use are being initiated and implemented within local government to address concerns about knowledge loss and to promote knowledge value across the organisation. However, there is little empirical evidence available on this subject (Zhou, 2004).

1.4 Research Objectives

The objective of this research is to identify the relationship between knowledge sharing practices and managerial tacit knowledge. The specific research objectives are as follows;

1. To identify ways in which tacit knowledge is accumulated and shared in local governments.
2. To compare knowledge sharing practices, managerial tacit knowledge and individual performance in high and low performing organisations.
3. To examine the roles of personality traits in moderating the effect of knowledge sharing practices, managerial tacit knowledge and individual performance in organisations.

1.5 Research Questions

How do managers share tacit knowledge? Specifically, how do they manage themselves, tasks, and others and share knowledge through knowledge sharing practices, including mentoring programme (MP) and knowledge sharing mechanisms (KSM)? What role do personality traits play in the high and low performance levels of local governments? In order to address these issues the following research questions have been developed:

1. Do the employees of Malaysian local governments share tacit knowledge through knowledge sharing practices?
2. Are there differences between knowledge sharing practices that would account for the high and low levels of organisational performance?
3. Are there differences in tacit knowledge that would account for the high and low performance levels of local governments?

4. Are there differences in individual performance that would account for the high and low performance levels of local governments?
5. Do personality traits moderate the knowledge sharing practices and acquisition of tacit knowledge in ways that lead to improve individual performance?

1.6 Conceptual Definitions

Knowledge

Knowledge is a combination of data, information, facts, description and skills that incorporates a set of rules, procedures and operations learnt through experience and practice (Keskin, 2005). Small and Sage (2005) suggest that knowledge is the intersection of information, experiences and theory. Knowledge also emerges from observations that depend on personal judgement and individual experience (Nonaka & Takeuchi, 1995). Therefore, when someone creates knowledge, they make sense of a new situation by holding justified beliefs and committing to them (Engstrom, 2003). This study refers to knowledge that employees learn from doing organisational work (Dixon, 2000). This knowledge consists of data, information, facts, description and skills by combining the theoretical or practical understanding of workplace knowledge, as well as the experiences and insights that contribute to individual and collective action. It encompasses knowledge in the human mind, and it includes knowledge acquired from work routines: the processes, applications and administrative tasks that make up the organization (Davenport & Prusak, 1998). However, Polanyi (1966) and Nonaka et al., (2000) argue that knowledge can be classified into two types: tacit and explicit.

Tacit Knowledge

The concept of TK has been widely discussed. Management literature refers to the ideas of pioneer experts in the areas of TK. For example, Polanyi (1966) refers to TK as knowing how to do something without thinking about it such as, the knowledge required to ride a bicycle. The features of tacit knowledge are such that people often cannot explain them. It is a highly personal, subjective form of knowledge that is informal and can be implicit (Sternberg, 1997). Sternberg et al. (2000) refer to TK as experience based on the knowledge required for solving practical problems. Nonaka (1991) points out that TK has a cognitive dimension consisting of mental models,

values, beliefs and perceptions. People use stories, demonstrations, metaphors and analogies to explain their TK to others (Stewart, 1997).

This study refers to managerial tacit knowledge as personal knowledge gained from practical experience in managing self, managing others and managing tasks. This TK includes self-motivation, self-organisation, skills for performing well in specific tasks and the knowledge required to manage subordinates and to interact with peers (Wagner, 1987). Such knowledge assists individual or teams in making correct and rapid decisions, taking action and creating new capabilities (Dixon, 2000).

Knowledge Sharing Practices

Knowledge sharing (KS) is defined as the exchange of knowledge between and among individuals, teams, departments and organisations (King, 2008). Knowledge sharing processes involve the activities of transferring or disseminating knowledge from one person to another. This happens via formulating a problem and suggesting potential solutions, supplying justifications or stimulating events to reflect on something (Berends, 2005). Knowledge sharing is a learning activity; it comes about through observation, listening and asking questions, sharing ideas, suggesting potential solutions and adopting patterns of behaviour (Bosua & Scheepers, 2007). These activities can be used as a way of capturing, organizing, re-using and transferring experience based knowledge that resides within an organisation and making that knowledge available to others.

In this study, the implementation of knowledge sharing can be seen in KSP such as knowledge sharing mechanisms and mentoring programmes. In an organisation there are naturally occurring knowledge sharing mechanisms which have been implemented through individual codification, individual personalization, institutional codification and institutional personalization. Thus, knowledge sharing takes place at individual and organisational levels in both situations, with codification taking an approach based on databases and documentation, while personalization relies more on human interaction. Mentoring programmes refer to the platform offering a place for people to meet and share experiences in terms of behaviour or competence. In this study it is assumed that managers in the public sector tend to share their TK through these two main mechanisms, knowledge sharing mechanisms and mentoring programmes. Managers

share their emotions, feelings, ideas and successful strategies in handling work with others in order to build productivity through face-to-face dialogue and technological means.

Personality Traits

Personality traits are defined as the stability and permanence of a person's character comprises emotion, intellect and behaviour across different situation that make up the individual (Costa & McCrae, 1989; Eysenck, 1970; Funder, 2001). Psychologists are concerned with traits that define personality, as a combination of different traits or personal characteristics cause people to behave in different ways (Tokar et al., 1998). Traits are linked with causes or generative mechanisms (e.g. temperaments) that reside within individuals. The dynamic of personality is associated with the integration of experiences and traits (McCrae & Costa, 1999).

In the emerging discussions on personality, the traits most frequently raised for discussion are the ones labelled extroversion, agreeableness, conscientiousness, neuroticism and openness to experiences (John & Srivastasa, 1999; McCrae, 2004). The person labelled as an extrovert will typically be talkative, energetic and assertive, while the person labelled as being agreeable will typically be sympathetic, affectionate and kind. The term conscientiousness is used to describe a person who is organised, truthful and has the capacity to plan ahead. Neuroticism or emotional instability indicates a person who is tense, moody and anxious. Lastly, the capacity to be open to experience involves traits such as having wide interests, and the ability to be imaginative and insightful.

Individual Performance

Performance refers to people's behaviour and what they do that can be observed (Muchinsky, 2000). In an the organisation, IP refers to those behaviours that contribute to the achievement of organisational goals (Rahman, 2006; Xiaohua, 2008). In the context of this study, IP is measured using an annual performance appraisal (Brewer & Selden, 2000). Performance appraisal is defined as a periodic evaluation of individual achievement measured against certain expectations (Yong, 1996). Employee performance appraisals have become a major concern among employers and subordinates in organisations (Armstrong & Baron, 1998; Bratton & Gold, 1999). This

is because IP has effects and consequences on organisational performance (Brewer & Selden, 2000).

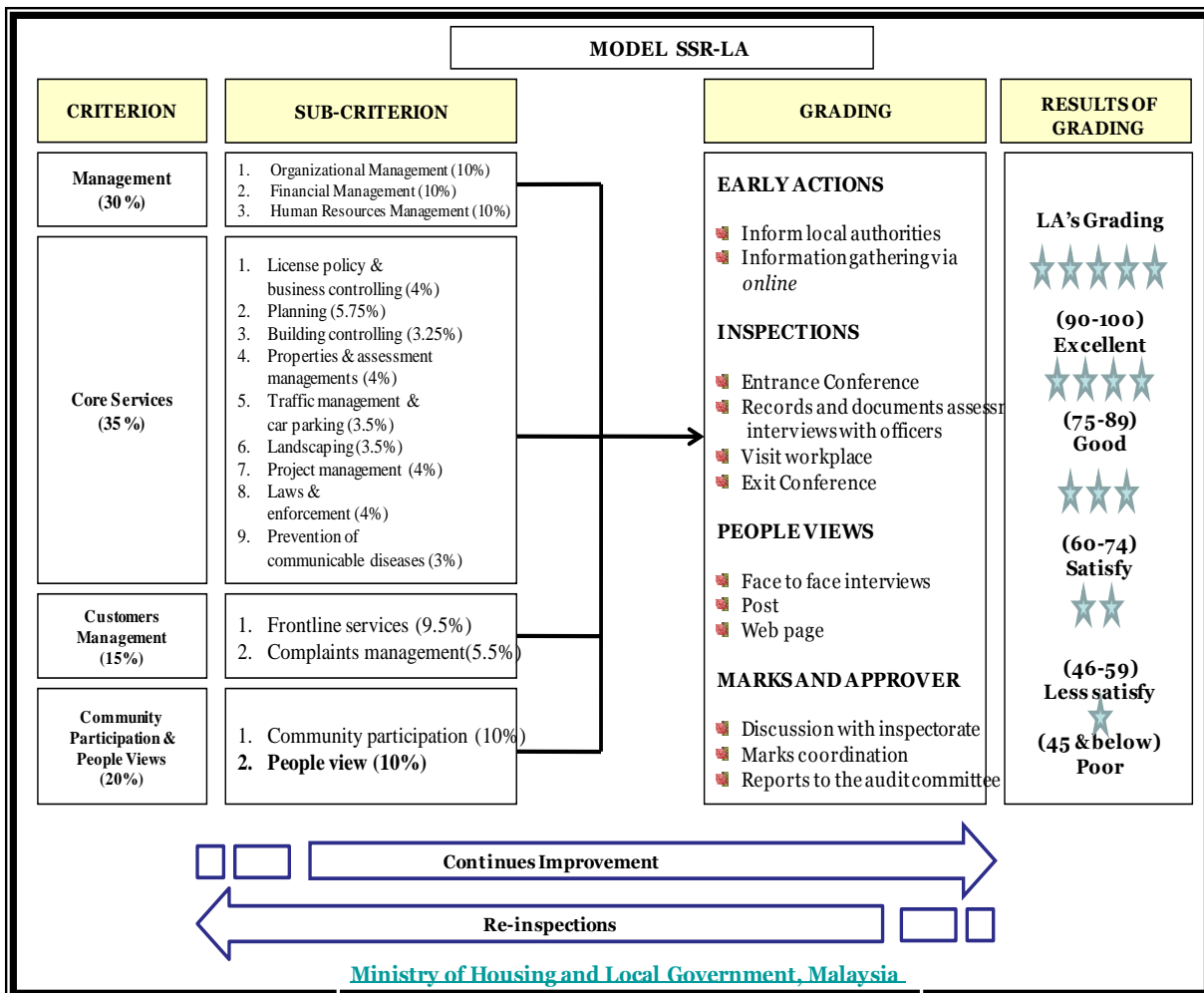
Kim and Kim (2000) found a significant correlation between knowledge sharing and work performance. For example, the ability to forecast and make decisions, the quality of customer services and products, work processes and work productivity. Park and Im (2001) support the argument that knowledge sharing improves employee performance through the dissemination and utilisation of transmitted knowledge (Kim, 2002). Sharing knowledge through communicating important knowledge will lead to improved job performance, familiarity with work, frequency of compliments from supervisors, a decreased number of complaints and an increase in problem solving capabilities.

Performance Measurement in Government

Performance is defined as the result of activities accomplished in relation to the purposes being pursued. The objective is to strengthen the degree to which governments achieve their purposes (Curristine, 2005). Performance information is important to governments to enable improvements and evaluations of policies in managerial analysis. It aids the direction and control of public services, and it is vital to budget analysis, parliamentary oversight of the executive and for public accountability. It can be used as a tool to motivate, promote, celebrate, learn and improve (Behn, 2003).

This study examines the performance of Malaysian local government based on the current system of performance measurement using a star rating system introduced in 2008. The aim of this system is to increase the performance of local governments in order to enhance service delivery. The star rating system is based on four main components: management (30%), core services (35%), customer management (15%) and the views of community members (20%). The scale is from 1 to 5 stars and the system was introduced to evaluate levels of performance from low to high. A high performance level is indicated by 3 to 5 stars, while a low performance level is 1 to 2 stars (Malaysian Local Government Department, 2008; Yee, 2009). The contributions of this study in terms of KSP, TK and PT are expected to be to the management aspect, which accounts for 30% of organisational performance. The details of these measurements are shown in the model of the Malaysian star rating system in Figure 1.1.

Figure 1. 1: Model of Star Rating System in Malaysian Local Government



(Source: Malaysian Local Government Department, 2008)

1.7 Background of the Research Setting: Profile of Malaysia

Before going on to examine the Malaysian experience, some basic information on the country might help to provide the context of the study setting.

1. Social

Malaysia has been classed as a developing country¹ by The World Bank (2011). Malaysia has an area of 330803 square kilometres consisting of Peninsular Malaysia, Sabah and Sarawak, with Kuala Lumpur as its capital city. Peninsular Malaysia is separated from the states of Sabah and Sarawak by the South China Sea. To the north of Peninsular Malaysia is Thailand, while its southern neighbour is Singapore. Sabah and

¹ A developing country is defined as country within the low income and middle income group. All World Bank members economies have been classified into three main categories of income: low income, middle income (subdivided into lower middle and upper middle) and high income, based on 2005 gross national income (GNI) per capita. The groups are: low income, \$875 or less; lower middle income \$876-\$3465; upper middle income \$3466 -10725 and; high income \$10726. The information is available in the World Bank List of Economies (The World Bank 2011).

Sarawak are bounded by Indonesia while Sarawak also shares a border with Brunei (Department of Statistics Malaysia, 2011).

Historically, all the component states were British Colonies (Chien, 1984; Common, 2004a) in the late 19th and the early 20th centuries. In 1957, Peninsular Malaysia gained independence from the United Kingdom after more than 150 years of British colonial rule. In 1963, the Peninsular States were joined by Singapore, Sabah and Sarawak, and formed Malaysia. Singapore seceded from Malaysia in 1965 to become an independent city-state. Malaysia is a member of the Commonwealth. In Malaysia, people use Bahasa Melayu as their national language and Malays are the dominant ethnicity, with Chinese and Indians as the other major races (Abraham, 1999; Weiss, 2005). The population in 2010 was 28.3 million, while the average life expectancy is 72 years (Department of Statistics Malaysia, 2011).

As an upper middle income country (Government of Malaysia, 2010), the average exchange rate in Malaysia 2010 was Ringgit Malaysia (RM) 3.48 per US (\$) 1 (The World Bank, 2011). In 2010, Gross Domestic Product (GDP) was 765 966 and the GDP growth rate was 1.3 (Department of Statistics Malaysia, 2011). A country fact sheet for Malaysia is shown in Table 1.1 and a map of Malaysia is shown in Figure 1.2.

Table 1. 1: Malaysia Profile

Data Profile	2010
Area (km ²)	330803
Population (million)	28.3
Average Annual Population Growth Rate (%)	1.3
Life Expectancy (years)	71.7
Gross Domestic Product (GDP)	
GDP at current prices (RM million)	765,966
GDP at constant prices (RM million)	558,382
GDP Growth (%)	7.2

Source: Department of Statistics Malaysia (2011)

Figure 1. 2: Map of Malaysia



2. Economics

The Malaysia Growth Report by Yusof and Bhattasali (2008) and the Government of Malaysia (2010), indicates the success of Malaysia as one of only 13 countries² that had successfully sustained growth of more than 7% over at least 25 years since 1950. After independence, the Malaysian economy developed rapidly from a nation heavily dependent on the production and export of primary commodities, primarily rubber and tin, to one of the world's fastest growing and most globalised economies, mainly producing manufactured products such as electrical and electronic goods. Prior to the economic crisis, Malaysia's growth rate peaked at 44% in 1995 but this plummeted after the Asian financial crisis and has stood at average 22 % of GDP since 2000 (Yusof & Bhattasali, 2008).

Malaysia is a pluralistic society, but with sharp division in economic positions, religion and language between the majority Bumiputera³, the Chinese (currently 26 % of the population) and the Indians (8%) (Yusof & Bhattasali, 2008).

² The 13 countries are Botswana; Brazil; China; Hong Kong, Special Administrative Region (SAR); Indonesia; Japan; Republic of Korea; Malaysia; Malta; Oman; Singapore; Taiwan, and Thailand.

³ Literally, 'sons of the soil', which includes Malays and other indigenous groups.

3. Political

Malaysia is a federation of 14 states and 3 Federal Territories: Kuala Lumpur, Putrajaya and Labuan. Each state has a Chief Minister (Menteri Besar), a state assembly, and its own constitution. Sabah and Sarawak enjoy greater measures of political autonomy than the states of Peninsular Malaysia (Siddiquee, 2006). These two states constitute about 60 % of Malaysia's total geographical land area but only 18 % of its population (Malakar & Senapati, 2010). The nation is governed from the new administrative capital in Putrajaya.

Malaysia is a constitutional monarchy with a political system based on UK parliamentary democracy with a monarch as Head of State (Common, 2001). The King (Seri Paduka Yang di Pertuan Agong) appoints a Council (Cabinet) of Ministers from members of the Federal Parliament (Hashim, 1972). There is a House of Representatives (Dewan Rakyat), whose members are elected by universal suffrage every five years, and a Senate (Dewan Negara) with two elected members from each state and 43 who are nominated by the King. The Prime Minister, who must be a member of the Dewan Rakyat, is the head of government (Haque, 2003; Malakar & Senapati, 2010; Siddiquee, 2006). Officially, politics and administration are considered to be separate, however, scenarios such as the discussion of administrative problems in the Cabinet and the involvement of government Ministers in the discussion indicates the falseness of the separation dichotomy (Common, 2004a).

Since 1970, Malaysia has based its economic development strategy on three long-term policies: the New Economic Policy (NEP) 1970-1990, the National Development Policy (NDP) 1990-2000 and the National Vision Policy (NVP) 2001-2010. In these long-term development policies, the Malaysian government intends to benefit all groups or communities in society in an equitable manner. In the late 1960s, specifically following racial riots across the country, distribution issues became a priority. The NEP was designed to promote greater national unity through the creation of a more equitable society, and by eradicating the social divisions and stratification inherited from the colonial period. The NEP set targets, giving preferential treatment to the majority Malay population as part of the social contract drawn up after the racial riots (Malakar & Senapati, 2010; Teik, 2005; Yusof & Bhattasali, 2008).

Since 1966, Malaysia has used a number of five-year plans to guide the drive for national development, the most recent being the 10th Malaysia Plan covering the period 2011-2015 (the first was from 1966-1970). The Economic Planning Unit of the Prime Minister's Office produces these "Malaysia Plans". An 'Outline Perspective Plan' is produced, looking 10 years ahead, and this is then divided into more concrete five-year plans as the basis for the government's policy aims and objectives (Malakar & Senapati, 2010).

Malaysia's main global trading partners are the USA, Canada, UK, Germany, France, the Netherlands, Japan, China, Hong Kong, Australia, Thailand, Singapore and the Association of South East Asia Nations (ASEAN) countries. Malaysia is a member of the ASEAN, established in 1967 comprising Malaysia, Singapore, the Philippines, Indonesia, Thailand, Brunei, Vietnam, Burma, Laos and Cambodia. This association focuses on common political, economic and trading policies and has a market of 500 million people (Government of Malaysia, 2010).

4. Legislation of Local Governments

Local councils, which have not been elected after 1963, but the councillors and the presidents or mayors are appointed by the state governments, fall under the jurisdiction of the Minister of Housing and Local Government, under the 1976 Local Government Act. Elections were suspended following racial disturbances during the 1966 local elections. The abolition of elections for local councillors has resulted in Malaysians losing their right to decide on whom or which political party should represent them in the local councils (Lee, 2005). However, the Malaysian constitution also provides for each state to govern its own arrangements by ordinance (Taylor et al., 2008).

The two main divisions of local government are rural district councils and urban centres. There are two types of urban council: city councils and municipalities. All types of local government perform the same functions. Municipalities can be upgraded to cities once they satisfy the required criteria. The distinction between councils is based on the difference between more progressive and financially stronger urban areas and the weaker rural and less urbanised areas (Beaglehole, 1974). City councils are led by mayors, while municipalities and districts are led by presidents. The state governments, elected every five years, appoint mayors, presidents and all councillors. The

appointments are for three-year terms, but individuals may be reappointed. This is uniform across the country. The council decision-making process is through a committee structure determined by the local authority, including the committees provided for in legislation.

Executive powers lie with the mayor in the city councils, and presidents in the municipal and district councils. They are appointed by their state governments on either a part-time or full-time basis. The state government also sets remuneration. The respective state governments establish executive committees, which are chaired by the mayor or president. Councils can establish other general or specific committees at their discretion.

1.8 Malaysian Local Government

The traditional role of LGs is to provide services to the local people to achieve a higher standard of living through better social physical facilities (Onu, 1988). In the context of Malaysia, LGs are involved in planning, coordinating and controlling the development process at the local level (Othman, 2005). As in other countries, LGs operate from a legislative base determined by a higher legislature(s). In the Malaysian context, the Local Government Act (1976) regulates the power, duties, responsibility and function of LGs. The main function of LGs is to provide services and facilities for local residents and businesses, such as sanitary services, health services, urban planning, building permits, local roads and parks maintenance (Taylor et al., 2008). In 2010, there were 12 city councils, 39 municipal councils and 98 district councils, with a total of 149 local governments (Local Government Department , 2011).

As a government agency, LGs in Malaysia have the unique features of public sector organisations. Areas touching upon the management aspect, together with the introduction of the SRS are used to evaluate the high or low performance of LGs. Equally important is the key role of the LGs in providing services to local customers and working in the learning culture. The differences of Malaysian LGs lie in their employment of different traditions, legacies, conflicts and dilemmas. They have their own unique systems and structures. These consist of constitutionally inseparable attachments to their respective state governments, the exclusive appointment system for mayors, presidents and councillors: their legacy of a committee system in policy making,

their 'long-inherited' recruitment and human resource management system; and their much-debated closed service system, and unique 'two hats CEO system'. Given such specifications, the choice of LGs as the context of this research helped enrich and extend the aspects of the existing theory in some of the sub-areas of knowledge management, through its attention to the specific context and traditions of the public sector.

As local governments are frontline governments dealing directly with people on the ground, their performance has been analysed from many standpoints. Although the government has been emphasising the enhancement of the service delivery system in the public sector under its Excellent Work Culture Movement since the early 1990s, relatively little has been revealed on how elements of TK, particularly in terms of the SRS competition, unfold and develop within these organisations. Thus, an in-depth study on the process of mechanisms of sharing TK influencing IP in different level of SRS, is at this point compelling and necessary.

The study of managerial TK in Malaysian LGs is also both compelling and useful for other reasons. A number of writers such as Nooi (2008) and Mohamed and Egbu (2010) voiced their concerns about the need to revisit various aspects of LGs to improve their management and operations in the field of local administration in Malaysia. Specifically, in the SRS, the inspection and evaluation of successful organisations involve management as 30% of the total evaluation.

Therefore, the adoption of sharing TK in the LGs in Malaysia requires further exploration, as there has been little attempt in this context to understand how the subject is understood by organisational actors and the process used to achieve it. This study will help narrow this gap by providing some insights on how management is being undertaken by the LGs. Employing a positivist approach, this study seeks to examine the importance of managerial TK and the mechanisms for sharing TK adopted by the LGs.

1.9 Summary

This chapter provided essential information to enhance the understanding of the importance and significance of this study. This chapter has presented an overview of the significance of the study, and introduced a conceptual definition with an emphasis on KSP, TK, PT and IP in the context of management development. The research aim and questions were presented.

As a background to this study an overview has been presented of Malaysia's geography, demography and local government structure. In the following chapter, a review of the background to the SRS in Malaysian LGs will be presented in order to provide an understanding of the relevance of different levels of performance in the context of this study.

Chapter 2

Star Rating System

2.1 The Concept of Local Government

There is no particular definition of the term 'local government'. However, experts in this field have given several definitions of local government that can bring greater understanding of this concept.

Hill (1974), described local government as a unit system specified by the border region, legitimate identity, institutional structures, functions and powers specified in general and specific positions, financial and other autonomy. Sady (1962) referred to local government as a small part of the political system in a nation state or the federal system that is governed by the law and has considerable control of local affairs, including the powers to raise tax or labour. This governing body is appointed as an entity. Another view is that of Norris (1980:4), who classified local government as “a political subdivision of a nation or state and in a federal system which is constituted by law and has substantial control of social affairs, including the power to impose taxes.”

Further, Ayub (1978), describes local government as being run by a board or council in a particular area for the welfare and well-being of people and performing duties for communities living in the area.

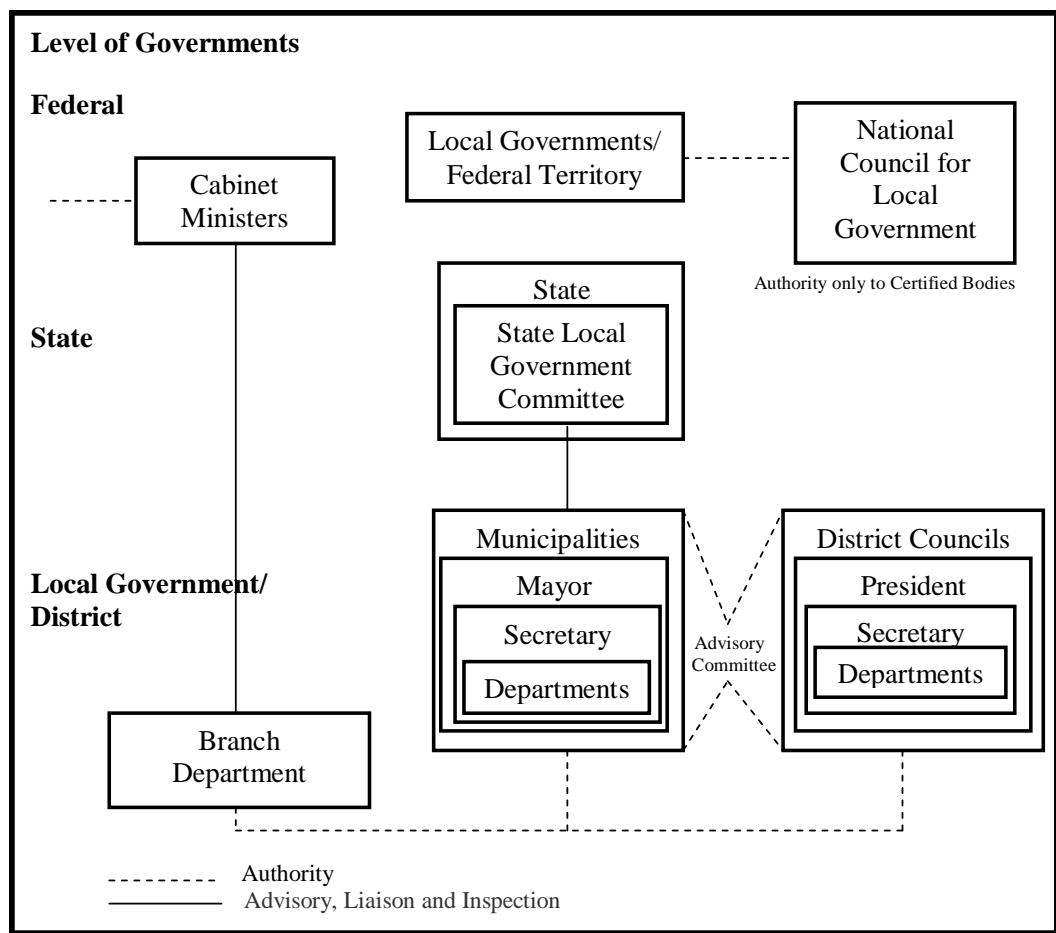
As can be seen from the definitions above, local government can be thought of as the local authorities units or institutions of governance at the lower levels of authority in a place or a small area, with a certain power (Hussain, 2002). In Hill's (1974) and Sady's (1962) definitions, greater emphasis is placed on power, while the definition given by Ayub (1978) focuses more on aspects of the services provided by local government. It implies that in local government, there are two key important elements, jurisdiction and services.

2.2 Malaysian Local Government System

In Malaysia, the local government is the third level of government after state and federal government, called as Pihak Berkuasa Tempatan (PBT) (Hussain, 2002; Norris, 1980; Nooi, 1997; Nooi, 2008). As stated in the Federal Constitution in 1957, the local

governments are under the jurisdiction of the state government and the federal government. Under this Constitution, local government is one of the matters reserved for the state government, and Clause 76 (4) of the Constitution highlighted that the federal government has the authority to make laws to achieve equality in policy and law (Ineh, 1975). This means that any policies and aims decided by the federal government and the state should be accepted and implemented by all the local governments, except for the Federal territory subject to the minister in charge of the affairs of the Ministry of Housing and Local Government (Hussain, 2002).

Figure 2. 1: Malaysian Local Government System



(Source: Hussain, 2002)

The content of power and regulation as stated in the Federal Constitution 1975 can be seen in the flow of authority between federal, states and local government as shown in Figure 2.1. This relationship shows that the federal government has the authority over branches of the councils. At the top, the federal government has full authority to determine policies and local government laws to avoid any conflict with central government as well as to give advice, provide technical support and maintain

administrative reform. In certain cases, the federal government cooperates with the state government to produce policies or new administration for the local government (Hussain, 2002).

These three inter-governmental relationships were developed in the Malaysian federal constitution when the nation obtained its independence in 1975 (Nooi, 2008). The main concern was to have a balance between the need for a strong central government at the federal level, the right and powers of the states and the expectations and needs of the local level (Sheridan & Groves, 1987). However, in practice, the division of power between levels of government reveals central bias, particularly when most decision making remains at national level, although some federal functions have been decentralised (Morrison, 1994). According to the Federal Constitution, each state is recognised as an independent tier of government exercising legislative and executive powers within constitutional limits; federal laws take precedence over those of the states if for any reason there happens to be conflict or inconsistency. However, in practice, frequently state governments are tied to the federal government in any decision.

In the early days after the establishment of local government, there was a problematic relationship between state and local governments and that sometimes intervention by the federal government was needed, particularly in relation to financial and political matters (Norris, 1980; Nooi, 1997). On many occasions, local governments were funded by the federal government rather than the state governments, which seldom offer assistance to their LGs, although the states have responsibilities towards LGs.

In the 1970s, extensive reforms took place when the Minister for Housing and Local Government implemented laws for LG policy in Peninsular Malaysia under the LG Act 1976. In addition, the National Council for Local Government (NCLG) was established in 1960 and given the responsibility for monitoring the uniformity of LG laws and policies in Peninsular Malaysia. Under section 95 A, the NCLG has an obligation to formulate policies to promote, develop, and control LGs through federation and for the administration of any laws relating thereto (Hussain, 2002; Nooi, 2008). This means that the federal government directly monitored and controlled the development of LGs.

In fact, in operations, state and local governments work in a situation in which the federal government intervenes in politics, financial and economic matters. In this regard, the LG system leads to LGs frequently being unable to meet the challenges of change and deliver what is required. As a result, LGs cannot deliver services that fully meet the demands and needs of the communities. This situation gives the public a negative impression in their assessment of LGs' performance. However, both, LGs and community are keen to provide more effective and efficient service delivery and encourage public participation. In 1976, a Royal Commission of Enquiry to Investigate the Workings of Local Authorities in West Malaysia proposed the redistribution of responsibilities between governments and encouraged public participation, but LGs still remain controlled by the centre with limited revenues and a minor role (Nooi, 2008).

In reality, the concept of decentralisation has not been put into practice in daily work and some studies suggest a new approach whereby, in order to provide better services to the public, traditional functions should be altered and privatisation of LGs introduced (Nooi & See, 2006; Singaravelloo, 2001). These approaches enable the reduction of local autonomy and strengthen an apparent trend towards re-centralisation in the federal-local government relationship (Nooi, 2008). Global influence and community awareness need changes in local government management, which has to reappraise its role and contribute to local affairs. Therefore, from time to time, governments have introduced different reforms to increase LGs' performance in alignment with federal government public reforms. Thus, this study investigates the aspect of management in new reforms such as the Star Rating System for governments to increased human performance with a concomitant enhancement of public service delivery.

However, the traditional functions of LGs are mainly considered to be 'housekeeping' and to depend on their capability and ability. Specifically, the main functions can be categorised into five sections: Environment; Public Health and Cleansing; Enforcement and Licensing; Public Amenities; and Social Services and Development (Abdullah, 1992; Nooi, 1997; Zahari, 1991). The implementation of these functions depends to a great extent on the financial capacity and manpower availability to each council; therefore, the provision of services to the community varies between LGs. However, the current function and practice of LGs goes beyond only providing physical development; it must consider the federal government's vision to produce knowledge workers (Adam

2010; Government of Malaysia, 2008), which is likely to be achieved through knowledge-sharing practices. For example, in the SRS introduced in 2008, LGs not only obey the traditional functions that carry 50% of their evaluation, but also have 30% focused on management (refer to table 2.2), providing the link with the focus of this study which is to investigate the aspect of management in the LGs, specifically in terms of sharing managerial tacit knowledge.

Historically, the local government administration system in Malaysia is greatly influenced by the British local government system, as Malaysia is a former British colony (Abdullah, 1992; Hussain, 2002; Norris, 1980; Nooi, 1997; Nooi, 2008; Zahari, 1991). However, there is a slight difference in local government administration between these two countries. Malaysian local government operates within a federal system while Britain implements a unitary system (Hussain, 2002; Norris, 1980). In Malaysia, local government depends on the State government before going to the Federal government as demonstrated in figure 2.2. If any problem a local government needs to discuss at State level remains unsolved, then it will be referred to the Federal government. Conversely, in Britain, local government deals directly with the National government. The British system consists of unitary states, governed by a constitutional monarch, and many sub-central governments – the Scottish Parliament, the Welsh and Northern Ireland Assemblies and several hundred local authorities are necessarily subordinate. Britain is fundamentally a federal state where associations of largely self-governing regions are united by a central or federal government (Wilson & Game, 2006).

Further, local governments in England, Wales, Scotland and Northern Ireland differ administratively from one another, but they play an important role for the local people and the nation at large. Local Councils are among the largest employers in England and Wales. Among other key areas, these local authorities offer job opportunities in education and social services. Local Government in England and Wales consists of district (County), district (Borough) and colonies (Parish). LGs in the two regions are organised in two different ways. In Wales and some parts of England, one layer of an "all purpose council" is responsible for all services and functions of local authorities, while in other places there is a system of two layers (a two-tier system) in which responsibility is divided between providing district councils and districts (counties). However, in Malaysia, councils are given a wide range of powers to make them not

only service providers but also development-oriented, which exist at the discretion of the state government and can be transferred to Chief Minister of the state (Cheema & Hussein, 1978). Thus, local communities depend on the national and state governments rather than on local governments where local communities always looked to higher level of governments for the solutions for their problems. This led to a situation in which, in a conflict between a local government and a state government, the local people are likely to support the state government. For example, in the 1960s, when elective local governments were abolished by various state governments, there was no visible discontent or protest. Another environmental constraint on the development of local government in Malaysia is the lack of skilled manpower where the local government is unable to hire professional people on its own initiative, but must go through the federal government (Cheema & Hussein, 1978). In summary, the power and scope of local government in Malaysia is limited by state and federal government decisions, while the local government in the UK has its own power and autonomy in terms of the wider economic, social and environment of local residents.

In addition, Malaysia also practices a governance system where the mayor/president and councillors of the local government are appointed by the State government, which is different from most developed Western countries, which have a democratically-elected local government system (Tooley et al., 2010).

In the western countries such as the UK, local government members of the Council are elected by the local population every four years. They are responsible for making decisions on behalf of local residents in connection with matters of local services such as land use, transportation, waste and recreational facilities. Council members are also involved in the approval of the local authority budget and policy. In addition, they are involved in the appointment of chiefs and officers in decision making on the constitution. Local councils are often investigated very carefully and thoroughly to ensure their effectiveness and efficiency in providing services. One way in which this is done is through the Audit Commission Comprehensive Performance Assessment (CPA) (Game, 2006).

In Malaysia, prior to reorganisation, a council member was elected by local people through the electoral process, but since the reorganisation in 1967 to date the council

members are appointed by state authorities (Hussain, 2002). Members of the Council for local government are appointed for one to three years. Most of the state governments appoint a council member for a term of two years, although there is a council member appointed for one year only. After the official term expires, the council members may be reappointed or not, depending on the state government (Nooi, 1989).

The abolition of elections for local councillors has resulted in Malaysians losing their right to decide whom or which political party should represent them in the local councils. To people who hold dearly the concept of 'government of the people, for the people and by the people' the demise of elected local government is unacceptable. However, the gist of most complaints against appointed councillors is not the lack of democracy, but rather the lack of accountability in appointed councillors. To most of the complainants it is this lack of accountability that is the main factor for the weak performance of local authorities. Although the state governments appoint councillors, the appointment process is largely a formality. Almost all the councillors are, in fact, appointed from candidates nominated by political parties that form the state government. The few that are not 'political appointees' are largely government officers, such as District Officers or Directors of state Departments. They are appointed based on their position and not on their personalities (Lee, 2005).

The constraints facing Malaysian LGs would probably have an effect on the development of LGs, as any programmes run by LGs, including knowledge management programmes, are subjected to approval by federal or state governments. At the same time, local residents do not have the option to vote for the specific leaders who represent their needs, as LGs are tied to federal and state. Therefore, as the focus of this study is on management aspects in the Malaysian LGs context, the drafted theoretical framework needs to consider any current reform undertaken by LGs. Since this study was carried out in 2008 and a new rating for LGs' performance was also introduced in 2008 by the federal government; this study has also developed the objective of examining the implementation of knowledge-sharing practices in local government with different levels of performance, in the evaluation of the star rating system.

Local government in Malaysia was established in the 1850s with the establishment of two municipalities, namely George Town and Malacca, under the Municipal Ordinance

of the Straits Settlements 133/19131874 (Norris, 1980). After 1874, local government administration was under the Municipal Ordinance of the Straits Settlements until the Election Ordinance of local government was approved. This Ordinance was established in 1950 to enable local governments to operate independently and autonomously. As a result of this ordinance, for the first time members of municipal councils were voted in through elections (Beaglehole, 1974). These elections offered the councils some measure of autonomy and enabled about changes in the members of council through voting, unlike previously, when councils depended largely on Federal government decisions.

In 1954, the Ordinance (Amendment) Town Councils approved the updating of councils' financial status to that of fully self-governing powers. In 1956, the George Town municipality was upgraded to a Municipal Council, with Mayor appointed from among council members. However, 1963 was the last election for local governments in Malaysia to date. The local government elections that were supposed to be held in 1965 and 1966 were suspended. The main reasons were that the country was undergoing the emergency of confrontation with Indonesia following the formation of Malaysia. During this period of suspension beginning in 1965, some local governments were taken over by the state government (Lee, 2005).

Issues in local government such as administrative, financial, and racial problems resulted in the establishment of the anti-Nahappan Commission in 1965. The Commission's report suggested that the election system suspended in the mid-1960s should be brought back. In addition, the report suggested that the chief administrative and executive officers in local government must function as district secretary, while the district secretary can act as executive and chief administrative officer.

This Commission indicated that their aims were to reduce workloads and delays in making decisions, but not to create any changes (Hussain, 2002). However, the continuation of the election process in local authorities involved a great deal of expenditure, which was not affordable for a small country like Malaysia and there were not enough staff to conduct the elections. Thus, the Local Government Act 1976 was formulated giving the full authority to State Government to restructure local government into two types of local government - Municipal Councils and District

Councils. The distinction between these councils was based on the differences between more progressive and financially stronger urban areas and the weaker rural and less urbanised areas (Beaglehole, 1974). Hence, the Local Government Act 1973 and the Local Government Act 1976 changed the local government system, giving it greater administrative powers, financial autonomy, and responsibility for social activities than ever before. However, all policies and laws of Municipal Councils and District Councils must be consistent with State requirements and the Ministry of Local Government acts as advisor to the State government.

2.3 The Evaluation of Performance in Malaysian Local Government

In the public sector the discussion of performance that has emerged widely over the last decade has focused on reinventing government in order to increase government agency performance. Performance measurement has been a key target of public sector reforms since the 1980s (Andrews et al., 2005). In the context of the public sector, performance measurement can be define as generating, collecting, reporting, and utilising a range of data in the operation of organisation and policy programmes; this includes data on input, output and outcomes (Boyne, 2002). At the same time, performance management is a strategy for improving service delivery to achieve greater efficiency and this has become a central part of daily activities in local government. In Malaysia, public sector agencies provide services to people and, as central government bodies, the emphasis is always on performance.

However, they have been criticised on the grounds of low performance, lack of flexibility, inefficiency, excessive bureaucracy and ineffective accountability (Siddiquee, 2006). This criticism has also been levelled at the LGs, as their weaknesses in sources of finance, service delivery and community participation have given them a poor reputation (Nooi, 2008). Aware of inefficiency and complaints form the public, the Malaysian government has been proactive in making changes in their services by identifying successful strategies to increase individual competency that has an impact on organisational performance (Bakar et al., 2011). As a consequence, the Malaysian government introduced a new system in individual performance, known as the New Remuneration System, highlighting knowledge and skill as the main components for competency (Siddiquee, 2002). At organisational level a system of ranking was

introduced in order to improve service delivery as well as to give an indication of organisational performance based on the Star Rating System (Pawi et al., 2011). As shown in table 2.1, the performance reforms enforced by the government to increase the efficiency of public servants are being used to rank the performance of government agencies such as local governments.

According to Xavier (2009), performance measurement consists of:

1. Setting the objectives of operations
2. Developing meaningful yardsticks or indicators to measure the output (the quantity, quality and efficiency of services provided) and outcome or goal achievement of service delivery
3. Determining planned levels of performance to meet goals
4. Measuring, at the end of the specified period, the quantity, quality and efficiency of services provided based on performance targets and the extent to which the organisation has achieved its goals.

The primary methods used by many governments to evaluate the performance of local government are (1) performance indicators, (2) audit and (3) inspection (Andrews et al., 2005).

In some organisations this performance measurement is difficult to evaluate because its results are influenced by levels of transparency, such as the bureaucratic and political situation (Brewer & Selden, 2000). Thus, managers and policy makers make analyses of performance information to make decisions on performance management assumptions in future. Performance management seeks to improve the rationale of decision making in management (Halligan, 2008), deriving from the development of performance measurement, as shown in Table 2.1.

In Malaysia, performance expectations of management in LGs were raised during new public management (NPM) reform in the early 1990s (Taylor et al., 2008). Since NPM was introduced in Malaysia, LGs have been expecting more transparency in performance reporting and certain individual public servants' personal integrity.

Therefore, LGs appear to be proactive in improving their performance measurement and have recently introduced the star rating system (SRS)⁴, as shown in Table 2.1 below.

Table 2.1: Performance Measurement Development in Malaysian Public Sector Reform

No.	Year	Initiatives
1	1968	Programme and Performance Budgeting System
2	1987, 1992	Micro Accounting System
3	1990	Modified Budgeting System
4	1991	Productivity Improvement Initiative
5	1992	Total Quality Management
6	1993	Clients' Charter
7	1996	ISO
8	1999	Benchmarking
9	2004	Key Performance Indicators for Government Linked Companies
10	2005	Key Performance Indicators for All Other Government Agencies
11	2007	Treasury Strategic Results Area and Strategic KPIs
12	2007	Auditor-General's Star Rating on Financial Management
13	2008	MAMPU's Star Rating System on Public Management
14	2008	Local Government Star Rating System on Service Delivery
15	2009	Key Performance Indicator for Minister and Ministries
16	2009	Key Performance Indicator for job holders in the senior position

Source: Adapted from Abu Bakar and Ismail (2011) and Xavier (2009)

Table 2.1 demonstrates that in the context of local government, the government wished to introduce the Comprehensive Performance Measurement (CPA) system. In the Malaysian context, CPA covers both financial and non-financial indicators that are used to achieve organisations' objectives (Bakar et al., 2011). This system was supported by the introduction of performance-based pay for civil servants, known as the New Remuneration System (Siddiquee, 2002). Specifically, in local authorities, CPA is a system of performance measurement and management improvement that involves the external classification of each individual as excellent, good, fair, weak or poor (Game, 2006). CPA provides a range of information such as performance indicators, assessment of corporate capacity, audit and inspection reports and community opinion to reach a single judgment about the performance of a local area. Performance ratings are an

⁴ It should be noted that the Star Rating System is one approach to assessing Malaysian local government performance. Other measurements, applied together with SRS, particularly Key Performance Indicators (KPIs), are used to monitor the overall performance and quality of local government organisations (BERNAMA, 2005). Perhaps KPIs may help government bodies to be clear as to what is required of them and they can then calibrate their performance accordingly (Behn, 2003)

importance part of the government's reform programme (Snelling, 2003). The results gave local residents an opportunity to identify standard service delivery measurements in their area in order to give councils a focus for improvement. These judgements gave rise to the star rating system, which can have a material impact on funding (Malaysia Local Government Department, 2008).

2.4 Star Rating System (SRS) in Local Government

Malaysian local governments strive continuously to enhance management capacity and capability in building an efficient and effective service delivery system. This approach needs to be reviewed and strengthened to ensure effective governance and performance by encouraging healthy performance among agencies through a ratings approach. The SRS is the mechanism of performance measurement in public sector organisations (Fisher & Downes, 2008). The star ratings awarded depend on the assessment of performance through inspections, indicators and monitoring information (Russell, 2008). The inspection involves a set of performance indicators that provide benchmarks and maps of evidence to judge performance in services at current performance levels, with prospects for improvement. Thus, the SRS was introduced to facilitate the Ministry's monitoring and tracking of LG's performance, and to encourage LGs to strive for better organisational management and service delivery.

The SRS is one of the ideas conceived by the fifth former Malaysian Prime Minister, Dato' Seri Tun Abdullah bin Ahmad Badawi and has been applied to all local governments in Malaysia (Pawi et al., 2011). The goals for this system are first, to assess the level of service delivery performance of local governments; second, to place local governments in the appropriate position according to the ranking for local governments in order to improve their competitiveness, and thirdly, to modify the characteristics of local governments in high performance, always maintaining their efficiency and effectiveness (MAMPU, 2010). There are rewards for good performance and support for LGs which perform poorly (Peng, 2009). Ultimately, this system could ensure that a higher standard rank of local government can always be maintained and the efficiency and effectiveness of organisations could be improved.

The assessment of SRS has been studied in England but is limited in the Malaysian context. Based on the findings in England, it may be reasonable to expect similar issues

arising in Malaysia. Snelling (2003) made a summary and suggestions for the rating system. He found that it was uncertain whether standards were deteriorating or performance was improving, based on the SRS. This is due to inconsistencies in the SRS working environment such as strong leadership to deal with underperformance and political issues.

This is consistent with a study by Mannion et al. (2005) on the impacts of star performance ratings on hospital trusts. This case study carried out documentary analysis and interviews with senior managers and senior clinicals in high and low performing trusts using the SRS. The findings indicate that generally star ratings did not represent a rounded or balance scorecard of an organisation's performance and there was a widespread belief that the information used to calculate ratings was often incomplete and inaccurate. However, some managers were of the opinion that star ratings were useful to show the improvement in a trust's modernization agenda. In addition, it was reported that the process of implementing star ratings could inadvertently lead to negative consequences including tunnel vision, diverting department priorities, bullying and intimidation, reducing public trust and lowering staff morale. Thus, it is worthwhile for this study to examine the knowledge sharing issues in the context of the Malaysian SRS.

2.4.1 Grading Criteria

The aim of the SRS is to grade the level of service delivery that has been provided by a local government, based on four main components which represent the main functions of local government.

Table 2.2: The Grading Criteria of the Star Rating System in Malaysian Local Government

No.	Criteria	Marks
1.	Management Organisational management Asset and financial management Human resource management	30%
2.	Core Services Licensing Policy Implementation and Business Control Planning Building inspection Property management Traffic management and parking Landscape maintenance Planning and Implementation Project Law and enforcement Control of Infectious Diseases Prevention	35%
3.	Customer Service Frontline service Complaints management	15%
4.	Community Participation And Views Community participation Community views (Survey)	20%
	Total	100%

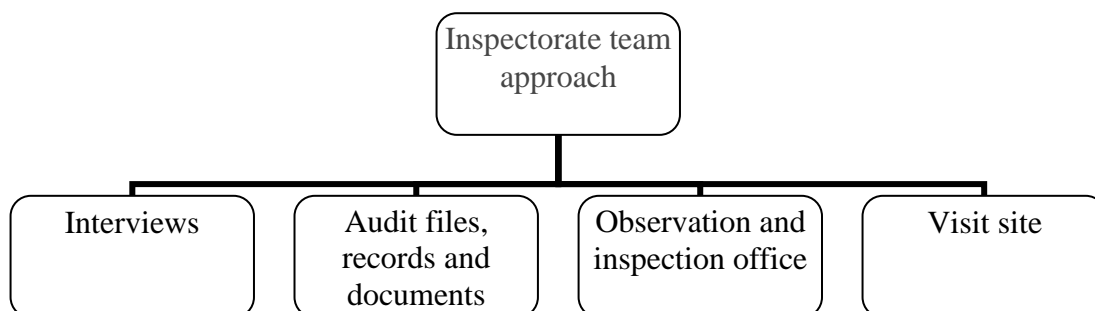
Source: Malaysian Local Government Department (2008)

The criteria have different measurements and weighting of evaluation marks. Each criterion has sub-criteria that show the detailed indicators. Since each criterion has a quite different role and liabilities, the weighting for each criterion also differs. The indicators enable inspection of all the operational aspects, including the basic requirement of carrying out the work. These four criteria encompass 352 indicators to measure the work system in local government. These indicators are very detailed in order to permit local authorities to examine all the work done based on basic needs. Based on the total points available, the relevant local council will be awarded stars according to the overall scoring range, which is shown in Table 2.2.

The 352 indicator evaluation is applicable to all local governments, namely City Halls, City Councils, Municipal Councils and District Councils. This is because all the local governments have similar roles and functions in the provision of high quality services in urban areas and social facilities for the community, based on the same rules and regulations. The assessment process is carried out through evaluations by the Ministry

of Local Authority and Housing Officers in the workplace and surveys administered to the community, as illustrated in Figure 2.2.

Figure 2.2: The Assessment Process of Grading Marks



Source: Malaysian Local Government Department (2008)

Table 2. 3: The Range of Marks

MARKS	STARS
90-100	★★★★★
75-89	★★★★
60-74	★★★
46-59	★★
45 and below	★

Source: Malaysian Local Government Department (2008)

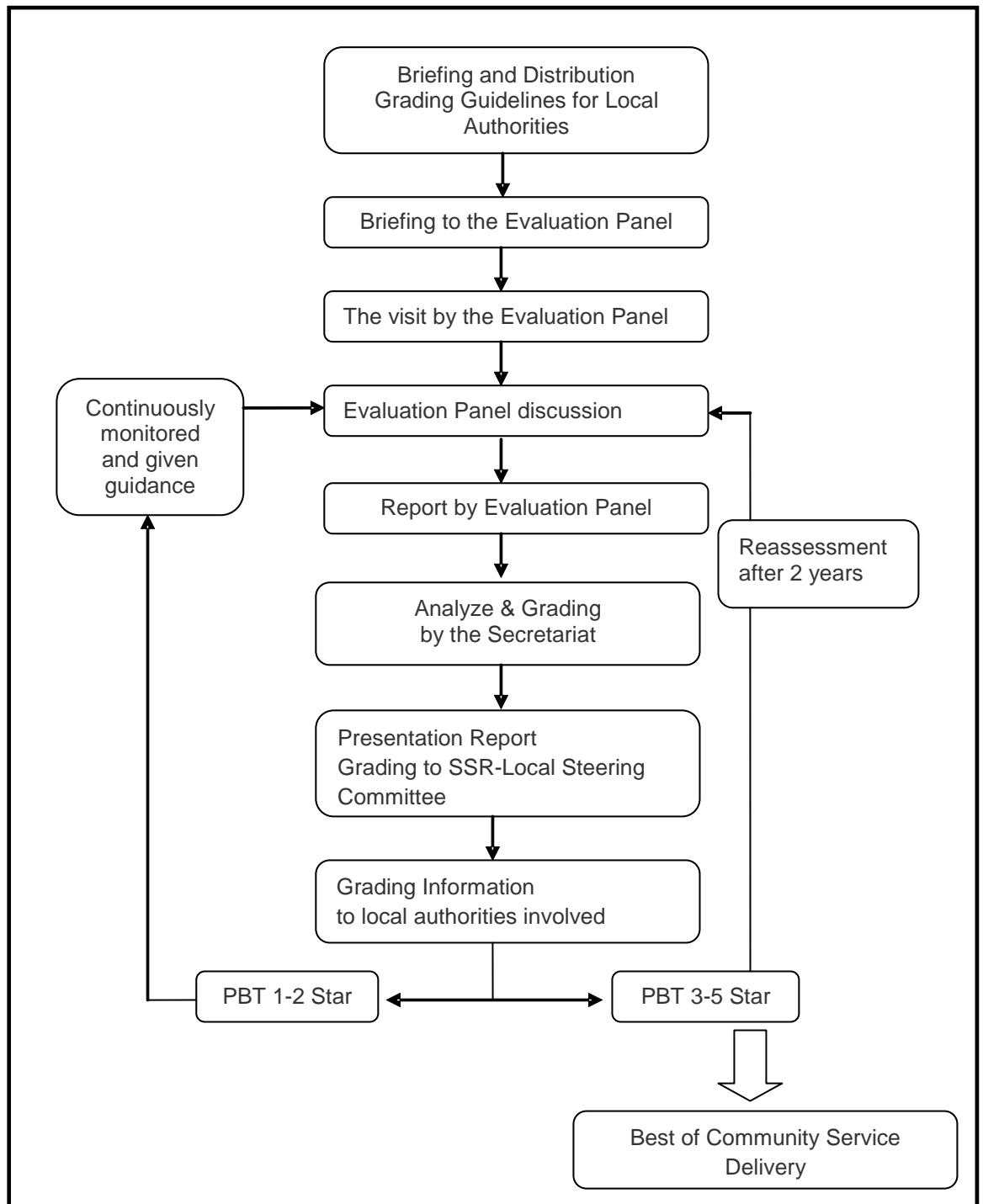
The methods of grading assessment begin with data collection involving a review of the Annual Report, Annual Financial Report, Development Project Monitoring Report and other existing documents and information obtained on-line, and interviews with officials of local authorities. Initially, review and confirmation details will be made by the assessment team consisting of Ministry officials of the Inspectorate Division and Finance Division, officers of the Department of Local Government and the Ministry Audit Officer. Further evaluation is later carried out by the Ministry Inspectorate.

Basically, grading will be done every two years. However, grading can be carried out in consecutive years in LGs that obtain the status of 1 or 2 stars in order to give LGs the opportunity to make improvements in the status of the rating. LGs that earn 3 to 4 stars will be evaluated based on demand, as early as 6 months after the grading is made. LGs in this category need only make minor improvements and it is believed that these can be

carried out in a short period. Those with five-star status are allowed to hold that status for 2 years and after that are subject to re-evaluation.

The Grading Report containing a list of local governments according to the grades obtained is presented at the meeting of the SSR-Local Steering Committee and other relevant key meetings. In addition, this list will also be communicated to all relevant local governments and uploaded onto the ministry's website. A flow chart of the SSR-LG implementation process is shown below.

Figure 2.3: Flowchart of Local Government Grading System



Source: Malaysian Local Government Department (2008)

The star rating awarded to local governments is determined by the total marks acquired according to the indicator measurement shown in Table 2.2. The best-performing councils will be awarded five stars and the weakest ones will be awarded one star. For the top performers, incentives will be awarded in monetary form and in

acknowledgement incentives. At the same time, the 1 and 2 star councils will be monitored by the state government and the Ministry of Housing and Local Government to evaluate their weaknesses and improve performance (Malaysian Local Government Department, 2008). However, in 2008, no local government was awarded 5 stars, as all of them failed to fulfil certain indicators. Therefore, the highest performance was 4 stars, followed by 3, 2 and 1 stars. The assessment of SRS in 2008 also indicates that of 12 states in Peninsular Malaysia, only six states, namely Selangor, Johor, Melaka, Pahang, Perak and Kuala Lumpur had LGs whose performance rating was mixed, i.e. varying from a 1 to 4 star rating, while other states did not have such a combination of both high and low performing councils. Therefore, only these six states have been chosen for data gathering.

2.4.2 High Performance

The Star Rating System has five performance categories: excellent, good, fair, weak and poor. Scores are on a scale of 1 to 5 stars (Game, 2006). In this study, high performance refers to 3 and 4 stars in the star rating system used by local government. In high performance organisations, productivity and quality improve continuously over time and this leads to mission achievement (Popovich, 1998). The characteristics of high performance organisations are clear in their mission statements: define outcomes, focus on results, empower employees, motivate and inspire people to succeed, be flexible and adjust to new conditions and be competitive in terms of performance (Boyne & Enticott, 2004). Mannion et al. (2005) found that high performance organisations reported a very positive effect on the morale of staff and the recruitment of new staff as they gained the reputation of being organisations to work for. Moreover, Snelling (2003) found that individual performance was considered to improve the organisational rating.

2.4.3 Low Performance

The descriptions of councils in each group simply restate their relative performances. For example, excellent councils provide high quality local services and weak councils tend to provide low standards of service (Boyne & Enticott, 2004). In this study, low performance is indicated by a rating of 1 or 2 stars received by the council.

In Malaysian local government, the councils have opportunities to increase performance in the year following the inspections (Malaysia Local Government Department, 2008). There were poor performances in the assessment that were not up to the standard measurement. Continuous performance improvement, particularly from local governments that were previously poorly performing, has been a key government objective of best value in terms of CPA (Game, 2006).

Out of the total of 97 local governments in Malaysia that were assessed for the SRS in 2008, almost half of those inspected, around 47% received a two-star rating for a below-par performance. Only 10 local governments were given four-star status, namely, Kuala Lumpur, Subang Jaya, Petaling Jaya, Shah Alam, Klang, Johor Baru, Alor Gajah, Melaka Bersejarah, Kuantan and Manjung. Twenty-three local governments had a three-star rating, 46 had a two-star rating and 18 gained only a one-star rating. This study also focuses on these lower performing local governments to identify the relation of KSP, TK and PT with stars rating of local government.

2.5 Summary

This chapter has specifically discussed the implementation of SRS and the background of Malaysian LGs, linked to the development of the theoretical framework of this study. This study aims to evaluate the differences in the practice of knowledge sharing in different levels of Malaysian LGs ranked by the SRS as being of high and low performance. To achieve this aim, empirical data were obtained from managers working in different levels of LGs that had been evaluated by SRS. Since 2008, the Malaysian government has been ranking LGs according to the level of performance indicated by the mark received in SRS evaluation. As found in the previous study, there were different management effects in organisations with different levels of performance. However, as discussed above, the hierarchical nature of the authority in the Malaysian LG system under the control of federal and state governments leads to the contention that the finding of this study will show different results.

The next chapter will present a review of relevant literatures in order to provide an understanding of the research problem and the previous research conduct to investigate it in various fields, with particular emphasis on knowledge management research conducted in both Western and non-Western countries.

Chapter 3

Factors Influencing Performance and Theoretical Underpinnings

3.1 Introduction

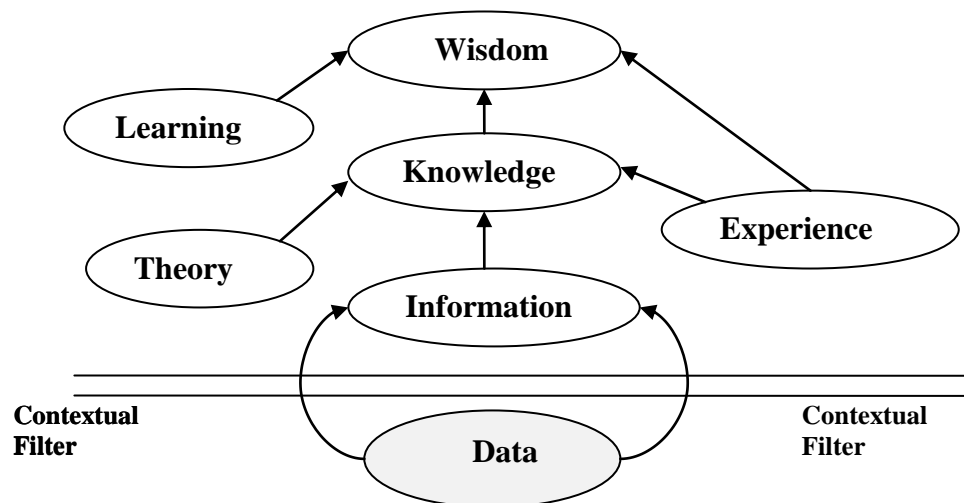
What factors that influence individual performance are considered to belong to a successful manager? Certainly, hard work and perhaps luck as well. If managers are successful, does tacit knowledge contribute to their success? Then, how do successful managers share their experience with less successful managers? What traits of personality in managers might influence their success? Individuals have different characteristics, particularly those who are working at different levels of organisational performance. How are they are different? To answer these questions, the present study proposes an explanation from an individual knowledge perspective. Research on expertise in a variety of domains supports the notion that much of the knowledge associated with successful performance is tacit (Alwis & Hartmann, 2008; Brockmann & Anthony, 1998; Collins, 2001; Dhanaraj et al., 2004; Hedlund et al., 2003; Stewart, 1997; Wasonga & Murphy, 2006). In the context of this study, tacit knowledge was proposed to be shared with others, taking into consideration the appropriate mechanism and managers' personality.

Therefore, relevant literature has been reviewed to find the gap in understanding of how knowledge sharing practices, managerial tacit knowledge and personality traits are linked with individual performance, particularly in public sector organisations. These four variables emerged from two main disciplines: management and psychology. Both have their own strategies for improving individual performance. The discussion will provide insightful information in order to gain a better understanding of the importance of the aspects of management and psychology. The main focus of this study is on the ways in which managerial tacit knowledge is accumulated and shared in local government. The argument put forward in the study was informed by the Theory of Organisation Knowledge Creation by Nonaka and Takeuchi (1995), which suggests that tacit knowledge can be shared through different mechanisms. Further, it suggests that interaction with the role of personality traits in facilitating knowledge sharing practices and managerial tacit knowledge enhances individual performance in organisational performance.

3.2 Evolution of Knowledge

The concept of organisational knowledge has been widely discussed by experts such as Polanyi (1966), Nonaka and Takeuchi, (1995), Davenport and Prusak, (1998), Leonard and Sensiper, (1998), Cook and Brown, (1999), and Miller and Morris, (1999). The concept of knowledge was originally defined by Plato as ‘justified true belief’ and this definition is still accepted by most Western philosophers (Small & Sage, 2005). In 1945, Hayek highlighted the importance of knowledge for the guidance and governance of society, although the full importance of knowledge was not as yet clear (Hayek, 1945). The understanding of knowledge increased when Romer (1986; 1990) explained the relation between economics and knowledge. Knowledge is the underlying factor that fuels performance, progress and economic growth, either locally, nationally or globally (Romer, 1990). Drucker (1969) described the role of knowledge workers in the modern knowledge economy and later, in 1993, he argued that knowledge, rather than capital or labour, is the most meaningful economic resource in the knowledge society.

Figure 3. 1: Knowledge: A Derivative of Theory, Information and Experience



Source: Small & Sage (2005:154)

Typically in discussions of knowledge, ‘knowledge’ is seen as comprising data, information, knowledge and wisdom. Figure 3.1 illustrates the concept of knowledge. At its simplest level, knowledge is data. Data are collections of discrete facts presented in an objective way (Hoe, 2006). Most data are numeric, basic information or observation of work activities that can be quantified (Small & Sage, 2005). Then, data are processed to produce information. Thus, information is data that have relevance,

purpose and context such as units of measurement. Information is useful when it is given meaning or used on the job, for example raising the level of competence⁵ (Pascarella, 1997). This process involves the arrangement, categorisation and analysis of data and its contextualisation. The context can be physical, virtual, mental or any combination of these. For example, data-mining software and people skilled at seeing patterns of responses play key roles in this process. Information is different from knowledge. Firstly, information is about belief and commitment and knowledge is a function of a particular stance, perspective and intention. Secondly, knowledge is about action and meaning in a specific context and with specific information (Nonaka & Takeuchi, 1995; Nonaka et al., 2000). Therefore, knowledge is a combination of information and actions. Davenport and Prusak (1998) demonstrated that information is derived from data and knowledge derives from information.

The highest level of understanding is wisdom. Wisdom or experience based intuition is the ability to make the best use of knowledge. It shows the ability to choose effectively and to apply the appropriate knowledge in a given situation (Bailey & Clarke, 2000). Wisdom reflects the values and criteria that apply to our knowledge and its essence is judgement; for instance, judgement of right from wrong, helpful from harmful, truth from delusion (Russell, 2007). Wisdom is closely related to tacit knowledge (Bennet & Bennet, 2008) as mediated by values, used toward the goal of achieving a common good (Sternberg, 1998). Hence, tacit knowledge is a prerequisite for developing the wisdom that derives from social interaction.

Knowledge is very complex and comes in a variety of types and forms. The most common distinction of knowledge is between tacit and explicit knowledge (Nonaka & Takeuchi, 1995; Polanyi, 1950; Von Krogh et al., 2000). However, Lundvall and Johnson (1994) introduced four types of knowledge. The first is knowledge of facts, known as information. The second refers to scientific knowledge: knowledge of principles and laws in the human mind. The third is to know how, referring to the capability to do something: this is to possess skills. The fourth, to know who, refers to a mix of different kinds of skills involving information about what and how: who knows

⁵ Competence is the potential capacity of an individual or collective successfully to handle certain situations or complete a certain task or job (Ellstrom, 1997). In management, competence certainly has the notion of virtue at its heart in order to put it in practice. Competence emerged from intellectual skills, attitude, values, motivations, personality traits and social skills (Macaulay & Lawton, 2006).

what to do and how to do it. The term ‘knowledge-related processes’ refers to the processes that are needed to create, build, combine, organise, transform, share and apply knowledge.

This study carefully discusses knowledge in terms of dimensions of knowledge sharing practices and tacit knowledge in public sector organisations, since knowledge is categorised in two perspectives: public and private knowledge (Chua, 2002). Private knowledge refers to specific knowledge within organisational practices, processes, documentation or business strategies, whilst public knowledge is in the public domain and does not belong to any particular organisation; for example, information pertaining to industrial and occupational best practice.

3.3 Knowledge Management

In many organizations there has recently been increasing interest in knowledge management implementation methods in order to utilise resources better and to optimise performance (Ardichvili et al., 2003; Rhodes et al., 2008, Taylor & Wright, 2004; Zack, 1999). Therefore, KM emerges as an integrated approach to managing actual and potential flows of knowledge both inside and outside of organizations (Prieto & Easterby-Smith, 2006). The definition and classification of KM have been given attention in order to gain a deeper understanding of these terms. KM is defined as the ways used by organisations to capture, transfer, create and leverage their intellectual assets has emerged as a state of the art management strategy in the commercial sector (Yao et al., 2007).

However, there are different perspectives used in discussions pertaining to KM (Rowley, 1999). Some authors explain knowledge management as an aspect of a process, rather than as a project (Girard & McIntyre, 2010). Galagan (1997) and Yahya and Goh (2002) suggest that the knowledge management process includes generating, accessing, representing, embedding, transferring, using, facilitating and measuring the value of knowledge. KM creates the dissemination of knowledge activities; these involve the creation, capture, refinement, storing, management and sharing of knowledge (Davenport, et al., 1998; Monavvarian, 2007; Spender & Grant, 1996; Thite, 2004; Tiwana 2002).

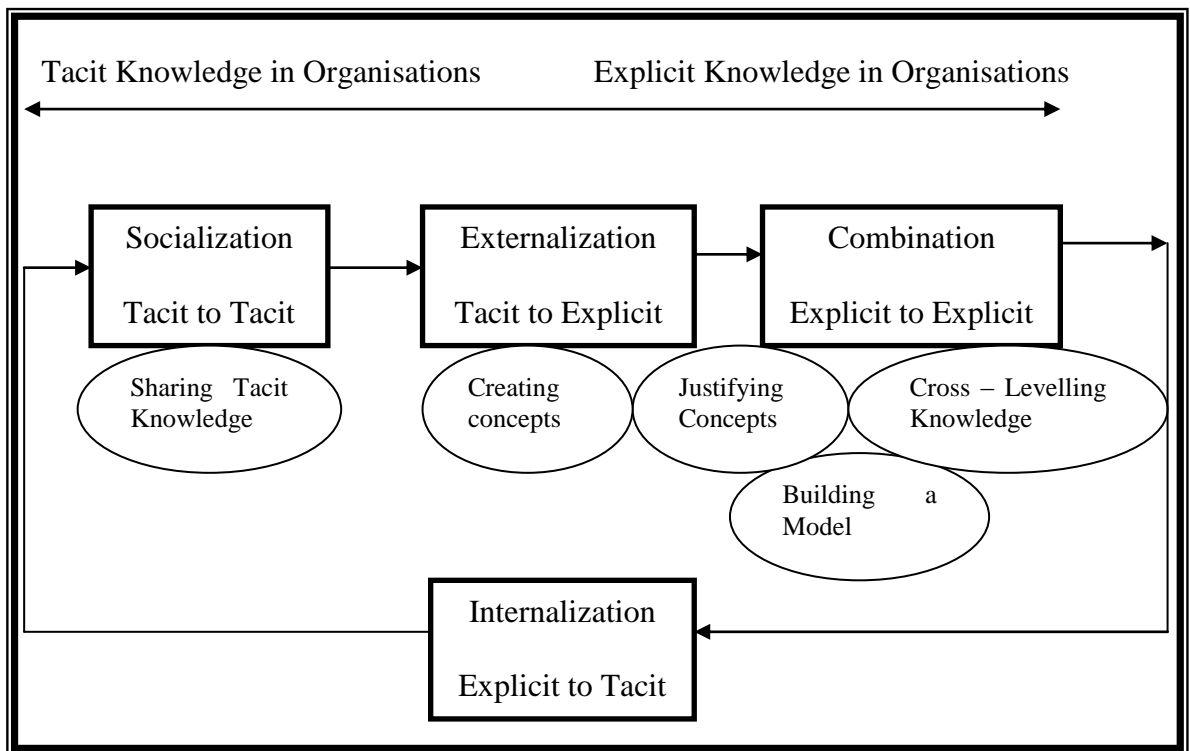
On the other hand, Cong et al., (2007) demonstrate that the framework of the KM process consists of five key areas within a culture. Firstly, knowledge identification and capture refers to identifying critical knowledge, types of knowledge and capturing the right people with the necessary expertise. Next, knowledge is stored in a knowledge repository to be shared between individuals and the organisation. Furthermore, when knowledge is applied in the right situations, individuals then internalise this knowledge and bring in other ideas and frames of reference, ultimately to create new knowledge. Rahman (2004) and Scarborough et al., (1999) explained that the core processes of knowledge management consist of knowledge identification, knowledge acquisition, knowledge development, knowledge sharing and distribution, knowledge utilization and knowledge retention. All these studies demonstrate that knowledge sharing is a part of KM, and this is the focus of this study; knowledge sharing activity for managing and disseminating knowledge.

Traditionally, the field of knowledge management is related to the field of information technology and technology driven perspectives (Davenport et al., 1998; De Long & Fahey, 2000; Gourlay, 2006; Gray, 2000; Thite, 2004; Wang & Noe, 2011). Over time, greater attention has been paid to the role played by individuals in the knowledge management processes and there is growing interest in the ‘people’ perspective of knowledge management (Earl, 2001; McDermott, 1999; Thite, 2004).

3.4 Theory of Organisational Knowledge Creation

Nonaka and Takeuchi (1995) proposed a model for knowledge sharing practices. This model has been adopted by Abdullah and Date (2009), Girard and McIntyre (2010), Hartley and Allison (2002) and Taylor & Wright (2004) to study the role of knowledge management in public sector management. These articles draw on the theoretical framework of Nonaka (1994), emphasising the differences between tacit and explicit knowledge to examine how knowledge is transferred between individuals and within the organisation. According to Nonaka (1991), Nonaka and Takeuchi (1995), Nonaka and Konno (1998), Nonaka et al. (2000) and Nonaka and Toyama (2003) there are four phases involved in knowledge creation, including sharing tacit knowledge, which is the focus of this study.

Figure 3. 2: Four-phase Model of the Organisational Knowledge-Creation Process



Source: Adapted from Nonaka & Takeuchi (1995)

Polanyi (1966) proposed the distinction between tacit and explicit knowledge. It was expanded by Nonaka (1994), who introduced the Theory of Organisational Knowledge Creation, also known as the Socialization, Externalization, Combination and Internalization (SECI) Model to explain how knowledge is created. This present study applied this model to explain the process of sharing tacit knowledge through human and technology interaction related to the knowledge creation model proposed by Nonaka and Takeuchi (1995), shown in Figure 3.2. This diagram illustrates the conversion of knowledge in four modes.

Firstly, socialization is the processes of sharing experiences that enable the creation of tacit knowledge such as shared mental models and technical skills (Nonaka & Takeuchi, 1995). The process of socialization allows tacit knowledge to be passed on via people rather than via impersonal media (Argote & Ingram, 2000). Particularly at the interpersonal level, an organization’s members tend to share knowledge, specifically tacit knowledge, freely (Kaser & Miles, 2002) but hide knowledge when there is distrust among employees (Connelly et al., 2012). Obviously, tacit knowledge can be acquired

without language; for instance by on the job training or by apprentices working with their mentors and learning craftsmanship not through language but by observation, imitation and practices (Nonaka, 1994). The sharing of tacit knowledge among multiple individuals with different backgrounds, perspectives and motivations is a critical step for organisational knowledge creation.

Individuals' emotions, feelings, and mental models have to be shared to build mutual trust (Nonaka & Konno, 1998). The socialization process involves a process of creating tacit knowledge through shared experiences and thinking. It is more effective in the case of individuals who can interact with each other through face-to-face dialogue (Girard & McIntyre, 2010). For instance, self-organising teams consist of members from various departments working together to achieve a common goal. In meetings they share their experiences and interpretations and synchronise their bodily and mental rhythms. Top management groups can encourage creative thinking by setting challenging goals and giving autonomy by setting task boundaries and interacting with the internal and external environments, accumulating both tacit and explicit knowledge.

Secondly, externalization is a process of articulation from tacit into explicit, and usually occurs in the second phase. In the first phase, people share a mental model and self-organised teams that bring a continuous dialogue in the form of collective reflection. In this phase, individuals use their consciousness to rationalize and articulate the world that around them. People can use dialogue to articulate their knowledge and share it with others. In dialogue, contradictions in tacit knowledge and the structure of others' tacit knowledge are made explicit and synthesized (Nonaka & Toyama, 2003). For example, the results of discussions and problem solving workshops can be captured into documents for use of organisational members (Girard & McIntyre, 2010).

Thirdly, combination involves activities that systemise concepts and exploit knowledge by creating a knowledge system using different media (Nonaka & Takeuchi, 1995). Hartley and Allison (2002), show that in local governments, combining knowledge within and among local governments can involve such activities as sharing workshop reports, usage of databases, legislation and guidance notes and circulars. The role of combination in knowledge sharing is indicated by a number of respondents who reported that comparison across organisations was an important gain from the network.

It depends on the manager to combine the information in organisational learning using different methods, as effective learning and knowledge creation in management context rely on effective and rapid learning in organisations (Armstrong & Fukami, 2009).

Further, building a model refers to the justified concept of something concrete or tangible. For example, in the case of service or organisation innovation-building through a model operating mechanism, it is built by combining newly-created explicit knowledge with existing explicit knowledge. To develop prototype needs, a combination of experts such as research and development (R&D), production, marketing and quality control is needed to develop specifications that meet everyone's approval. Experts in different fields are assembled to draw up a new organisation chart, job description, reporting system or operating system (Nonaka & Takeuchi, 1995).

The fourth phase is internalization or intra-organisationalis, where knowledge is made real or takes the form of a new knowledge creation, expanding horizontally and vertically across the organisation. Internalization is a process of conversion of explicit knowledge into tacit knowledge; where knowledge is applied and practically used and becomes a base for new routines (Nonaka & Toyama, 2003). For example, training programmes in larger groups enable trainees to understand their environment and themselves. The use of experiments or simulations to trigger the learning by doing process is another example of this (Nonaka & Konno, 1998).

Although this theory is largely related to knowledge creation, all four modes of tacit-explicit transformation processes could apply equally to knowledge sharing. This process of conversion between tacit and explicit also creates the need for new knowledge sharing activities during the process. This SECI process was adopted to represent the knowledge process, not only of explicit knowledge, but, of far more importance, tacit knowledge to leverage their benefit to others. Although it is still debatable how easy tacit knowledge is to share with others (Polanyi, 1966), the socialization process enables individuals to imitate and observe the best practices that suit them (Nonaka et al., 2000).

Of these four modes, knowledge sharing is most important for all knowledge conversion to succeed (Nonaka, 1994). Nonaka (1994) further explained that the key to success of

knowledge sharing was ultimately individual and organisational support. This means that the focus of KS should be more on the organisational members who are involved in the sharing of knowledge (Sandhu et al., 2011). Thus, this present study adopted the process of socialization, externalization, combination and internalization to explain the proposed mechanism of sharing tacit knowledge among managers as tacit knowledge is related to social interaction by nature (Kaser & Miles, 2002; Nonaka, 1994).

3.5 Knowledge Sharing Practices

Knowledge sharing practices within organisations to elaborate knowledge management have been recognised as an important research topic (Davenport & Prusak, 1998; Engstrom, 2003; Hendriks, 1999). Knowledge sharing among organisational members is of crucial importance to create human intellectual capital leading to higher organisational performance (Du et al., 2007; Nahapiet & Ghoshal, 1998; Widen-wulff & Suomi 2007). Particularly, knowledge that is created in the minds of individuals is generally of little value and requires knowledge sharing to turn individual experiences and intelligence into an organisational asset (Small & Sage, 2005).

Traditionally, there has been acceptance that knowledge sharing is about a learning process defined by exchanging relevant ideas, knowledge, experiences, and information (Calantone et al., 2002; Lin, 2007b) this process can be unidirectional and unrequested (Connelly & Kelloway, 2003). Although knowledge sharing is neither prescribed nor required in advance for a job, it significantly increases the resources of an organisation, and reduces time wasted in trial-and-error (Lin, 2007a). In the context of learning, knowledge sharing is the ability of people to transfer their tacit and implicit knowledge to others and the other party's capability to receive it (Willem & Buelens, 2007).

Some studies differentiate between knowledge sharing and knowledge transfer. Knowledge sharing is a broader concept that emphasises social interaction for knowledge exchange and multiple directionality without a specific objective, while knowledge transfer implies focus, clear objectives and unidirectionality (Argote & Ingram, 2000; Kang et al., 2008; Rhodes et al., 2008).

Thus, the knowledge sharing process involves individuals in a mutual exchange of tacit and explicit knowledge and creates new knowledge (Hoof & De Ridder, 2004;

Holtshouse, 1998). Tacit knowledge is a product of the learning process. However, some scholars argue that learning does not really occur unless an organisation has an effective and efficient system for sharing and re-examining information (Moorman & Miner, 1998). This applies in particular to tacit knowledge, as this is difficult to transfer and to copy or to imitate since it is built through experiences and embedded as an individual skill (Liebeskind, 1996; Szulanski, 2000). In the learning organisation, sharing knowledge is related to knowledge worker behaviour. Politis (2005) found that the relationship between management dimension with knowledge acquisition and knowledge sharing indicates that knowledgeable managers engage in the acquisition and creation of new knowledge. Therefore, managers should provide employees with special knowledge that can encourage and facilitate the specific behavioural skills of knowledge workers that are essential for knowledge acquisition.

The main reason for sharing tacit knowledge is to develop competencies that managers can use in recognising and responding to a problem, as they have the concept of knowing (what to do) rather than only knowledge. Knowing is based on the teaching and learning process, while knowledge as an object can be handled by information technology (Platts & Yeung, 2000; Wasko & Faraj, 2000). To transfer tacit knowledge is actually not to codify it but rather to transfer it through an implicit mode (Schencel & Teigland, 2008).

For these reasons, it is important to understand the mechanism that facilitates the sharing of tacit knowledge (Sun et al., 2007). Riege (2005), Cabrera and Cabrera (2002) proposed that there are important elements of knowledge sharing, which are individuals, structure and technology. In the management literature it has been argued that people are the most important organisational resource and the key to achieving higher performance (Judge & Ilies, 2002; Manolopoulos, 2008; Rainey, 1997) rather than structure and technology. In this view, knowledge management is not only about the latest technology but also about managing knowledge inside the organisation and this becoming a valuable asset for the success of the company (Grayson & O'Dell, 1998; Kermally, 2002). Individuals have been considered to become more important assets through the possession of tacit knowledge; therefore organisations should concentrate on utilising personal practical knowledge, which is tacit knowledge (Riege, 2005). Thus, different initiatives of knowledge sharing have been created to promote social

interaction among individuals. These initiatives include community practices such as storytelling, coaching or mentoring and meetings (Bennet & Bennet, 2008; Wiig, 2004). Such initiatives enable employees to disseminate their beliefs, thoughts, and experiences to others, thereby establishing mutual understandings (Yang , 2007).

Although there are various approaches to knowledge sharing, there is not one right way to make people share, but many different ways, depending on the values and style of the organisation (McDermott & O'Dell, 2001). Therefore, this present study holds that the best combination is of human and technological mechanisms because tacit knowledge cannot be shared directly via technology (Cross et al, 2001). According to Hsu (2008), mentoring programmes, work teams, dissemination learning, information technology (IT) systems, knowledge sharing mechanisms, incentives and training and development are all measures of knowledge sharing practices. This study will examine two particular variables, rather than seven, to measure the knowledge sharing practices proposed by Hsu (2008).

This study is interested in examining two elements of knowledge sharing practices: knowledge sharing mechanisms and mentoring programmes in the public sector. This is because studies of knowledge sharing practices focusing on knowledge sharing mechanisms and mentoring programmes in the public sector are scarce, although these programmes exist (Bozeman & Feeney, 2009; Fox and Schuhmann, 2001; Klauss, 1981). According to Kasim (2008) little research has been done to link knowledge management practices and core competencies in the performance of Malaysian government departments. There is limited research focusing on invisible work, particularly how workers think and utilise knowledge when performing tasks (Wiig, 2002). Furthermore, in the psychology and management literature it is suggested that mentoring relationships provide a means for firms to share knowledge, encourage learning and build intellectual capital (Eddy et al., 2005; Lankau & Scandura, 2002; Von Krogh, 1998).

However, there is a wide body of research in the other five areas of knowledge sharing practices in the public and private sectors as suggested by Hsu (2008). This includes the following: team work by Syed Ikhsan and Rowland, (2004a) and Ali and Ahmad (2006); dissemination learning by Yusoff (2005); information technology systems by

Suhaimee et al. (2006) and Bakar (2001); knowledge sharing mechanisms and incentives by Liebowitz and Chen (2003); and training and development (Baharim, 2008; Healy, 2001; Huque & Vyas, 2008). However, mentoring and knowledge sharing mechanisms is an area rarely explored in the public sector, even though there are mentoring programmes and knowledge sharing activities in government agencies. Indeed, Mohamed and Egbu (2010) indicate that in Malaysian local governments, knowledge sharing happens when individuals, groups or departments exchange or share their knowledge (tacit or explicit) and together create new knowledge or share task-relevant ideas, information and suggestions with each other throughout the whole department or the organisation.

These studies have shown that knowledge sharing is an appropriate mechanism to enable tacit knowledge to be disseminated to others. However, these previous studies do not focus on managerial tacit knowledge by discovering the different levels of tacit knowledge among expert, typical and novice groups in local government. This limitation is addressed in this study through the first research question by examining the current situation of Malaysian local government managers' use of tacit knowledge in knowledge sharing practices. In order to answer first research question, a group of hypotheses have been developed of which the first is as follows.

H1: There is a positive relationship between knowledge sharing practices and managerial tacit knowledge.

Based on the above discussion, knowledge sharing is seen as a test of human nature (Cabrera & Cabrera, 2002; French & Raven, 1959). It can be accessed by colleagues but it is difficult to share knowledge with unknown people (Constant et al., 1996). Yao et al. (2007) found strong barriers to knowledge sharing included a lack of awareness about the benefits of sharing power and Ipe (2003) found a perception among individuals that knowledge sharing would lead to loss of power. Hence, knowledge sharing has often seemed not to be successful and organisational performance has not improved. When an organisation requests employees to share their knowledge with others, possible conflicts arise because of different interests (Wang, 2004). Therefore, managerial mechanisms are needed to facilitate knowledge sharing (Hsu, 2006; Husted & Michailova, 2002). Thus, to bring a new dimension into the important field of knowledge sharing and its link with individual performance, empirical research on personality should be carried

out in order to obtain systematic results. De Vries et al. (2006), suggest that research should be done on the personality traits closely aligned with eagerness to share knowledge. Ones et al. (1994) and Minbashian et al. (2009) found that the validity of personality constructs as predictors of job performance, and successful managers shared a large number of personality traits regardless of time or organisation (Scroggins et al., 2009).

Several studies (Davenport et al., 1998; Liebowitz & Chen, 2001) suggest that organisational performance can be improved through intermediate or individual outcomes following the implementation of knowledge management or knowledge sharing practices. However, individuals are different in their ability to learn from experience (Easterby-Smith et al., 1999) and acquire tacit knowledge (Matthew & Sternberg, 2009). Barrick and Mount (1991) created the framework of personality as a construct that allows knowledge to be acquired in a meaningful way.

3.6 Mechanisms of Knowledge Sharing Practices

3.6.1 Mentoring Programmes

A mentor is an influential individual in the workplace (Ragins & Scandura, 1999) who has considerable experience and deep knowledge (Swap et al., 2001) and is committed to providing upward mobility and support of protégés' careers (Kram, 1985a; Ragins & Cotton, 1999).

Normally, mentoring programmes involve an intense interpersonal exchange between a senior experienced colleague (mentor) and a less experienced junior colleague (protégé), wherein the mentor provides support, direction and feedback regarding career plans and personal development (Eddy et al., 2005; Fagenson-Eland et al., 1997; Godshalk & Sosik, 2003). Shea (1995) defines the mentoring process as involving the development of caring, sharing, and helping others by investing time, know-how and effort in increasing and improving another person's growth, knowledge and skills.

A mentor is often described by researchers as a senior, experienced employee who serves as a committed, approachable, sensitive, empathetic, supportive, and helpful (Burke, 1984; Chao, et al., 1992) role model, and provides support, direction and

feedback to younger employees regarding career plans and interpersonal development. A mentor also increases the visibility of the protégé to decision makers in the organisation who may influence career opportunities (Noe, 1988a:458).

A mentoring programme can be classified as having one of two types of structure, formal or informal (Kram, 1985a; Lyons & Oppler, 2004). The major difference between informal and formal mentoring is that in informal mentoring, the relationship develops spontaneously, whereas in formal mentoring, relationships develop with organisational assistance or intervention in the form of voluntary assignments or matching mentors and protégés in the short-term (Douglas, 1997; Ragins & Cotton, 1999). Although, individuals tend to prefer less formal methods for learning such as mentoring programme, on the job training, or a task force to help keep up with development needs (Eddy et al., 2005; Mullen, 1994; Scandura, 1997). Yet Tannenbaum (1997) argued that informal training sessions only contribute a small percentage to learning development. Armstrong et al. (2002) argue that formal mentoring programmes are designed to understand the implications of individual differences through cognitive styles. Their study demonstrated that certain cognitive styles of mentors and protégés could enhance psychosocial and mentoring functions. Moreover, the more ideas mentors produced, the more protégés were able to benefit in terms of career and psychosocial functions. An ability to generate similar ideas had a positive effect on the relationship in terms of increased compatibility.

Mentoring Programmes and Tacit Knowledge

Nonaka and Takeuchi (1995) claimed that top management and senior managers act as mentors, coaches and sponsors. Mentors monitor individuals who believe passionately in something and empower them to follow their intuitions. Instead of this, as mentors, managers protect their people and push them when the time is right (Nonaka & Takeuchi, 1995: 139). Von Krogh (1998), Higgins and Kram (2001) and Murdock, (2006) claim that mentoring programmes enable senior employees to assist juniors. There are two important aspects of mentor behaviour, namely the functions of the mentor and the mentoring outcomes (Aryee et al., 1996). Mentors have been classified as career-oriented and psychosocial. A mentor will provide protégés with assignments that increase visibility and suggest strategies to accomplish work. In terms of psychosocial support their involvement will give their protégés a sense of competence

and work role effectiveness. Managers should develop protégés competence, which can be seen from the possession of the right skills for the job and being able to achieve the targets. Managers also become a symbol of motivation that inspires employees to work (Ahmad, 2001).

The outcomes from the mentoring programmes result in increased levels of career satisfaction and success in terms of promotion rates, salary and job performance for individuals. On the other hand, at an organisational level, mentoring programmes can place emphasis on cultural infrastructure and the supply of managerial talent (Aryee et al., 1996). Nonaka (1991) also emphasised that mentoring programmes are a mechanism for sharing tacit knowledge through creating knowledge. This study proposes a mentoring programme to support the exchange of managerial tacit knowledge inside organisations.

Bryant (2005) argues that a mentoring programme is more important than the knowledge management system, because interpersonal mentoring provides dynamic, continues creation and learning process through the creation and sharing of ideas rather than being computer networked. This study found that individuals have the perception that mentoring programmes are stronger as they are more engaged in knowledge sharing. Much of the knowledge a mentor possesses is tacit and learned from personal experience and from interacting with other employees (Bryant & Terborg, 2008). This is consistent with Swap et al. (2001), who found that much knowledge, particularly tacit knowledge is transferred informally through the process of socialization and internalization, including mentoring and storytelling, can leverage tacit knowledge to build core capabilities in an organisation.

Although mentors may have different motives for mentoring others, normally, they are classified into two groups: other-focused and self-focused. Other-focused motives include the desire to help others and the desire to build a competent workforce, whereas self-focused motives included the desire to enhance one's reputation and to feel a sense of self-satisfaction (Allen, 2004). Ostroff and Kozlowski (1993) found that mentors in the roles of helping newcomers learn about organisation and co-workers are a vital information source for those who did not have or want mentors, while peers play a role in facilitating socialization.

In the public sector, a number of formalised mentor and senior advisor systems have been instituted in various government agencies and programmes in an effort to capitalise on the knowledge and insight that experienced executives can provide to younger, less-experienced employees (Klauss, 1981).

Protégés or novices who desire to be like their mentors/experts may be motivated to be more proactive in information seeking (McCauley & Young, 1993; Morrison, 1993) and this may result in increased learning. For example, proteges who observed a mentor successfully facilitating a team meeting may learn to regulate their own behaviour in similar situations (Lankau & Scandura, 2002).

Crocitto et al. (2005) argue that managers should facilitate the transfer of knowledge across locations and borders because most knowledge is tacit (unwritten) norms, skills, ideas and competencies; thus, expatriate mentoring and other forms of building organisational learning are an underdeveloped competitive advantage crucial to developing the organisational knowledge necessary for global success (Plaskoff, 2003).

Another factor for the success of a mentoring programme is also the cultural factor an environment that encourages frequent and open communications (Kram, 1985b), giving permission to ask for help (Connor et al., 2000) and organisational norms of sharing information (Kram, 1985b) that impact on mentoring success.

What does a mentor teach?

According to Swap et al. (2001), there are three types of knowledge related to competence and behaviour commonly taught in the mentoring programme. These are;

1. Mentors Transferring Skills

Technical expertise is a combination of individual build up and mentor feedback (Benabou & Benabou, 1999; Covalski et al., 1998; Pfleeger & Mertz, 1995) or coaching (Noe, 1988b). Mentoring programmes involve training protégés in technical and managerial skills in the category of professional function performed by mentors. Normally newcomers seek technical information such as how to perform specific aspects of doing a job, mostly from supervisors (Morrison, 1993). This is because technical information is highly valuable and difficult to obtain through observation; therefore newcomers prefer to ask directly. Swap et al. (2001) found that mentors

respond to top management's request for explicit technical knowledge such as advice on the evaluation of the strategic plan for the company or an explanation of legal processes. Covaleski et al. (1998) report that some mentors provided guidance and advice that could be highly specific and realistic, covering the protégé's relationship with clients and key partners, the commercial aspects of the firm, the protégé's appearance and behaviour and the politics of practice.

2. Managerial System

Through career function including sponsorship, coaching, protection, exposure and visibility and challenging work assignments, a young manager is assisted in learning the supports of organisational life and in preparing for advancement opportunities (Kram, 1983). The most important is knowledge of informal managerial systems, which includes a wide variety of information about who does what and how in the organisation. Benabou and Benabou (1999) found that mentors provided access to privileged information and familiarised the protégé with non-formal aspects of the organisation. Mentors teach their protégés 'know-who' through introductions that influence decision-making networks (Benabou & Benabou 1999) and contacts developed by the mentor (Geiger, 1992).

3. Norms of Behaviour and Transmitting Knowledge

Morrison (1993) explained that mentors teach norms of behaviour and convey knowledge about the values of an organisation known as normative information. Covaleski et al. (1998) demonstrated that mentoring requires that the mentor display himself or herself to the protégé as an embodied symbol, meaning that mentors are able to give an understanding to the protégé about how to behave, look like, and be a partner. In terms of transmitting knowledge, in an organisation, mentors and their teams were repeatedly reminded to choose one another on the basis of shared values; for instance, the desire to grow an organisation of enduring worth rather than just to make a quick sale and profit.

Mentoring and Personality

Why do some individuals receive more mentoring than others? (Whitely et al., 1992). Turban and Dougherty (1994) explained that individuals with certain personality characteristics are more likely to initiate mentoring, and such individuals would be

expected to receive more mentoring than those without such characteristics. Mentoring remains an important predictor of several outcomes, particularly career, after human capital and individual differences variables (Kammeyer-Mueller & Judge, 2008). Several studies (Bozionelos, 2004; Chao, 1997; Turban & Dougherty, 1994) linked personality variables with willingness to mentor, while others such as Allen et al. (1997a), found that the internal locus of control and striving for growth were positively associated with intentions to mentor others. Aryee et al. (1996) found positive affectivity, altruism and self-esteem were significantly related to the motivation to mentor others.

Certain personality characteristics appeared to be indicators of proactive behaviour leading to interaction with others in an environment and therefore would be expected to influence the initiation of mentoring. Allinson et al. (2001) indicate that the relationship and mutual respect between mentor and protégé is influenced by their cognitive learning style. Bozionelos (2004) held that the quality of a mentor plays an important role in protégés' attitudes towards their job and it is important to identify individual characteristics that relate to the tendency and ability to become a mentor.

Niehoff (2006) and Bozionelos (2004) claim that personality traits are a significant predictor for mentoring characteristics. The personality of the mentors affects their involvement in mentoring programmes (Chao, 1997; Scandura & Ragins, 1993). Mentors' personalities affect protégés' attitudes and competency. Personality traits such as extroversion, conscientiousness and openness to experience were positively correlated with participation as a mentor. These traits can be seen in the relationship between mentor and protégés involving communication, commitment and lack of structure in mentoring programmes. The mentor has to communicate with protégés such as by advising, networking and direction and this needs an extrovert. At the same time, conscientious people are also needed because the success of a mentoring programme requires support from committed leaders to complete the task. A programme of mentoring is flexible and brings opportunities for learning new experience and solving problems. This result supports Ashton and Lee (2001), who argued that conscientiousness, extraversion and openness are related to domains such as social, tasks and ideals, which are involved in the mentoring environment. However,

neuroticism and agreeableness have no relationship with stepping forward as mentors or leaders on a voluntary basis (Judge et al., 2002; Niehoff, 2006).

Much research on mentoring and work outcomes has been conducted in the past 25 years (Kammeyer-Mueller & Judge, 2008) starting with pioneers Levinson et al. (1978) and Kram (1983), who suggested that mentoring is a powerful influence on success in the organisational environment. Armstrong et al. (2002) found that protégés' perception of mentors' idea generation depended on the extent to which they perceived themselves to be similar to their mentors with respect to personality, approaches to work, social attributes and communication skills. The hypothesis below is derived largely from the above discussion on mentoring;

H2: There is a positive relationship between mentoring programmes and the managerial tacit knowledge.

3.6.2 Knowledge Sharing Mechanism

A knowledge sharing mechanism is a method, procedure or process involved in knowledge sharing within the organization and there is distinction between information technology (IT) mechanisms and a personal mechanism approach (Chai et al., 2003). Different organisations implement different knowledge sharing mechanisms. Some organisations classify knowledge-sharing mechanisms into four types: informal vs. formal and personal vs. impersonal mechanisms (Alavi & Leidner, 2001). An informal knowledge-sharing approach can be seen in an unscheduled meeting, informal seminar or coffee break conversation, while formal mechanisms are training sessions, formal procedures, rules, manuals and formal processes (Willem & Buelens, 2007). Personal approaches include apprenticeships and personnel transfers. A knowledge repository is an impersonal mechanism. Many organisations employ codification and personalization strategies for knowledge sharing through databases and person to person contact (Hansen et al., 1999). Barton and Srivastasa (2002) proposed four mechanisms for the sharing of individual knowledge: sharing knowledge through interaction among employees, sharing knowledge via formal channels within or across teams, sharing knowledge in informal ways and sharing knowledge within practice communities.

This study focuses on individual codification, institutional codification, individual personalization and institutional personalization as mechanisms for knowledge sharing (Boh, 2007). The argument is that public sector employees gain working experience through practices, whereas disseminating knowledge relies on the human and technological approach, although knowledge sharing mechanisms are not mutually exclusive (Barton & Srivastava, 2002). Technology is adopted in this study because of its capacity to store knowledge and to exchange knowledge globally across time and geographical distance (Cho et al., 2007), as local governments are located throughout Malaysia. Some individuals also prefer to share their valuable knowledge in electronic networks, as they perceive that it enhances their professional reputations and they enjoy helping others (Constant et al., 1996; Wasko & Faraj, 2005). These mechanisms have their own function in tapping individual knowledge for collective use, although organisations use different strategies. A study on knowledge sharing in the Malaysian public sector indicates that the most widely-used knowledge sharing initiatives were e-mail systems, inter-agency activities and the use of ICT, followed by support of top management (Sandhu et al., 2011).

Both the human approach and electronic knowledge repositories are used to facilitate individuals' knowledge contributions. Selection of the appropriate knowledge sharing mechanism within an organisation is dependent on the type of knowledge, either tacit or explicit (Dixon, 2000). According to Argote and Ingram (2000), explicit knowledge is much easier to share than tacit knowledge. Nevertheless, this study argues that tacit knowledge can be shared through different mechanisms, as hypothesized below:

H3: There is a positive relationship between the knowledge sharing mechanisms and managerial tacit knowledge.

1. Codification versus personalization

This study identifies knowledge sharing mechanisms through codification or personalization (Hansen et al., 1999). Codification refers to knowledge codified and stored in databases and documents. It is more applicable to technology based storage and the exchange of global knowledge (Cho et al., 2007). If knowledge is shared through a personalized mechanism, it will be closely tied to the person who developed it and it will be shared mainly through direct person-to-person contact. Personalization provides a rich medium for communication, as it is concerned with the use of people as

a mechanism for sharing knowledge through knowledge providers and the search for information. This is because knowledge sharing involves direct communication between individuals.

2. Institutionalization versus individualization

These two techniques are used by organisations to socialize newcomers into the organisation. The institutionalization dimension describes socialization tactics that are collective and through which organisations provide information to newcomers, whilst the individualization dimension describes socialization tactics that are individual and informal (Boh, 2007).

Thus, knowledge sharing can take place at individual and institutional level. Organisations are able to implement knowledge sharing between individuals through codification and personalization (Boh, 2007).

Individual personalization mechanism

At the individual level, the mechanisms are employed among employees to share knowledge and information through *ad hoc* and informal sessions, word-of-mouth sharing through senior staff, personal networks and collaboration tools (e.g., e-mail, telephone calls) (Boh, 2007; Hansen, 1999; Krackhardt, 1992). Many organisations take advantage of the various forms of technology such as mechanisms in individual personalization, including e-mail and instant messaging to share knowledge (Massey & Montoya-Weiss, 2006). This social network becomes a place of storage and retrieval to obtain information from other people rather than documents (Allen, 1977). Informal interaction between individuals (person-to-person) also encourages the transfer of knowledge. However, this depends on the individuals who have the appropriate knowledge such as 'who knows what' in the organization (Moreland & Myaskovsky, 2000) and the accessibility of the knowledgeable employees (Borgatti & Cross, 2003).

Individual codification mechanism

The individual codification mechanism refers to the ways in which documents or other project artefacts are shared at individual level, in an informal or *ad hoc* manner such as sharing prior project documents informally and manuals written voluntarily (Boh, 2007). Most documentation is useful only when knowledgeable managers are directly available

to explain and supplement its written content. Normally, groups using a codification mechanism involve technology and ideas in their work (Katz, 1982). For instance, knowledge that is recorded in a codebook serves as a storage depository, reference point, and possibly as an authority. However, information written in a code can only perform those functions when people are able to interpret the code. Successfully reading the code in this sense may involve prior acquisition of considerable specialised knowledge that possibly includes knowledge not written down anywhere. There is as a rule, no reason to pre-suppose that all people in the world possess the knowledge needed to interpret the codes properly. This means that what is codified for one person or group may be tacit for another, and a mystery for a person who has no idea about it (Cowan et al., 2000).

This mechanism links and connects between the problems and potential solutions across time, projects and geographical boundaries (Hargadon & Sutton, 1997) and also facilitates the reuse of the intellectual capital that is produced from any project in another engagement. Thus, in completing a project, individuals or groups convert their ideas, experiences and learning into various types of documentation such as projects proposals, project plans, client presentations, client reports, and lessons learned about what works and what does not for different types of jobs. These types of intellectual capital codify the experience and learning that organisations can accumulate across different engagements. The value of reusing intellectual capital is that the organisation can build upon prior experience, invest in making improvements in the existing intellectual capital and avoid wasted efforts.

Institutional codification mechanisms

This mechanism describes the codifications of knowledge sharing that are institutionalised in the routine and structure of an organisation. The purpose of this mechanism is to capture specialist knowledge in knowledge bases that other specialists can access. In this mechanism, knowledge held by individuals or groups has been captured and made the wider property of the organisation (Earl, 2001). Codification is for 'knowledge as possession', which focuses on making knowledge explicit; thus others can acquire this knowledge rather than having to develop it for themselves (Hansen et al., 1999). This mechanism is most related to organisations that emphasise use of information technology in knowledge management to create electronic

repositories for storing, searching and retrieving intellectual capital. It includes databases, use of templates, broadcast emails and forums, an expertise directory and standardised methodology (Boh, 2007).

People who believe that they can improve mutual relationships with others through the use of knowledge sharing mechanisms tend to use reciprocal mechanisms (Cho et al., 2007). They consider that, as employees work with and gain experience of one another over a long period, group members become specialised in their particular job areas and project assignments and there is less interaction between project members. They come to know each other well, know what to expect from each other and there is simply less need to talk and interact among all the project members. Their perceptions of each others' capabilities, interests and contributions become clearer and better-defined, with members functioning with regularity and stability (Katz, 1982). Therefore, managers specialise and prefer to store their capabilities in a repository device. Traditionally, people have subjective experiences at different times in lives and sometimes prefer to store these in devices that can be codified by others. This is known as personal past and involves recollecting a wealth of information about a person or place or at other times just knowing that someone or something is familiar. Psychologists have begun to explore these two forms of subjective experience, which are referred to as remembering and knowing the past (Schacter, 1996).

Institutionalized personalization mechanisms

This mechanism focuses on personalization of knowledge sharing that is institutionalized in the routine and structure of the organisation. This mechanism needs an organisation to recognise that individuals play an integral role in the learning and knowledge sharing processes within the organisation. These people or groups have direct interaction with individuals or groups by restructuring their knowledge across different tasks and facilitating person to person knowledge sharing. In personalization, knowledge is viewed as a practice that encourages participation in networks and where people can learn through dialogue. This strategy accepts that knowledge is closely tied to the daily activities of employees and needs to be shared mainly through face to face contacts and informal networks (Hansen et al. 1999; Spring, 2003; Rashman & Hartley 2002; Yao et al., 2007; Zhou, 2004) informal conversations and meetings conducted around the water cooler at work.

Methods of institutionalized personalization by institutionalizing an organisational structure such as through individuals who have the necessary knowledge and experience, provide guidance to less experienced professionals (Halverson, 2004). Thus, experts in particular project work would naturally share knowledge and experience among the team; for instance, in meetings with high level staff, project reviews, one senior person coordinating all staffing needs, having a common project director shared across projects, cross staffing across projects, setting up a community, support centres and staff deployment policies.

However, personalization may incur cost and risks to both seekers and providers of knowledge (Borgatti & Cross, 2003). This is probably because seeking information from others in the organisational settings may be perceived by some individuals to involve risks of admitting ignorance on a given topic (Menon & Pfeffer, 2003).

Swap et al. (2001) suggested that knowledge about skills, managerial system and norms and values, termed core capabilities, are shared in the dimension of tacit knowledge that is transmitted through a process of socialization and internalization similar to personalization are critical to any organisation.

Through social processes it is easy to grasp certain new ideas and practices through learning activities, in which the context is clearly defined and the learning process is related to practical experience by sharing knowledge created through tacit experiences and explicit rules and procedures, which are the basis of a commonly understood organisational culture (Nonaka & Takeuchi, 1995).

3.7 Tacit Knowledge

Knowledge can be classified into tacit and explicit knowledge (Nonaka, 1994). Explicit knowledge refers to knowledge that is formal, systematic and codified in records and documents (Polanyi, 1966). Tacit knowledge is knowledge drawn from everyday experience that helps individuals to solve real world, practical problems (Hedlund et al., 2003). It is action oriented knowledge that is acquired without the direct help of others that allows individuals to adapt, select, and shape their environments in ways that enable them to achieve their goals (Horvath et al., 1999). Wagner (1987) refers to tacit knowledge as practical 'know how' that in general is not openly expressed or stated and

must be captured in the absence of direct instruction. Specifically, tacit knowledge is personal knowledge, intangible and embedded in the minds of people who obtain it through learning and experience (Collins, 2001; Polanyi, 1966; Nonaka, 1991). This means that although tacit knowledge is related with job experience, it has more to do with how to use experience to acquire knowledge and solve the complex problems of practice (Leithwood & Steinbach, 1995; Mahmud, 2006; Wagner, 1987).

Argyris (1999) argued that tacit knowledge was the primary requirement for effective management. Managers who have a high level of tacit knowledge can absorb problem solving applications at a higher rate than other members. As discussed by Lievens (2005), employees differ according to situation judgement and prior knowledge helps them to behave according to the situational needs. For instance, organisational knowledge, learning and memory are considered to be abstract but their interaction can be addressed empirically. Spender (1996) argued that the meaning of all knowledge is tied up with the context of its development and use, and that the notion of its objectification and detachment from the processes of its discovery and application is only another inhibiting element of positivism's legacy.

Thus, the assumption is that an individual who acquires a higher level of tacit knowledge than other peers also has a higher level of practical intelligence (Menkes, 2002). Some dimensions of knowing are unlikely ever to be wholly explicated, whether embedded in cognition or physical abilities; for example the negotiation skills required in a corporate meeting (Leonard & Sensiper, 1998). Tacit knowing embodied in cognitive skills is learned through experience and resides in the unconscious and semiconscious (Rowe & Christie, 2008). Such knowledge can be transferred by applying it (Choi & Lee, 2003).

Tacit knowledge has been studied in many fields, including the military (Sternberg et al., 1995), sales (Wagner, et al., 1999), law (Marchant & Robinson, 1999), medicine (Patel, et al., 1991), banking (Colonia-Willner, 1998), education (Dewey 1910; Edwards & Schleicher, 2004; Kolb, 1984; Wagner & Sternberg, 1985), nursing (Herbig et al., 2001), philosophy (Polanyi, 1966), psychology (Lewin, 1951; Reber 1989; Sternberg et al., 2000) organisation/management (Argyris, 1976; Nonaka 1994; Schon, 1983), culture (Sternberg, 2004) and the managerial public sector (Abdul Manaf et al., 2011; Abdul Manaf et al., 2012; Armstrong & Mahmud, 2008).

Wagner (1987) proposed three main areas of tacit knowledge: managing self; managing tasks; and managing others. A related study by Tan and Libby (1997) found that managerial tacit knowledge was unrelated to performance at staff and senior level; however, experienced managers with superior performance evaluations demonstrated different levels of managerial tacit knowledge in the context of managing self, managing others and managing tasks. Their highly tacit knowledge increased with their job experience and was highly correlated with career success (Wagner & Sternberg, 1985). Schon (1983) explained that professionals depend more on what they learn from practice than on technical knowledge acquired in school. This implies that managerial knowledge is tacit and may be indirectly taught in school, but derives more directly from experiential learning (observing the behaviour and reactions of others and applying them to one's own situation). Further management tasks provide opportunities for sharing this knowledge.

3.7.1 Managing Self

Tacit knowledge about managing self is defined as knowledge about how to manage oneself on a daily basis to maximise productivity. It can be related to interpersonal practical (Horvath et al., 1998; Neston-Baker & Hoy, 2001; Williams, 1991) know-how demonstrated in self-organisational facets of performance (Colonia-Willner, 1998). For instance, it includes knowledge about the relative importance of the tasks one faces, efficient ways of approaching work and knowledge about the motivation skills required in order to maximise one's accomplishments (Wagner, 1987; Wagner & Sternberg, 1985).

Successful managing self allows the junior person to view the senior as someone they would like to imitate. Explaining how to manage themselves to junior colleagues helps to expand the possible talent of a professional, such as when a senior manager shows the strategy of conversation a few minutes before walking into a meeting, for instance, "Watch how I manage who I call on in the discussion", or a quick debriefing on the plane returning from an engagement. These are the moments that make junior professionals learn and think about the strategy to improve themselves. In some cases, most successful junior professionals repeatedly mentioned how much they were helped

by a partner who took the time to tell them stories about the work and how to succeed (Ibrarra, 2000).

These kinds of knowledge are known as personal knowledge that is embedded in managers' actions. Nonaka and Takeuchi (1995) found that individuals' being able to share their personal true belief about a situation with other team members is the first step in knowledge creation. Sharing of personal knowledge freely and discuss ideas in an encouraging environment occur normally when people have a helpful relationship (Von Krogh, 1998). Managers also tend to exchange tacit knowledge from self reflection in a range of workplace settings (Matthew & Sternberg, 2009). Therefore, the fourth hypothesis predicts the following;

H4: There is a positive relationship between managing self and knowledge sharing practices.

3.7.2 Managing Others

Tacit knowledge about managing others refers to knowledge about managing subordinates and social relationships. It implies that managers have interpersonal practices and know-how demonstrated in self organisational facets of performance (Colonia-Willner, 1998). Knowledge about managing others can be seen from the actions of managers on how to assign tasks to match individual strengths and to minimise the effects of individual weaknesses; how to reward to encourage performance and satisfaction and how to get along with others (Wagner, 1987; Wagner & Stenberg, 1985). Managers who succeed in managing others occasionally prefer to share their knowledge about the approach used either by teaching or observation and intimation (Platts & Yeung, 2000). This is confirmed by Cho et al. (2007), who indicated that individuals with high levels of expertise tend actively to share their knowledge and contribute to benefiting others. These studies inform the hypothesis below:

H5: There is a positive relationship between managing others and knowledge sharing practices.

3.7.3 Managing Tasks

Managing tasks refers to knowledge about how to establish careers, how to enhance reputations and how to convince superiors about ideas or products. A bad reputation

will destroy career progression. Thus, managers who possess tacit knowledge about managing tasks have practical know-how about how to accomplish specific work related tasks in the most productive and appropriate way (Colonia-Willner, 1998). For example, knowledge about managing career will include prioritising work, how to reflect organisational values and convince others of the value of work (Wagner, 1987; Wagner & Sternberg, 1985a). Taylor and Wright (2004) indicate that in the public sector, knowledge sharing related to managing tasks occurs when managers talk about how they overcame work challenges by consulting their staff on key decisions, instituting nonmonetary rewards for suggestions and publicising ideas for improvement. However, before gaining tacit knowledge in handling tasks, normally managers face the challenge of solving complex and problematic work that needs trial and error on their part (Hartley & Allison, 2002). Particularly working in isolation with limited feedback from others, managers will deploy and apply their own methods in such a way that the task can be completed successfully. Therefore, managers develop a good personal understanding of the task in hand and gain a large amount of tacit knowledge, particularly if the methods have been a success (Von Krogh, 1998). From such situations derive the sixth hypothesis, which is as follows:

H6: There is a positive relationship between managing tasks and knowledge sharing practices.

3.8 The Emerging Concept of Knowledge Management in Public Sector

Previous studies indicate that there is a positive relationship between an efficient and effective application of knowledge management and organisational performance (Claycomb et al., 2002; Hasan & Al-Hawari, 2003). Public organisations target performance improvement through knowledge management programmes and activities such as sharing (exchange) and integration of knowledge (Ruggles, 1998). Wiig (2000) demonstrated that knowledge gained through an understanding of how work should be done can lead to expertise and this influences the quality of work. In particular, public sector civil servants need deep insight and knowledge of how to process demands from the public as they are often required to engage with the public or in special group collaborations (Wiig, 2000). Since there are many KM developments in the private sector, people expect the same things from the public sector. Consequently, government

departments have come to realise the benefit of KM implementation to improve efficiency and effectiveness (Yao et al., 2007).

Key thinkers of KM such as Skryme and Wiig support the claim that KM is applicable in the public sector. Skryme (2003) points out the important role played by KM in improving efficiency in decision making and service delivery in public administration. A study by Syed Ikhsan and Rowland (2004b) found that knowledge in governments is available through work procedures and policies, job manual procedures, ISO 9002, desk files and workflow and databases. However, tacit knowledge is critical as it emerges from the practical 'know-how' in doing work; for instance practical strategies in making decisions, solving critical problems, consulting customers and stakeholders. The study suggests that knowledge management strategy (KMS) through knowledge sharing helps to improve the routine work of employees. As a result, the government can achieve increased service quality, better decision making, and access to the latest information in line with customers' needs, influenced by sharing knowledge.

It is widely accepted that the public sector is different from the private sector (Boyne, 2002; Lyons et al., 2006; Rainey & Bozeman, 2000). The public sector has a distinctive culture, mission, competency and motivation all of which will inevitably affect KM practices (Abdullah & Date, 2009; McAdam & Reid, 2000; Riege & Lindsay, 2006). This varies from country to country according to organisational culture. The barriers to knowledge sharing in organisations include a lack of command and control procedures, ineffective communication channels between officers, political interference and organisational structure and individual behaviour (Cong et al., 2007: 251).

The quality of public services are related to the effective management of knowledge across organisations, professional boundaries and the potential of knowledge sharing in a modernising agenda (Bate & Roberts, 2002; Currie & Suhamlinova, 2006; Hartley & Allinson, 2002; Rashman & Hartley, 2002). However, the issue of knowledge management barriers being related to the political, cultural and nature of knowledge is still debateable (Currie et al., 2008; Hartley & Benington, 2001). For example, staff are discouraged from being open and honest about mistakes they make in their work in the belief that they will be punished. At the same time, some practitioners claim that the knowledge management perspective enables knowledge to be codified and distributed

through a knowledge repository: when one person learns something everyone else in organisation should also come to know it (Common, 2004b; Prichard et al., 2000).

In response to these different perspectives of whether culture, politics and knowledge shape public servants' behaviour, knowledge management can be viewed as an attempt to exercise and control knowledge-sharing behaviour across an organisation and break down boundaries within the organisation. It is the role of a manager to take on the task of developing policy learning by attempting to engineer and control values and ideas of knowledge-sharing behaviour and in so doing produce the correct line of action to increase public servants' performance (Common, 2004b). By eliciting experts' different perspectives, this study investigates the implementation of knowledge management focusing on the significance of knowledge sharing in the context of public sector management.

3.9 The Roles of Knowledge Sharing in the Public Sector

The discussion of knowledge sharing as a part of knowledge management emerged during the previous decade (Yang, 2006). This applies particularly in the public sector because it relies on mainly work-based knowledge and implementing knowledge sharing activities by departments (Willem & Buelens, 2007). Recently, there has been increasing awareness of knowledge sharing and its role in addressing the lack of expertise and loss of knowledge in the organisation. Empirical research indicates that a lack of management skills in the public sector is reflected in the loss of valuable assets (Argote et al., 2003).

Research into the South Korean local government by Park and Im (2001) found that knowledge sharing improved the job performance of individual employees. The creation and accumulation of knowledge has a positive relationship with individual work performance through the dissemination and utilisation of transmitted knowledge. Information sharing becomes the heart of the process of knowledge management in public administration (Schmetz, 2002). Similarly, a study by KPGM (2003) shows that the implementation of knowledge sharing enabled better decision making by frontline workers. Research by Yao et al. (2007) revealed that knowledge management practices and knowledge sharing are relevant for government departments in Hong Kong.

Informal and tacit knowledge were both used but Chinese culture acts as a barrier to knowledge sharing.

Knowledge sharing among public servants is not only influenced by culture but by political power and nature of knowledge itself (Currie et al., 2008). Culture plays various roles in shaping assumptions about what knowledge is, the benefit of managing knowledge, determining who is expected to control knowledge, who must share it, who can hoard it and which new organisational knowledge is created, legitimated and distributed. For example, staff may shy away from sharing knowledge relevant to a specific discussion because of the existence of a 'blame culture', where employees feel reluctant to share knowledge in case their information leads others to make mistakes. Thus, this culture creates the norms that control social interaction and influences whether or not there are honest and open exchanges within an organisation.

Many authors have argued that the emergence of knowledge goes together with power (Alvensson, 1993; Foucault, 1980; Fuller, 2001; Prichard et al., 2000). Knowledge gives advantage and power and makes some individuals and groups more powerful than others. For example, some experts enjoy status and power derived from their 'expertise' in controlling knowledge sharing and the knowledge contribution of less powerful members is discouraged (Weick & Sutcliffe, 2003). Studies by Currie and Suhomlinova (2006) and Fuller (2001) showed that innovation in service development was blocked by the ability of members of staff to behave in a self-interested manner that limited open knowledge sharing. In this regard, managerial confidence is misplaced, with professionals likely to hoard knowledge at the individual and group levels rather than share it (Currie & Kerrin, 2004).

The nature of knowledge makes the general transfer of management models and ideas, such as knowledge management systems, from the private sector to the government sector, ineffective (Currie et al., 2008). For example, in the context of the private sector, experts' knowledge is powerful and gives them an advantage that perhaps should not be shared with others, but this is irrelevant for public managers. Thus, inappropriate imported models of private sector management take little account of the distinctive properties of public sector organisations. In particular, tacit knowledge is deeply embedded and inseparable from human practices (Polanyi, 1966) and activities that

people undertake involve them making decisions in the light of the specific circumstances in which they find themselves (Leonard & Sensiper, 1998; McAdam & McCreedy, 2000). Further, members must share an interpretation as to what a rule means before they apply it (Tsoukas & Vladirimou, 2001).

Although knowledge management has been widely discussed by many academics and practitioners there is little information on KM in the public sector organisations of developing countries such as Malaysia (Salleh & Syed Ahmad, 2006). In the Malaysian context, a study by Yahya and Goh (2002) demonstrated the association between performance appraisal, compensation and rewards, training and decision making with knowledge management (i.e. knowledge acquisition, knowledge documentation, knowledge transfer, knowledge creation and knowledge application).

Chiem (2001) discusses the advantages to be gained for the public sector by encouraging knowledge sharing practices. This includes the public agencies that are less worried about vital information. A sense of social good is an incentive for knowledge sharing in government sectors and civil servants responded positively to an initiative they perceived as contributing to the organisational mission. This system proposes to overcome the knowledge problem that arises through staff leaving their jobs. If there is an exchange of knowledge between staff then existing employees will be in a position to pass on information and knowledge to newcomers. Usually, after staff leave a job, newcomers will build up knowledge of work from the group (Al-Mashari & Zairi, 2000).

Knowledge sharing is the process of transferring, disseminating and acquiring knowledge, skills and ability from person to person. Generally, in the organization, one person transfers knowledge or expertise about something regarding work to others (Kang et al, 2008). In this situation, managers share their tacit knowledge with top management peers and subordinates. At the same time, other workers possess the ability to receive knowledge, and acquire skills and ability (KSA) and combine these with the existing knowledge to increase KSA and to produce better work. In order to encourage the interest of employees and to increase their ability to share knowledge, managers use personality traits or personality intelligence to understand the differences between employees (Maccoby, 2009).

3.10 Personality Traits

Since the last decade, studies in personality have grown across a number of fields (Barrick & Mount, 1993; Funder, 2001). Personality is fundamentally based on broad domains known as the five factors model such as Big Five which comprises five main factors: neuroticism, extraversion, agreeableness, openness to experience or intellect and conscientiousness. This five-factor model of personality (Goldberg, 1990; McCrae and Costa, 1987) has been widely used in different fields such as aviation (Grant et al., 2007), politics (Schoen & Schumann, 2007) and entrepreneurship (Zhao & Seibert, 2006).

Over the past few decades, many studies have shown a relationship between personality traits and job performance (e.g., Barrick & Mount, 1991; Barrick & Mount, 1993; Barrick et al., 2005; Hurtz & Donovan, 2000; Ones et al., 1994). Despite this agreement, work by Lowery et al. (2004) indicated that the significant relationship between personality and performance was dependent to some extent on a person's ability. For instance, conscientiousness was shown to have a consistent relationship with all job performance criteria across various occupational groups. The results of this study also support the claim that extroversion is a valid predictor of job success in sales and management occupations, but it was not significantly related to job proficiency in any other occupations. Barrick and Mount (1991) and Salgado (1997) claim that emotional stability has a positive effect on job performance across all occupations. Extroversion was different in that it was a predictor of success in management and sales. However, training proficiency is predicated on openness to experiences and extraversion. The agreeableness and neuroticism factors were also performance predictors when employees worked in groups (Barrick & Mount, 1991).

Hollenbeck and Whitener (1988) suggested that the interaction between cognitive ability and personality arises from a model of personality and performance (Performance = Motivation X Ability). Their analyses show that personality reflects motivation and performance is a function of ability and motivation. Personality characteristics influence achievement, orientation and performance, and the outcome will be moderated by cognitive ability (Lowery et al., 2004). People who have high cognitive abilities are positively oriented towards achievement and performance goals

whereas people with low cognitive abilities have a negative relationship with achievement and performance goals. As a result, there are contradictions between the desire for high achievement and motivation and lack of ability and this causes frustration that in turn leads to poor performance (Lowery et al., 2004).

According to Barrick et al. (2005) the five main personality factors influence job performance when moderated by self-monitoring. Self-monitoring refers to the individual's ability to monitor, adjust and control their behaviour according to the perceptions of others (Snyder, 1974). Individuals who are highly self-monitoring are ambitious and exhibit a strong desire to achieve something with the objective of impressing others. In this process, self-monitoring individuals monitor the social climate around them and adapt their behaviour to fit with the situation. This contrasts with people who have low levels of self-monitoring. People with little self-monitoring show a lack of desire and/or ability to adapt to their social context. They are more interested in self-validation than status or prestige. Therefore, they behave according to their beliefs and values rather than in terms of how their behaviour will be perceived by others (Day & Kilduff, 2003).

McCrae and Costa (1997) and MacDonald (1998) argue that the structure of the big five personality factors is universal and it can be generalised across most cultures, regardless of the individual nationality and is reported to remain stable over time. All personality traits can be categorised and reduced under it (Judge et al., 1999). The Big Five inventory has been tested in various occupations such as professionals, police managers, sales people and skilled and semi-skilled workers (Barrick & Mount, 1991) indicating the highly reliability of the instrument. Almost all previous studies have shown values higher than 0.90 for all the five factors which indicate their stability (Mastor et al., 2000).

Although there are five dimensions to the personality traits model, causal theories emphasise dimensions extraversion and neuroticism (Revelle, 1995). In discussing social behaviour, experts used extraversion to predict a wide range of behaviours, including efficacy, operant conditioning, carefulness, pain tolerance and sensory levels (Eysenck & Eysenck, 1985), while neuroticism is related to the intensity of physiological responses (Rogers & Revelle, 1998).

This research focused on three of the Big Five personality traits indicators - agreeableness, conscientiousness and openness, and not the other two, because of prior predictions and empirical findings (Cho et al., 2007; Martzler et al., 2008). More specifically, (a) work by Martzler et al. (2008) found that these three traits engage with knowledge sharing behaviour; (b) Witt et al. (2002) found three of personality traits related with contextual performance but in a political organization. These studies suggest that agreeableness, extroversion and conscientiousness are related to the personality dimension; (c) the Big Five personality traits have been proven applicable to Malays' personality structure, with greater emphasis on neuroticism, agreeableness and conscientiousness rather than extroversion and openness (Mastor et al., 2000). Malays have a strong desire for success, wealth and power in order to be among the best in an organisation, and known as ambitious and knowledgeable (Zawawi, 2008); (d) in previous research on the effects of personality traits on team performance, conscientiousness and agreeableness consistently emerge as the main predictors, whilst the other traits are regarded as less significant (Barrick et al, 1998; Newman et al., 1999); (e) Cho et al. (2007) found that agreeableness and conscientiousness were the two personality traits linked to personal ability, motivation and knowledge sharing; (f) the constraint on data collection instruments affects the length of study, therefore this study has developed hypotheses focusing on just three traits (Bergeman et al., 1993).

There have been many studies of personality associated with workplace variables including job satisfaction (Judge & Bono, 2000), employee selection (Anderson & Cunningham-Snell, 2000; Hermelin & Robertson, 2001; Robertson, 1994), work attitudes (Judge et al., 1999) and job performance (Barrick & Mount, 1991), but there is limited research into knowledge sharing in relation to contemporary theories and frameworks of personality or temperament (Mooradian et al., 2006).

3.11 Interplay of the Roles of Personality Traits and Knowledge Sharing

The results of a study by Martzler et al. (2008) demonstrated that individual characteristics such as agreeableness, conscientiousness and openness influenced knowledge sharing, as shown in the following discussion.

3.11.1 Agreeableness

People who are characterised as agreeable are good natured, forgiving, courteous, helpful, generous, cheerful, tolerant, modest and cooperative (Barrick & Mount, 1991; Havill et al., 1998). An agreeable person is naturally inclined to help others; as a result, their tendency is towards cooperation and collaboration rather than competitiveness (Witt et al., 2002). The knowledge-sharing dimension consists of parallel elements such as helpfulness, cooperation, collaboration (getting along with others), good interpersonal relationships with colleagues and supervisors (Martzler et al., 2008). Therefore, an agreeable person may create willingness to exchange knowledge in recipients (De Vries et al., 2006). Agreeableness is a facet of trust that has been linked to knowledge sharing (Abrams & Cross, 2003). Prior research also establishes that agreeableness is significantly correlated with job performance ratings (Barrick & Mount, 1991). People with characteristics such as courteousness, cooperation, and helpfulness can be predicted to behave in ways to maintain social context that support effective performance in organisations (Van Scotter & Motowidlo, 1996).

A study by Cho et al. (2007) illustrated that there are relationships between levels of knowledge sharing intention and certain preferences for knowledge sharing mechanisms that are influenced by personality traits including agreeableness. Agreeable people are affective and committed and their knowledge acquisition can influence knowledge sharing practices.

3.11.2 Conscientiousness

The characteristics of a conscientious individual are competence, reliability, responsibility, organisation, and being hard working, careful, self-disciplined and achievement-oriented (Barrick & Mount, 1991). There is a relationship between conscientiousness and performance (Witt et al., 2002); conscientiousness can improve the performance of individuals through their individual contributions. These contributions go beyond specific role requirements and contractually rewarded job accomplishment (Organ & Ryan, 1995). In practice, knowledge sharing also implements organisational citizenship, which encourages people to focus on the job rather than on self interest and personal goals. Conscientiousness is related to commitment and the documentation of knowledge has an influence on knowledge sharing (Cho et al., 2007).

3.11.3 Openness to Experience

Goldberg (1993) classifies openness to experience as ‘intellect’. This attitude reflects an active imagination, intellectual curiosity, originality and independence of judgment (Costa & McCrae, 1992). Open people are curious about inner and outer worlds, encourage new ideas and have positive and negative ideas compared with individuals who have a low level of openness (Costa & McCrae, 1992). Highly open people display intellectual curiosity, creativity, flexible thinking and culture (Dingman, 1990). They show positive attitudes towards learning and engage with learning activities (Barrick & Mount, 1991). According Cabrera et al. (2006) openness is a strong predictor of knowledge sharing because openness to experience reflects curiosity and originality; as a result these people are predictably willing to seek the insights of others. The characteristic of openness can help to develop expertise and can contribute to the sharing of ideas and expertise (Wasko & Faraj, 2005).

3.12 Interplay of Roles of Personality Traits and Tacit Knowledge

Tacit knowledge is a product of managers’ learning by experience (Polanyi, 1966). Successful managers have excellent experiences that are supported by personality traits or general individual characteristics (Tan & Libby, 1997) and social intelligence (Zaccaro et al., 1991). Arthur and Bennett (1995) and Caligiuri (2000) found that personality contribute to expatriate success.

3.12.1 Agreeableness

The characteristics of an agreeable person are fundamental altruism, sympathetic nature, eagerness to help others and the willingness to be equally helpful in the future (Costa & McCrae, 1992). In the workplace, agreeableness predicts better performance evaluations particularly in a job involving interpersonal interaction and collaboration with others and customer service settings (Hurtz & Donovan, 2000; Mount et al., 1998) and such behaviours as the giving and receiving of work related to social support (Bowling et al., 2005). Similarly, Ones and Viswesvaran (1997) proposed that agreeableness is related to interpersonal aspects of expatriate performance. These findings are aligned with the characteristics of managers who possess tacit knowledge also have effective interpersonal and intrapersonal characteristics (Neston-Baker & Hoy, 2001). Individuals

who are agreeable tend to be favoured by others and this could encourage learning interactions that involve tacit knowledge.

3.12.2 Conscientiousness

Conscientiousness is exhibited by a person who is purposeful, strong willed and determined. Someone who is highly conscientiousness is careful, punctual and reliable. In contrast, a person who is low on conscientiousness is less likely to apply moral principles and may be careless when working towards cooperative goals (Costa & McCrae, 1992). The findings of Judge et al. (1999) and Seibert et al. (2001) demonstrate a positive relationship between managerial success and conscientiousness. Costa and McCrae (1992) describe conscientiousness as self-control and an active process of planning, organising and carrying out tasks. For example, Dunn et al. (1995) examined the relative importance of personality for managers when assessing employment suitability and indicated that conscientiousness for managers was the most important attribute related to applicants' ability. At the same time, emotional stability, conscientiousness, and agreeableness were the most important attributes related to counter productivity. This situation indicates that conscientiousness managers acquire tacit knowledge by facing complex work situations and learn through ongoing experience to produce better work decisions.

3.12.3 Openness to Experience

Openness to experience has been interpreted as intellect (Borgatta, 1964; Goldberg, 1990). The characteristics for this trait include being imaginative, cultured, curious, original, broad minded, intelligent and artistically sensitive (Barrick & Mount, 1991). These characteristics are similar to the concept of practical intelligence as a proxy for tacit knowledge (Ballesteros, 2003). In the concept of tacit knowledge, managers who are open to interactions gain more experience from other people and practice in their working situations. Ahmad (2001) found that many Malaysian managers have been exposed to the proxy of tacit knowledge such as practices of managing self, managing tasks and managing others. Managers tend to share activities in order to maintain harmony and build relationships between superiors and subordinates, and a good superior is expected to understand subordinates' needs and concerns. Personal attributes of managers such as always being calm and polite, informal power, religious belief and conscientiousness distinguish them from followers. Managers are also expected to

possess certain excellent qualities, not just skills and competencies, but a leader must be someone trustworthy, and a conscientious leader can be both friend and boss and give fair and equitable treatment.

Successful leaders also adopt openness to experience to gain more intelligence in social interaction. Leaders are able to determine the demands, requirements, and strategies in organisational problem scenarios and tailor their responses accordingly. The qualities of social perceptiveness and behavioral flexibility are based upon well-organised and sophisticated knowledge structures or cognitive representations of the social elements (e.g., organisational members, work behavioral settings, problem scenarios, organisational goals, expected interaction rituals) residing in organisational domains (Zaccaro et al., 1991).

3.13 Individual Performance

Individual performance has become a significant method to measure employee productivity throughout the year and evaluate the significance of their work. In Malaysia, individual performances are evaluated by performance appraisal under the New Remuneration System (NRS), known as the Sistem Saraan Malaysia (SSM).

3.13.1 The Concept of Performance Appraisal

Performance appraisal is a critical human resource management function in most organisations (Armstrong & Baron 1998, Bratton & Gold, 1999). Similar to a human resource strategy, it looks on employees as organisational assets for survival in competitive and turbulent situations (Argyris, 1994; Ahmad & Spicer, 2000). Individual performance appraisal is a relevant mechanism for measurement because it has the tools to evaluate employees' strength and weakness according to the standard criteria identified to achieve organisational goals (Rahman, 2006). The importance of the appraisal process lies in the fact that it can: 1) provide managers with a useful communication tool for employees' goal setting and performance planning, 2) increase employees motivation and productivity, 3) facilitate discussions concerning employee growth and development, 4) provide a solid basis for wage and salary administration and 5) provide data for numerous human resource decisions (Longenecker & Nykodym, 1996). This present study identifies individual performance as a vital factor affecting government performance (Kim, 2005). Performance appraisals emerged to meet

employees' needs and guidance in focusing individual skills and efforts on important organisational goals and values (Redman et al., 2000).

3.13.2 Individual Performance Appraisal in the Malaysian Setting

In the Malaysian public sector, performance appraisal is a measure which links an employee's performance and commitment at work to his or her salary (Abdul Hamid, 1996, 1999). The importance of performance measurement is also related to the effect and consequences on workers' compensation and recognition such as pay and salary, although monetary rewards are not the ultimate goals (Bartol & Locke, 2000; Millward et al., 2000), interesting work and opportunity to help others (Frank & Lewis, 2004), employees' efficiency in the workplace (Armstrong & Baron, 1998) and as a tool for organisation survival in competitive and turbulent situations (Ahmad & Spicer, 2000).

Malaysia has introduced a new management system to improve public servants' services. This new system was developed based on an incremental change from a quality system in the organisation to a learning organisation with the ultimate goal of a world class public service (Yusoff, 2005). Therefore, in order to promote continuous learning, the government introduced the Malaysian Remuneration System (Sistem Saraan Malaysia) (MRS) on 1 November 2002 (Ahmad & Ali, 2004).

This system mainly focuses on public servant performance by introducing competitiveness into the evaluation of performance, called Competency Assessment (PTK). Under competitive assessment, candidates who gain specified ratings in of assessment and excel in their work would be considered for a merit salary increase instead of the normal annual increment, subject to the approval of the Human Resource Development panel. The objective of MRS was to encourage continuous learning by bringing in self-development, application of knowledge, skills, creativity, innovation and multi-skilling in the workplace, creating a team work culture, the development of knowledge workers, implementing a competency using a human resource approach and rewarding efficient employees by salary progression based on merit (Yusoff, 2005). This new comprehensive assessment system was developed to meet the needs of public service to produce k-workers. There are four main components of evaluation in MRS:

1. Improving the service through a flexible starting salary, job probation period of one to three years, and salary increase.
2. Modifications to the structure of salaries, allowances and benefits through the addition of points of salary, a new salary matrix adding a new grade and equal rates of allowances.
3. Assessment of competency in three parts divided into assessment of the level of efficiency, performance and service excellence award.
4. Increase career development with the addition of the grade. This was done by redesigning grades using a numeric grade range, including critical services and reformulation of the service scheme.

In this system, the assessment is made in terms of the annual performance evaluation report and competency assessment. The evaluation of competency assesses employee self-development, improving knowledge and skills and inspiring a culture of organisational learning. Work competency is considered when determining increments in salary and promotions to higher positions. The MRS system also brings changes in staff performance appraisals.

Assessment is by a committee called the panel of the human resource development department. They are responsible for determining the salary increment and promotion for employees who qualify meet the criterias. In addition, they are also responsible for proposing the need for training and counselling for employees (Ahmad & Ali, 2004).

The purpose of MRS is to evaluate public servants on four main aspects: work productivity (weighting 50%), knowledge and skills (weighting 25%), personal qualities (weighting 20%) and activities and contributions outside official duties (weighting 5%) (Malaysian Public Service Department, 2002). Based on the marks in these aspects of evaluation, public employees are given a cumulative mark for performance that represents the level of their productivity, as seen in the Table 3.1 below. These marks of performance achievement have various implications for their career development such as salary increment, job promotion and nomination for awards. High marks for performance determined eligibility for the service excellence award, as one of the criteria of the expert group for the measurement of the level of tacit knowledge. Hence, managers currently realise that the achievement of high performance is aligned with

high work productivity and excellent service, which is mainly derived from increased information-gathering activities (Hall , 2007).

Table 3. 1: Categories of Performance Achievement for Managers

Category	Marks
Excellent	90-100 %
Good	80-89.9 %
Satisfactory	60-79.9 %
Unsatisfactory	50-59.9 %
Poor	49.9 % and below

Source: Government of Malaysia (2009)

Since the mid-1980s, the discussion of performance management has tended more towards supporting decision making and analysing knowledge, information (Garengo et al., 2005), managerial effectiveness, customer service orientation, productivity and work quality (Chun & Rainey, 2005). Further, managerial performance is also used in relation to budgetary participation. Research in a Malaysian public agency such as the Ministry of Defence (MINDEF) encouraged budgetary participation as an indicator of performance (Yahya et al., 2008).

Studies by Gorelick & Monsou (2005) and Wiig (2002) revealed that knowledge drives organisational performance; therefore it is vital to understand the processes of knowledge acquisition. Wiig (2002) found that performance must be integrated with systematic learning to gain advantage from knowledge management. Knowledge management (at both a practical and a theoretical level) has the capacity to assist the public management sector in managing organisational knowledge.

Argote and Ingram (2000) suggest that the transfer of all new knowledge is a good way to bring about an improvement in performance levels. Moreover, research by Sanger (2008) indicates that in order to improve performance in local and state governments people need leadership encouragement to participate in knowledge sharing activities; for example, power being delegated to staff to reduce rules, increasing discretion and rewards for innovation. These various dimensions of performance measurement indicate that certain factors internal to the organisation should give attention to individual

intelligence and individual differences such as personality traits (Higgins & Kram, 2001). This is due to the fact that individual differences result in different attitudes towards performance. Thus, studies on individual behaviour have made a unique contribution to our understanding of individual differences and experiences (John & Srivastava, 1999).

Consequently this study aims to link individual performance with sharing tacit knowledge and personality traits. Failure to manage knowledge inside the human mind and understand individual differences are the key reason for the unsuccessful managers. Drawing upon research in a wide range of public sector management, this study argues that mechanisms of sharing managerial tacit knowledge and understanding of personality traits lead to success for managers.

3.14 Organisational Performance

Why is it important to measure performance in the public sector? If performance is good, how do we know it is good? This is because business firms all measure their performance and it is widely considered that the private sector is managed better than the public sector (Behn, 2003:586-587). The difference is that the public sector does not use financial ratios to measure performance as in the private sector (Behn, 2003). In the public sector, making maximum profit is not the ultimate goal (Harel & Tzafrir, 2001), because it performs many roles such as facilitator, pace setter and socio-economic developer (Arawati et al., 2007).

The general term performance encompass societal performance, organisational performance, team performance, information system performance, hardware system performance and individual performance (Swanson, 1999). This study recognises that employees have a great impact on organisational performance (Nafukho & Hinton, 2003:266). This applies particularly in the government sector. In this sector, the performance of employees has an effect on the image of the government and it also has an effect on the efficiency of government management (Xiaohua, 2008). Better performance will encourage citizens to place their trust in the government (Kaifeng & Marc, 2006).

Performance has been seen in terms of the various dimensions leading to organisational effectiveness. Some have referred to performance as the basic measure of agency and accountability to assess whether workers are making effective use of limited public resources (Boschken, 1994). Others argue that performance is an expanding concept that spans financial elements through to the quality of the end product and services in term of effectiveness, cost efficiency, service quality and customer satisfaction (Pollit, 2005; Sanger, 2008). In England the emphasis is on performance measurement, reinforced by the introduction of Local Public Service Agreements and Comprehensive Performance Assessment (CPA) (Andrews, 2004; Andrews et al., 2005). These methods raised the stakes by adding rewards and sanctions to the performance measurement regime and ranking them into five bands, from excellent to poor (Boyne & Enticott, 2002).

As discussed in Chapter 2, some Malaysian public agencies such as MAMPU and local governments have implemented a new performance management measurement within the concept of CPA known as the star rating system. This system grades local government into two different levels of performances, high level and low level.

High performance organisations are defined as groups of employees who produce the desired goods and services at higher quality with limited resources (Brewer & Selden, 2000; Popovich, 1998). Productivity and quality improve continuously over time and this leads to mission achievement (Popovich, 1998). Individuals' possession of job knowledge was the best predictor of performance (Manley & Benavidez, 2008). Therefore, agencies with higher-performing employees contribute to organisational performance (Brewer & Selden, 2000; Brewer et al., 2000; Perry & Wise, 1990). Low-performance organisations commonly have critical staff classified as underperforming (Mannion et al., 2005).

Du et al. (2007), Nahapiet and Ghoshal (1998) , Widen-wulff and Suomi (2007) showed that knowledge sharing leads to high organisational performance. Local governments also rated themselves on such activities as knowledge management, knowledge sharing and ability to learn from experience. The concern for these activities can be seen from the development of infrastructures and efforts to avoid the loss of knowledge and the deployment of mechanisms for the sharing and reuse of knowledge (Martin, 2000).

Colonia-Willner (1998), Wagner and Sternberg (1985) and Wagner, (1987) linked managerial tacit knowledge with job performance. Over time, the quality of the interaction between knowledge, both explicit and tacit, may lead to superior firm performance. However, firms differ in their capacity for fostering such interaction, and the relative importance and status of the two types may also vary. More importantly, the creation of new knowledge in itself will necessarily involve the use and generation of tacit knowledge (Lam, 2000).

Based on the studies above, LGs can be divided into two categories, high and low performance. Although previous studies have shown the link between knowledge and individual performance, they have not mentioned the difference in knowledge management practices in these two categories of LGs. This gap led to the development of the second, third and fourth of the present research questions. Therefore, to answer these research questions, the hypotheses from H 7 to H 9 below were developed.

H7: There is a difference in knowledge sharing practices in high and low performance organisations.

H8: There is a difference in managerial tacit knowledge in high and low performance organisations.

H9: There is a difference in individual performance in high and low performance organisations.

3.15 Personality and Individual Performance

In the study of personality inventory, there is increasing evidence of the validity of the personality construct as a predictor of performance, derived primarily from the Big Five personality dimensions (Ones, et al., 1994). In psychology and management research, early studies such as Guion and Gottier (1965), Ghiselli (1973), Schmitt et al. (1984) found that personality variables are relatively poor predictors of job performance. Despite these findings, in general there is agreement that cases are useful. Work by Dingman (1990) changed the view on personality at work. Dingman's study of personality shows the stable characteristic for job performance. Similarly, Salgado (1997) also found that conscientiousness, extroversion and emotional stability are valid predictors across job criteria and occupational groups. Openness and agreeableness were valid predictors of training proficiency. According to Barrick and Mount (1991),

conscientiousness is a valid predictor for job performance, but Tett et al. (1991) argue that it had lower validity than another three personality constructs: agreeableness, openness to experience and emotional stability. This inconsistency of findings was mainly because of the number of studies and sample size (Ones, et al., 1994). For example, the quantitative study by Tett et al., (1991) included 7 studies (N=450) for conscientiousness, but Barrick and Mount included 92 studies (N=12,893).

3.16 Personality as a Moderator Factor

The concept of a moderator variable has a long being examined in personality psychology history (Chaplin, 1991), but its use limited in the management field. The notion of personality as a moderator variable means that personality traits are a third set of variables that modify a causal effect. A causal model refers to a theoretical hypothesis about how changes in one variable result in changes in another (Wu & Zumbo, 2008:368). A moderating variable affects the strength of the relation between independent and dependent variables (Baron & Kenny, 1986). However this is not always the case, as sometimes the moderator variable does not serve to transform weak relations among personality variables into strong ones, but rather to confirm that their function as moderator is work (Chaplin, 1991).

According to Bontis and Serenko (2007), in organisational behaviour research, there are two indicators related to function as moderating factors. Firstly, in common practice, when only one study tests each moderator, this makes it difficult to draw conclusions as to the validity and generalizability of results. Second, most of the prior studies reveal the mixed and inconsistent results of the tested variables (Iaffaldano & Muchinsky, 1985). In this context of the current study, the second reason is the best factors in determining personality traits become moderating factors for the relationship between knowledge sharing practices and managerial tacit knowledge with individual performance.

The inconsistency in the separate bodies of research about individual performance and knowledge management on the one hand, and personality on the other hand lead to the belief that an interaction model is required to understand better how these variables are related. Personality was the focus because this dimension is associated with knowledge

sharing practices and managerial tacit knowledge but its connection to individual performance is uncertain.

Many studies on job performance such as Gellatly (1996), Bem and Allen, (1974), Weiss and Adler (1984) suggested that personality traits are good predictors of individual performance. In contrast, Barrick and Mount (1993) found that low autonomy in a job meant that personality traits not predict performance, because there was a little variability in behaviour. Specifically, Witt et al. (2002) argued that conscientiousness and agreeableness interacted in predicting job performance. Further, the characteristic of agreeableness in a person also can act as a moderator of interpersonal conflict (Jensen-Campbell & Graziano, 2001). Miller (2009) indicated that personality is a moderating factor influencing the relationship between stigma and help-seeking that can be linked with knowledge sharing practices. Knowledge is the result of interpreting information based on one's understanding; it is influenced by the personality of its holder, since knowledge is based on judgement and intuition (Lee & Yang, 2000).

Barrick and Mount (1991) also supported that the personality construct allows knowledge to be acquired in a meaningful way. However, limited research has connected knowledge sharing to contemporary theories and frameworks of personality (Mooradian et al., 2006). The literature also shows mixed, inconclusive results suggesting the possibility of moderators such as the Big Five personality traits (Wang & Noe, 2010). Thus, the present study makes the first attempt to investigate the moderating effects of personality factors on the relationship between knowledge sharing practices and managerial tacit knowledge in detecting individual performance.

This leads to the proposition that personality traits are an important moderating factor in knowledge sharing practices and tacit knowledge, and their effect on organisational performance. This is a significant relationship because personality is about individual differences that moderate the relationship between knowledge and performance (Barrick et al., 2001).

The above discussion of previous studies has shown that personality traits can act as moderators in various fields. However, previous research does not show the roles of

personality as directly moderating the relationship between knowledge sharing practices and managerial tacit knowledge with individual performance. Thus, an attempt is made to fill this gap in the research in the fifth research question, that assumes two different hypotheses, H10 and H11, shown below.

H10: Personality traits moderate the relationship between knowledge sharing practices and individual performance.

H11: Personality traits moderate the relationship between managerial tacit knowledge and individual performance.

3.17 Demographic Factors and Performance

Level of Education and Job Performance

Education is related with job improvement such as by enabling employees to use productive technologies, the ability work in teams and also to be more adaptable to new tasks and changes in work (Institute of Education Sciences, 1997). Hunton et al. (2005) found that job performance evaluations for those with Master's degrees were higher than for those without a Master's degree. Truxillo et al. (1998) report that college education is significantly associated with promotions and supervisory ratings of job performance among police officers.

Age and Job Performance

Ali and Davies (2003) suggested that job productivity increased in alignment with age, but after the age of 40, output declines with age. They found that experience is a more important contributor to performance than age. Experience is better than age as a contributor to performance in non-managerial jobs (Avolio et al., 1990).

Length of service

Leadership experience is a valid predictor of a leader's job performance (Bettin & Kennedy, Jr., 1990). However duration in service may not accurately reflect the job productivity that derives from skills and knowledge of managers because working experience grows with seniority level (Gordon & Fitzgibbons, 1982). A possible measure of experience might be from the number of positions that a leader has held previously. Therefore, a leader who has held several positions in a prior job before holding the current position can be considered to have more experience than those who are in the current position with experience of only one or two positions before (Bettin &

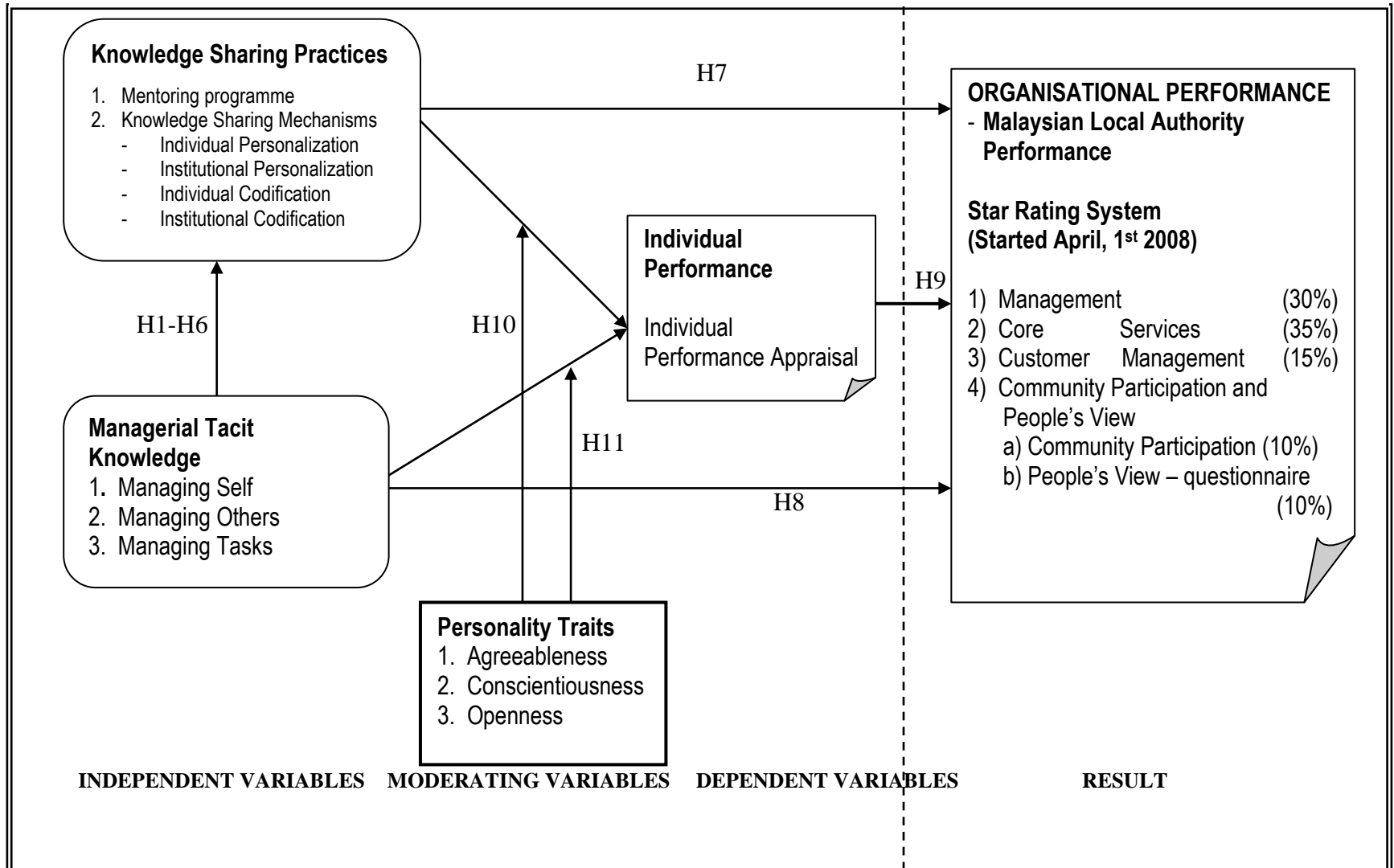
Kennedy, Jr., 1990). Some jobs are more likely to provide experience and knowledge that are applicable to current positions. Stogdill (1948) reported that leaders are brighter than followers.

3.18 Research Framework

The studies discussed above have demonstrated the relevant linkages between variables from which the hypotheses were developed. The hypotheses were drawn up through use of the literature review to identify the gaps and uncertain relationships that may be fruitful in managerial aspects. Numerous assumptions about the role of managerial variables are clearer in the framework of the research. Thus, this research framework (Figure 3.3) illustrates the relationship between the independent and dependent variables influenced by the moderating variables that will contribute to performance. It is expected that the performance of local governments can be influenced by management factors such as knowledge sharing practices and tacit knowledge and that these are affected in some way by personality traits. There are studies describing alternative perspectives of knowledge sharing (Kanter, 1989) but they do not include various dimensions of knowledge sharing that are relevant in terms of their influence on the relationship between knowledge sharing and performance (Du et al., 2007). For example, they do not examine the role of individual differences such as personality traits although these are known to be potentially important (Martzler et al., 2008; Mooradian, 2006).

In this framework, knowledge sharing practices, consisting of mentoring programme and knowledge sharing mechanisms were predicted to have a relationship with managerial tacit knowledge as a first set of hypotheses (H1 to H6). The second group of hypotheses (H7 to H9) assumes that knowledge sharing practices, managerial tacit knowledge and individual performance are different at different levels of organisational performance high and low. Different levels of organisational performance have been determined in current local government performance. Therefore, questions about these variables are answered by managers who are working at these different levels of performance. The third group of hypotheses (H10 to H11) were developed to test the moderating effect of personality factors on knowledge sharing practices and managerial tacit knowledge in predicting individual performance.

Figure 3. 3: Research Framework



3.19 Summary

Generally, previous studies have pointed out that knowledge sharing has a positive effect on managerial tacit knowledge, while personality is always considered to determine individual performance. Studies also highlight the importance of personality as a moderating factor in the psychology field. Finally, studies also examined the role of knowledge sharing, tacit knowledge and individual performance in the level of difference of local government performance. Given that few studies have looked at knowledge sharing practices and managerial tacit knowledge moderated by personality in high and low performing organisations, this study is well placed to examine these three variables in terms of individual performance. The next chapter will further discuss the previous studies on tacit knowledge carried out in the context of the managerial workplace.

Chapter 4

Tacit Knowledge in the Managerial Work Setting

4.1 Introduction

The previous chapter demonstrated that managerial tacit knowledge was one of the factors that contribute to individual performance; in the context of tacit knowledge study, individual performance is similar to managerial success. The chapter also indicated that in the real-situation, individual performance appraisal among Malaysian public servants was evaluated by individual knowledge and skills. This study focuses more closely on tacit knowledge because it has been shown to be effective in managerial work (Argyris, 1999) and related with concepts of skills (Nelson & Winter, 1982).

In this chapter, a more precise explanation of the roots, arguments and implementation of managerial tacit knowledge that are significant in the managerial context is given. The main interest in managerial tacit knowledge is as critical knowledge that influences managerial success and ultimately leads to successful organisations.

4.2 The Origins of Tacit Knowledge

The concept of tacit knowledge was described by Polanyi (1958, 1966) as knowing without telling, has also been described as naturalistic intelligence (Neisser, 1976), knowledge creation theory (Nonaka 1994; Nonaka & Takeuchi 1995), a kind of knowing (Schon, 1983), and practical intelligence (Sternberg, 1988; Wagner & Sternberg 1985). Tacit knowledge is unspoken knowledge gained from experience that distinguishes experts and non-experts in a particular domain (Polanyi, 1966; Wagner & Sternberg, 1985). Polanyi (1958) extensively examined the tacit dimension of knowledge and concluded that its role in performance is achieved by observance of a set of rules which are not known as such by the person following them. Tacit knowledge is the knowledge that guides individual behaviour, although people are not aware of this (Von Krogh et al., 2000).

Polanyi (1962) examined the nature of tacit knowledge in the context of professional knowledge, and stated that in terms of 'knowledge in action' in the context of management, this knowledge affected the decisions of a manager in a way that is very difficult to describe or generalise. Cook and Brown (1999) differentiate organisational knowledge and organisational knowing. They define knowledge as something that is treated by the individual as the 'epistemology of possession'. Concurrently, knowing is defined as action for an 'epistemology of practice' (Polanyi, 1962). This interaction between knowledge and knowing would create new knowledge. It is believed that personal knowledge is embedded in experiences and related with intangible factors such as personal beliefs, perspectives and values (Nonaka & Takeuchi, 1995). There is a debate surrounding concepts of tacit knowledge in Eastern and Western cultures. For instance, the Japanese have a high regard for people, social recognition and spiritual needs, while Western cultures tend to separate spiritual and commercial institutions (Pascale, 1982). Western epistemology, in the Platonic tradition, considers knowledge as justified true belief involving rationalistic and empirical perspectives. Plato considers the physical world to be a shadow of the perfect world of 'ideas'; however, Aristotle argues that an empirical approach is essential and the development of ideas is linked with sensory perception as knowledge.

As expressed in this debate, there is much evidence at testing to the importance of tacit knowledge as a key dimension for individual performance. It is importance to analyse and reflect at an individual level to personalize what knowledge drives us in our actions and how much of that knowledge remains unarticulated.

In addition, tacit knowledge is associated with the concept of skills (Nelson & Winter, 1982) or 'know-how' and 'know-what' (Platts & Yeung, 2000). In this respect, Benjafield (1992) considered explicit knowledge to mean 'know-what' and 'know-how' to represent tacit knowledge.

Skills are commonly called knowledge from experience because they derive from practical experiences and observations. These observations and experiences can take place in various contexts (Lam, 1997). Explicit knowledge refers to technical or academic data or information written in formal language such as manuals, mathematical expressions, copyright and patents. Explicit knowledge can be acquired through

'knowing what' or systematic knowledge communicated through print, electronic methods and other formal means (Smith, 2001). Isaacs (1999) claims that explicit knowledge cannot be transferred to tacit knowledge, but, conversely, tacit knowledge can be converted to explicit knowledge.

4.3 The Concepts of Practical Intelligence and Tacit Knowledge

This present study focuses on tacit knowledge in the management context (Argyris 1999; Platts & Yeung, 2000). A study by the Center for Creative Leadership found that scores on the tests of tacit knowledge for management were the best single predictor of performance in a managerial simulation (Sternberg, 2005). Therefore, several studies by Sternberg and colleagues have been cited to demonstrate the relevance of tacit knowledge implementation in a managerial framework.

Sternberg et al. (2000) and Wagner and Sternberg (1985) explored tacit knowledge in the concept of multiple intelligences. Sternberg (1988, 1997) proposed that tacit knowledge is a factor of practical intelligence. Practical intelligence is an ability to perform successfully in a naturalistic setting in a way that is consistent with one's goals (Cianciolo et al., 2006). It is a function of the individual's practical ability to learn from and to solve everyday problems in order to adapt, to select and to shape his/her environment in the pursuit of personal goals. Sternberg's basic argument on tacit knowledge is that it underlies the successful performance in many real-world tasks. Practical intelligence is one of the three concepts of intelligence as explained in the Theory of Successful Intelligence (Sternberg, 2005), while the other two are analytical and creative (Sternberg et al., 2000). Work on practical intelligence has tended to centre on the concept of tacit knowledge.

Thus, tacit knowledge is knowledge that one needs to know in order to work effectively in an environment, but that one is not explicitly taught and is not verbalised (Sternberg et al., 2000; Sternberg & Wagner, 1993; Sternberg et al. 1993; Sternberg et al., 1995, Wagner, 1987; Wagner & Sternberg, 1986). Tacit knowledge is measured using work related problems one might encounter on the job. It was presented in the form of 'if-then' statements that describe procedures followed in various kinds of everyday situations; for instance, in situations such as knowing what to say to whom, knowing when to say it and knowing how to say it for maximum effect (Sternberg et al., 2000).

Tacit knowledge is difficult, but not impossible, to articulate verbally and is demonstrated by the capacity to solve domain-specific problems of a practical nature (Matthew & Sternberg, 2009).

Sternberg suggested that the acquisition and use of tacit knowledge is practical intelligence or practical experiences. Practical intelligence is used to develop expertise (Sternberg, 1988) and tacit knowledge is a manifest indicator (Sternberg et al., 2000). Tacit knowledge is believed to be rooted in action and context, can be acquired without consciousness and is typically not expressed or communicated (Matthew & Sternberg, 2009).

Sternberg (1985b) emphasises the importance of practical intelligence to explain the nature of intelligence, and states that behavioural intelligence varies according to the context in which it occurs. Practical intelligence conceptualises tacit knowledge as action-oriented knowledge that enables individuals to achieve goals that they personally value (Sternberg et al., 1995). Sternberg et al. (2000) introduced a domain to test tacit knowledge. They concluded that tacit knowledge is a better predictor of career success than general intelligence. Wagner (1987) and Hedlund et al., (2003) showed that practical intelligence rather than academic intelligence is necessary for leadership performance. However, job performance can be influenced by both 'book smarts' and 'street smarts' (Menkes, 2002). Thus, the concept of practical intelligence was used to demonstrate a scientific basis for the commonly held belief that there is more to success in everyday life than can be captured in academic tests or modes of thinking (McClelland, 1973; Sternberg et al., 1981).

There have long been discussions about the differences between practical intelligence (street smart) and academic intelligence (book smarts) (Sternberg et al., 1995), as tacit knowledge is a product of practical intelligence and a critical determinant of managerial success (Wagner & Sternberg, 1987). This argument can be seen in the work of Thorndike (1920) who recognised that intelligence is more than just being 'book smart', while Neisser (1976) claims that problems found in school are different from problems found in the real-world setting. He made the distinction between practical intelligence that is learned from experience and intelligence related to academic success.

Polanyi (1966) stressed the importance of the ability to acquire implicitly knowledge from experience through connection between a pattern of stimuli or events and an experience. Acquisition of knowledge directs attention away from particular stimuli or events that give rise to an experience and toward the internal sensations stimulated by them. In other words, directing attention toward particular stimuli or events that give rise to an experience may have the function of making tacit knowledge explicit.

Schon (1983) and Matthew and Sternberg (2009) believe that individual action also influences the content of tacit knowledge. This implies that directing attention toward the link between assumptions leads to action and action outcome functions to make tacit knowledge available for development.

Thus, the characteristics of tacit knowledge are that it is generally acquired on one's own (unspoken) (Sternberg, 1997), is procedural in nature, not readily articulated (Sternberg, 1997), and directly related to practical goals that people value (Sternberg et al., 2000).

4.4 Learning of Tacit Knowledge

There are direct and indirect methods to enhance the rate of acquisition of tacit knowledge. The direct method uses instructional techniques similar to those used at present to teach formal academic knowledge and skills or learning from experienced to other less experienced individuals. It requires knowledgeable people to teach less experienced individuals. Indirect methods are not used to teach tacit knowledge but rather, the strategies individuals might use to improve their ability to acquire tacit knowledge, such as training (Sternberg et al., 1990).

The strategies proposed by Wagner and Sternberg (1987) are to identify the most valuable person and to discern what the criteria are for a person to be considered as highly valued. Secondly, it is useful, after completing a task to ask oneself what one has learned from the job in terms of strengths, weaknesses, value and ambitions of oneself and others and how one would approach a similar task with different methods in future.

An area that is receiving increasing attention is tacit knowledge as a predictor of future success (Nonaka & Takeuchi, 1995). Individual tacit knowledge has been shown to improve organisational performance (Berman et al. 2002; Sternberg et al., 1993;

Wagner, 1987). Therefore, managers are looking for better ways to identify and classify the knowledge that contributes to the high performance of employees because it is costly to recruit, train and retain qualified employees (Insch et al., 2008). Hence, this study proposes that the best practice is to develop knowledge sharing practices to share tacit knowledge with others. This assumption was supported by Hill et al. (2003), who found that personal tacit knowledge benefits from experts sharing their success stories.

Tacit knowledge is categorised into three groups: content, context and orientation (Wagner, 1987). This type of knowledge is used in different situations and by different people. Content knowledge is used to manage the self, others and tasks. Context is illustrated in terms of local knowledge (short-term accomplishments) and global knowledge (long-term accomplishments). Orientation can be seen in both pragmatic and ideal dimensions (Smith, 2001). The pragmatic orientation means knowing how to implement practical ideas without looking at the quality of the ideas. An idealistic orientation focuses on the quality of an idea or goal rather than its practicality (Wagner & Sternberg, 1987).

How Managers Acquire Tacit Knowledge

Sternberg (1988, 1997) proposed that knowledge acquisition and problem solving processes underlie the acquisition of tacit knowledge. Acquisition of tacit knowledge for managerial success involves three processes interactively to maximise the learning process (Wagner & Sternberg, 1987),

1. Selective encoding to filter relevant from irrelevant information. Selective encoding involves separating relevant information in one's experience from information that is irrelevant to one's purposes. A good selective encoder knows which information should be attended to and which dismissed. For example, in policy development, a good selective encoder knows what types of information and facts are relevant for company values.
2. Selective combination is related to putting information together to form a meaningful picture. In this process, the relevant information is put together to see how it interrelates and forms a pattern. In this situation, a good selection combines the related facts and avoids a poor selection.

3. Selective comparisons relate new information with existing information. A good selective comparison makes the connection between existing knowledge and new knowledge, but it is difficult for a poor selective comparer to make a connection between old and new knowledge.

Hedlund et al. (2003) showed how these processes were adopted in the problem solving or executive process. For example, a leader observed staff staying at the office until the same time as the boss but the boss was not engaged in work-related activities (selective encoding). He concluded that staffs were obliged to stay and work as long as the boss did (selective combination). He was aware that the boss did not realise this (problem definition) and informed the boss how his action influenced their staff (strategy formation). The boss explained he needed to stay and maximise the time before going home and thereafter the subordinates began to leave at a reasonable hour (solution monitoring).

4.5 Studies on Experts

In the field of work psychology, it has been widely accepted that tacit knowledge is closely related with experts and successful people and that this knowledge is acquired from individual personalized experience (Mahmud, 2006; Sternberg et al., 2000). In this regard, expertise is developed through learning by doing (Swap et al., 2001). Although gifted people always practise under knowledgeable teachers, there is not necessarily sufficient supervision. Engaging more in an activity is more important for becoming an expert. Commonly, experts exercise their knowledge by calling on their long years of experience in a great variety of contexts to recognise patterns and then selectively retrieve relevant information and arrange from a given pattern fluidly to chart an appropriate response (Ericsson, 1996).

Many researchers such as Armstrong and Mahmud (2008), Hedlund et al. (2003), Grigorenko et al. (2000), Sternberg et al. (1993), Sternberg et al. (1995) and Wagner et al. (1999) have demonstrated that tacit knowledge distinguishes successful and less successful managers in various fields such as management, the military, academic psychology, sales, banking, general college life and clerical work. For example, Wagner (1987) found differences of tacit knowledge among business managers, business graduate students and general undergraduate students, with managers having the highest

tacit knowledge. Zaccaro et al. (1991) suggest that successful leaders possess well organised, domain specific knowledge that allows them to respond flexibly to a range of situations. Cognitive psychologists have also tended to take a knowledge-based approach in their studies of how experts and novices differ in the performance of tasks relevant to their domain of expertise (Wagner, 1987). Specifically, Fiske et al. (1983) found that experts were more likely than novices to attend to problem information that was inconsistent with prior expectations. Accordingly, expert responses were more likely to be situationally appropriate.

Wagner and Sternberg (1985) examined expert-novice differences in terms of tacit knowledge or information, not acquired through formal interactions, about appropriate responses related to the management of self, others, and one's career. Tacit knowledge was measured by having subjects rate the priority of various responses in terms of goal appropriateness in 9 work problem scenarios (see section 4.6). Wagner and Sternberg found that experts had more tacit knowledge than novices and that this knowledge was correlated with job and career performance.

Further, Scribner (1986) reported that experts tended to redefine problems in a way that yielded more efficient solutions. Further, as problems changed, adopted solutions changed in correspondingly understated ways. Novices were more likely to employ standard and sometimes cumbersome algorithms in solving quantitative problems. Scribner concluded that successful and intelligent job performance required the building up of a selection of solution modes fitted to the properties of specific problems and particular situations.

Experts may predict incorrectly, misguided by a few familiar signs into believing they have identified a well-known pattern. Even if it is correct it is often difficult for them to describe the pattern precisely or to articulate how the recognition of a given pattern should lead to some specific behaviour. In short, this pattern recognition process draws upon tacit dimensions of experts' knowledge and also underlying explicit rules. Experts can express rules of thumb, but these shorthand statements are deeply contextualised. Experts know when the rule applies and when the usual pattern of experience requires an exception. Hence, an experienced mentor knows there are times to broaden the range of activities (Swap et al., 2001).

Experts normally spend more time than novices in planning and solving problems. Novices tend to identify the solution quickly but need to restart their work. Because experts can recognise the deep structure of the problem, they can then solve the problem by working forward, whereas novices are likely to solve problems backward (Sternberg et al., 2000). Mahmud (2006) argues that expert and successful managers tend to display higher levels of tacit knowledge compared to novices, since experts generally have more experience than novices.

Traditionally, experts were directed to work with novices, but this can sometimes create problems when there are huge gaps in knowledge. For instance, experts may lack the patience to guide a novice and from the novices' viewpoint, someone more proximate in experience may be a teacher rather than an expert (Swap et al., 2001). Thus, informal learning and preparation helps to bridge the gap.

Firstly, the novice prepares for learning, but because of a lack of the fundamental necessary knowledge and experience, the novice has no hook or receptor truly to assimilate the mentor's instructions. This is because this pre-existing knowledge powerfully influences how we encode and store new memories. Secondly, according to the theory of active learning, when people actively participate in learning new material they are much more likely to remember it. The details of the interaction of experts and novices can be seen below.

Preparing for Learning

Metacognition (self-awareness or thinking about one's own mental processes) and self-monitoring refer to how people monitor their understanding of a problem, recognise what additional information they need for more complete understanding and seek out that information. Experts typically self-monitor their understanding in this way and they can teach by asking questions to elicit the protégé's degree of comprehension and then reflect the answers back in ways that encourage deeper exploration of the issues. Protégés have to learn about the organisational strategy through self-reflection on the answer given to the mentor. The important point for mentors and managers is that feedback that focuses the learner on the task is particularly helpful in learning, as is feedback that focuses attention on the self.

Learning by Observing

When novices are immersed in an organisation or culture they value and being mentored by an experts they admire, a great deal of learning can occur through observing expert behaviour. Basically, mentors have capabilities to effectively build a team, establish priorities and budgets and manage disputes (Swap et al., 2001). The way experts model behaviour for protégés clearly reflects Nonaka and Takeuchi's (1995) concept of socialization, in which learning takes place informally and unconsciously.

The Components of Tacit Knowledge

Wagner and Sternberg (1987) developed tacit knowledge measures particularly for job domains such as management positions and made studies of managerial performance. Sternberg (1985a, 1985b) argued that tacit knowledge was never explicitly taught, and was a basic approach for practical intelligence and successful performance in real-world tasks. Sternberg and Wagner (1988) explained that tacit knowledge has three components; procedural, practical and individual to gain tacit knowledge alone with little help from others. As the nature of tacit knowledge originated from the aspect of practical intelligence, it is behaviour that, according to Wagner (1985), is acquired through experience rather than general cognitive ability. However, Schmidt and Hunter (1993) claimed that tacit knowledge is not part of intelligence at all, but it only represents job knowledge.

Nevertheless, if tacit knowledge measures could predict successful managers, then it is worth for investigating them; particularly if it could reduce time, cost, effort, as it is important to reduce trial-and-error in the job process. Sternberg and Wagner (1993) and Calfee (1993) considered that general ability was not a good indicator of intelligence and job performance during employee selection. Moreover, they argued that in real-world concerns, the acquisition and use of tacit knowledge appeared to play a unique and important role in competent performance (Sternberg et al., 1995). Their research found that tacit knowledge was related to various measures of managerial success such as level of position, compensation and age-controlled compensation with control variables such as background and education.

4.6 Tacit Knowledge Inventory for Managers

The construct of tacit knowledge has been investigated in a variety of studies, such as and Armstrong and Mahmud (2008), Cianciolo et al. (2006), Colonia-Willner (1998), Hedlund et al. (2003), Legree et al. (2003), Tan and Libby (1997), Wagner (1985), Wagner and Sternberg (1985), Wagner and Sternberg (1990) and Wagner et al. (1999).

Kerr (1995) found positive evidence for the psychometric qualities of Wagner's (1985) Business Management Tacit Knowledge measures. Kerr (1995) suggested that continued research into tacit knowledge and management potential and performance was needed to assess the suitability of the tacit knowledge measures as an initial screening tool, or for inclusion in a selection battery to enhance prediction among first level supervisors.

Wagner and Sternberg (1987) began developing TKIM by asking experienced managers to describe typical work related situations and possible responses to them. They began by asking highly successful managers and executives what they thought accounted for their success. Based on the descriptions and model of managerial tacit knowledge, they set out scenarios describing typical work related situations. Each scenario has a set of response items that present alternative courses of action.

By adopting the knowledge-based approach using cognitive psychologists to differentiate between experts and novices, the items were developed from a modified critical incident job analysis. Wagner's questionnaire consists of 9 business situations and approximately 10 strategies for dealing with each situation. There is a total of 91 items in the questionnaire (Wagner 1985, 1987). Using a 7-point scale, from one (1) "extremely bad" to seven (7) "extremely good", subjects are instructed to rate the effectiveness or importance of each strategy on two orientations of competence. First, they rate how effective or important a specific strategy would be given the realities of the actual business world as they understand it. These ratings are referred to as the actual ratings. Secondly, subjects rate the same items according to how important or effective they should be in an ideal business setting.

Each situation is concerned with one of three content areas. Tacit knowledge about managing self refers to the ability to organise and motivate oneself in work situations

and contains 30 items. Tacit knowledge about managing tasks refers to completing tasks successfully and contains 30 items. Tacit knowledge about managing others refers to managing subordinates and working with peers and contains 31 items. Each content area is represented in three of the nine situations. Consequently, content and context are a cross between contexts (local or global) and content areas (managing self, task and others).

Wagner used a prototype method of scoring by quantifying tacit knowledge and comparing subjects' item ratings to the mean item ratings of a group of business experts who were employed by companies, had titles higher in status and responsibility than Vice President, at least three years of experience in their present positions and annual salaries of at least \$100, 000. Deviations between subjects and the expert group were squared and then the appropriate items are summated to generate scale scores for each of the following scales: actual, ideal, local, global, managing self, managing tasks, managing others. A lower score represents a higher level of tacit knowledge as it indicates less deviation from the expert group.

This questionnaire and the scoring strategy provided by Wagner (1985, 1987) gave a result in the expected direction of the relation between tacit knowledge scores and experience when groups of business professionals, business graduate students and undergraduate students were compared. Further, tacit knowledge scores were unrelated to a measure of verbal ability within the undergraduate sample, implying that measurement is not the only indicator of cognitive ability as defined by traditional models of intelligence. Wagner developed a scoring key based on the mean items ratings of a group of business experts, which he suggests can be applied in all business management settings regardless of context. Wagner (1985, 1987) suggests that the measurement assesses a core of tacit knowledge that might be broadly applicable across managerial situations and that tacit knowledge that is specific to a given organisations, industry or department may require separate evaluations.

It is important to note that these deviations in scores are not being used to measure a change in tacit knowledge or to indicate the differences between the quantity of tacit knowledge present and the quantity needed or desired. The deviation is being calculated between subject ratings and the mean ratings of the expert group. Respondents are asked

to rate how effective or important they perceive each strategy to be. The expert ratings represent a true score and are used as a key to score the subjects' rating. Using difference scores provides an indication of the degree of similarity or accuracy of the subjects' ratings.

However, the use of squared deviation for scoring may increase deviation of tacit knowledge scores and bring confusing information regarding the relative standing of individuals. Cronbach and Gleser (1953) proposed the absolute difference score as an appropriate measure for studying degree of similarity, avoiding the problem of larger differences becoming exaggerated through squaring. The use of an absolute difference score is consistent with the theory underlying this model. The model proposed that the more similar subjects' ratings are to experts' ratings, the more likely it is that subjects will be successful managers (Kerr, 1995).

4.7 Arguments of Managerial Tacit Knowledge Studies

As with other studies in the managerial field, tacit knowledge research has been criticised for irrelevance in some issues, particularly as Sternberg argued that tacit knowledge is not a proxy for general intelligence. In many studies, Sternberg et al. (2000) found that general intelligence tests consisted of intellectual quotient (IQ) and similar tests measuring problem skills that differed from everyday practical problem-solving skills, that indicate practical intelligence measurement.

In specific debates, Gottfredson (2003) precisely comments on a study of practical intelligence by emphasising various issues. She argues that Sternberg et al. (2000) have made uncertain claims that tacit knowledge reflects a general factor of intelligence (g) that equals or exceeds g in its generality and everyday utility. For her, g is a highly general mental ability with strong genetic roots that distinguishes us in socially important ways. However, Sternberg claims that practical intelligence is more specific and useful, as this theory holds that people succeed mainly at simple tasks they have practiced extensively and the small number of usually small samples of brighter than average workers whose differences in knowledge of their mostly high level jobs help predict how well they perform their jobs and progress in them.

Gottfredson further argues that even *g* only provides a partial explanation of intelligence behaviour and its role in everyday affairs is not yet poorly understood. However there is a solid and long evidentiary base upon which researchers are building. Simply positing a new and independent intelligence to explain much of what remains unexplained (and much of what has already been explained) while simultaneously ignoring the ever-growing evidentiary base, does not promise to advance knowledge. She argues that the concept of tacit knowledge is part of the experience and knowledge that lends itself to the development of what might be called wisdom, which is a gradual understanding of the probabilities and possibilities of human behaviour (and in individual persons) that people generally develop only by experiencing and observing them first-hand over the course of their lives. This is not a new form of intelligence but perhaps only the motivated and sensitive application of whatever level of *g* we individually possess.

However, a recent study by Cianciolo et al. (2006) confirms that practical intelligence and general intelligence are not the same construct, although some overlapping was found. Some critics like Schmidt and Hunter (1993) have indeed suggested that tacit knowledge tests measure job knowledge rather than an underlying ability to acquire knowledge.

Gottfredson (2003) disputes Sternberg et al's view that general intelligence, *g*, is always seen as 'book smarts' and provides little or no advantage in the real world (p.1). According to Gottfredson (2003), among multiple intelligence theories, only Sternberg's Triarchic Theory of Intelligence is the most explicit in positing separate academic and practical intelligence. Brody (2003) also argues that there has been so little research carried out by mainstream intelligence researchers, that it is insufficient to criticise certain aspects of the work on practical intelligence.

Gottfredson (2003) also argues that Sternberg et al. (2000) provide no single, clear and full explication of the theory and research on practical intelligence to which readers can turn and that Sternberg's studies were more of a collage of related theorising than a carefully developed model of practical intelligence. Sternberg et al. (2000) fail to support their statement that practical intelligence is not only distinct from academic intelligence (*g*) but also equals or exceeds *g* in its ability to predict everyday success.

Indeed, Sternberg can support two major theoretical propositions only by ignoring most relevant evidence on *g* and making implausible claims about practical intelligence.

Schmidt and Hunter (1993) further argued that TK is job knowledge that predicts performance and increases with experience. However, the concept of tacit knowledge is a combination of task knowledge applied to social interaction and managing oneself because tacit knowledge is also related with knowledge acquisition (Edwards & Schleicher, 2004).

However, Sternberg (1997) explained that TK reflects practical intelligence and results from information components, is context rich and personally relevant to practical problems. Thus, acquired tacit knowledge reflects practical rather than abstract thinking skills that may be unrelated with *g*.

In order to practise tacit knowledge, the mechanism that is believed to increase performance is tacit knowledge sharing (Bennet & Bennet, 2008). Von Krogh et al., (2000) suggests that the best way to share tacit knowledge is through team projects, as these involve participants in sharing the meaning and understanding of events. This enables them to verbalise unconscious knowledge, especially through mentoring programmes (Bennet & Bennet, 2008).

4.8 The Impact of Managerial Tacit Knowledge

Biersdorff and Radkle (1991) found that intelligence was essential for many jobs and emphasized the importance of job-relatedness testing. If intelligence is inappropriate within the legal framework surrounding employee selection, then it affects the identification of potential managers. Nevertheless, tacit knowledge defined as aspects of practical intelligence (Wagner, 1985) was contextual and job-related. Therefore, measures of this type of knowledge are important to identify managers in the future.

Sternberg et al. (1995) proposed that the practical approach to employee selection was to combine the tacit knowledge measures with existing measures, which could produce significant variations in the cost of recruitment and training. If tacit knowledge measures were used as an initial screening tool, a significant cost saving could be made

by the elimination of further testing of those individuals who do not meet the minimum criteria.

Successful managing in real-life situations such as leading a group meeting necessarily involves skilful management of oneself, one's tasks, and others all at the same time. In addition, successful managing requires ideas that are high in both ideal quality and practicality (Wagner & Sternberg, 1987).

To prove this, such measures are part of the initial screening tools utilised to select successful managers. First, it must be proved that managerial knowledge is related with tacit knowledge. If Sternberg et al.'s (1995) claims about the properties of tacit knowledge were correct, then tacit knowledge is not related to the duration of the experience of managers, but related with the level of management of managers and their level of education.

4.9 Summary

Some previous studies have been critical of Sternberg and colleague's work on managerial tacit knowledge on the grounds that their perspectives are contradictory and inconsistent. However, Sternberg has been conducting studies in managerial tacit knowledge since 1985 to the present in various fields and across cultures, indicating the validity and reliability of managerial tacit knowledge instruments. These comments may have some advantage for future research, in which should consider different professions for the examination of tacit knowledge.

The next chapter will explain the paradigms, methods and techniques underlying the research process and data collection of this research.

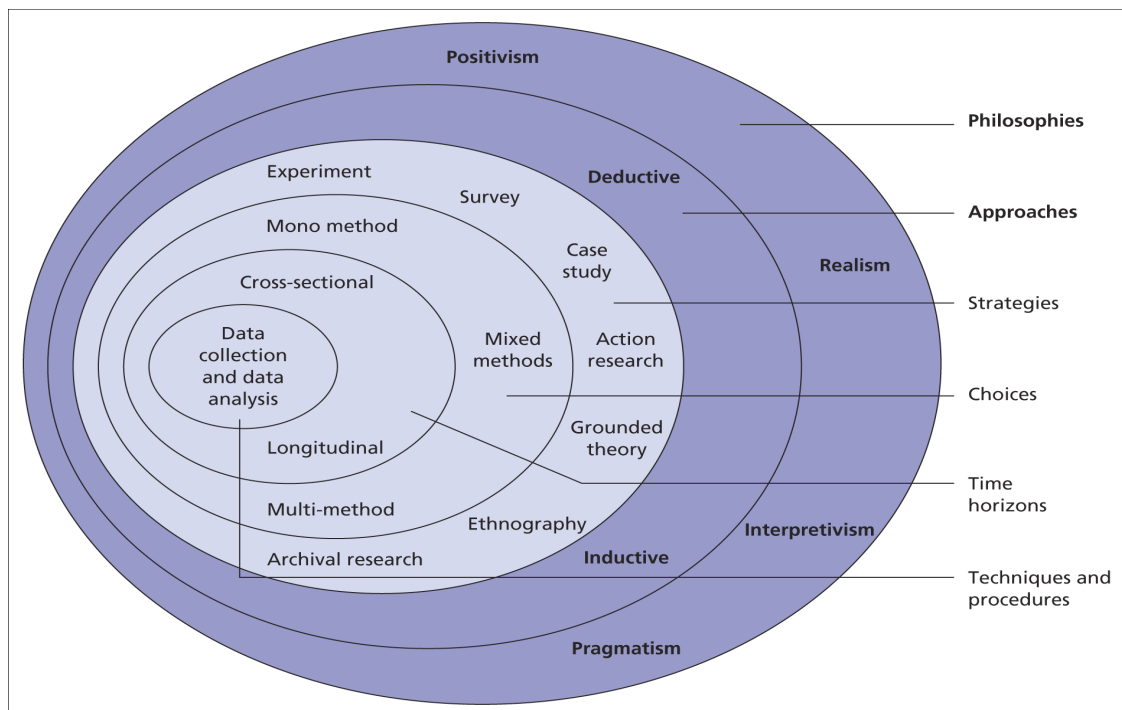
Chapter 5

Research Design

5.1 Introduction

In the previous chapters, literature was explored on knowledge sharing, managerial tacit knowledge and personality traits which led to specification of the theoretical framework of the research. Thus, in this chapter the chosen research design and justification for the technical decisions involved in planning the research project will be presented. The chapter consists of first, an outline of the research philosophy adopted in this study; second, the decision as to the research approach of this study, highlighting the differences between inductive and deductive approaches; third, decisions regarding the research strategy and data collection method, such as the development of the instrument, questionnaires, population and sampling techniques; fourth the time horizon and lastly; the analysis technique that is used. This research is primarily descriptive and explanatory (establishing a causal relationship between variables). This chapter is structured according to the suggestion of ‘the research process onion’ of Saunders et al. (2009), shown in Figure 5.1 below.

Figure 5. 1: Research Onion



Source: Saunders et al. (2009: 138)

5.2 Research Philosophy

Theories in social sciences are derived from selected philosophical paradigms. It is therefore important that a social scientist is aware of the different philosophical assumptions, as well as the process of research (Burrell & Morgan, 1979; Saunders et al., 2009). Assessing research philosophies can help to explain research design, which may facilitate identifying, choosing and even creating designs that may be outside the researcher's experience but are appropriate (Easterby-Smith et al., 2002). Researchers have different assumptions based on their views about the nature of reality applied to a phenomenon (ontology). The assumptions determine the ways in which a researcher acquires knowledge from phenomena (epistemology). Therefore, this discussion covers the concepts of epistemology, ontology and methodology in order to understand the nature of the research and decide on the appropriate research paradigm and research design.

In the social and behavioural sciences, researchers' philosophical stances for many years have represented one of two paradigms: positivism, which is quantitatively oriented and interpretivism, which is qualitatively oriented (Bryman, 1984; Guba & Lincoln, 1982; Tashakkori & Teddlie, 1998). Essentially, quantitative research uses numbers and (usually) a large sample to test theories and qualitative researchers use words and meaning with smaller samples to build theories (Easterby Smith et al., 2002). Quantitative study designs are specific, well-structured, have been tested for their reliability and validity, explicitly defined and recognised, while qualitative research either does not have these attributes or has them to a lesser degree (Kumar, 2011).

Paradigm is a belief system that guides researchers (Guba & Lincoln, 1994). Essentially, a paradigm reflects a researcher's understanding of the nature of existence that is beyond 'logical' debate because each paradigm is rational within its own constructed logic (Lincoln & Guba, 1985). There is no objective reason for choosing a paradigm. What is important is that it is consistent with the researcher's own presumptions, which cannot be tested on any empirical or logical grounds. Thus assumptions behind the paradigms should be discussed first to determine the extent to which they fit the perceived values and needs of the research project.

Positivism

Positivism aims to determine cause and effect and outcomes, and then test the research problem by the identification of hypotheses (Creswell, 2003). In positivism, research hypotheses are generally derived from established theories and subsequent findings extend the general body of knowledge. In the process of inquiry, researchers might capture inconsistency between the existing theories and their own hypotheses and thus challenge previously accepted ideas to resolve disagreements. Factors that have never been adequately addressed in previous studies can be further pursued (Kim, 2003). Typically, positivist research works in an observable social reality that can produce generalisability, such as that produced by physical and natural scientists. Positivism emphasises quantifiable observations that lead to statistical analysis. This paradigm is widely used for business research (Orlikowski & Baroudi, 1991) and assumes explicitly or implicitly that reality can be measured by viewing it through a value-free mirror.

As shown in Table 5.1, the key ideas of positivism are that the social world exists externally and that its properties should be measured through objective methods, rather than being inferred subjectively through sensation, reflection or intuition. The assumption of positivism, according to Smith (1983), is that knowledge and truth are questions of correspondence in that they relate to an external reality. This theory of truth requires that the source of truth is reality; therefore, a statement is proved to be true if it agrees with an independently existing reality and is false if it does not. For example, if two or more statements conflict with one another, then the researcher must make a decision to accept one and reject the other(s), or even to reject both in favour of another alternative. Positivism further argues that empirical methods for the process of verification should be employed because these methods are objective and do not influence what is being investigated.

In the positivist paradigm, appropriate applications of empirical methods are essential to produce knowledge (Babbie, 1993). Empirical methods specify how the rational structure of a scientific investigation is formulated and tested. For example, researchers generally begin by noticing a new pattern or inconsistency with established theories and posing the preliminary findings as a problem to be investigated. After further exploration, investigators propose a hypothesis in which they deduce predictions.

There are views that positivism provides the best way of investigating human and social behaviour; this view originated as a reaction to metaphysical selection (Easterby-Smith et al., 2002). However, the replication of positivist research does not usually produce the same results as the prior research, as one would expect from the value-free methods of positivist research on an easily apprehensible reality (Sobh & Perry, 2006). This situation allows the use of multiple methods since there are no restrictions in this paradigm for multi-methods to produce strong results and explain the reasons for the findings. As argued by Smith and Heshusius (1986), as researchers of a realist orientation are not prohibited from using a certain practice normally associated with qualitative inquiry or vice versa, these two approaches can be mixed to reinforce validity and reliability.

Interpretivism

Interpretivism is also known as social constructivism (Easterby-Smith et al., 2002), phenomenology (Remenyi et al., 1998), or the qualitative paradigm (Collis & Hussey, 2009). Interpretivists attempt to understand the world that they live in through various subjective meanings developed from their experiences, which requires a researcher to look at complex views rather than test hypotheses (Creswell, 2003). Unlike positivism, interpretivism focuses on the primacy of subjective consciousness; this approach is not reductionist but more of a holistic view, as stated in Table 5.1. At the end of the research, the phenomenological researcher has produced a snapshot of the variables being studied. Although this snapshot is more sophisticated than the variables obtained by positivists, it achieves approximately the same results (Remenyi et al., 1998). Key features of the positivist and phenomenological paradigms are shown in Table 5.1 below;

Table 5. 1: The Main Research Paradigms

Characteristics	Positivist Paradigm	Interpretivist Paradigm
Basic beliefs	<ul style="list-style-type: none"> • World is external and objective • Observer is independent • Science is value free 	<ul style="list-style-type: none"> • World is socially constructed and subjective • Observer is part of what is observed • Science is driven by human interest
Researcher should	<ul style="list-style-type: none"> • Focus on facts • Look for causality and fundamental laws • Reduce phenomena to simplest elements • Formulate and test hypotheses from evidence 	<ul style="list-style-type: none"> • Focus on meanings • Try to understand what is happening • Look at totality of each situation • Develop ideas through induction
Preferred methods	<ul style="list-style-type: none"> • Operationalised concepts so they can be measured • Take large samples • Use multiple methods to establish • Different views of phenomena 	<ul style="list-style-type: none"> • Small samples investigated in depth or over time

Source: Remenyi et al. (1998:104)

Saunders et al. (2009) also explained research paradigms in terms of realism and pragmatism.

Realism

Realism holds essentially that what the senses show us as reality is the truth. Reality is quite independent of the mind. Realism is a group of epistemologies similar to positivism, but taking a more scientific approach to the development of knowledge. The differences between positivism and realism can be seen in terms of generalisation. Positivist knowledge is statistically generalised to a population by statistical analysis or observation about an easily accessible reality. In contrast, the realist paradigm generalises to theoretical propositions and not to populations (Sobh & Perry, 2006).

There are two types of realism, known as direct realism and critical realism (Saunders et al., 2009). Direct realism is linked to the researchers' experience through their senses that are held to portray the world accurately. Critical realism argues that the researcher's experience is sensation, the images of things in the real world, but not the things *per se*. It is linked with an illusion, which means that what we really see is sensation and

represents the real world. The difference between direct and critical realism lies in the process of undertaking research. Critical realism deals with the thing itself and the sensations it conveys. A further difference lies in the mental processing that occurs after sensations meet our senses. In the direct method, the process of undertaking research stops at the thing itself and the sensations it conveys, without going further with mental processing.

Pragmatism

Pragmatism is the philosophy that explains the use of a philosophical or methodological approach for a particular research problem undertaken in a study (Tashakkori & Teddlie, 1998). Pragmatism is adopted when researchers have to position their research between positivism and interpretivism; for example in a mixed-method study, both qualitative and quantitative methods may be highly appropriate (Saunders et al., 2009).

In other words, pragmatism is the choice of approach directly governed by the purpose of the research and the nature of the research questions (Creswell, 2003). If the research question does not suggest unambiguously that either a positivist or interpretivist philosophy should be adopted, this confirms the pragmatist's view it is perfectly possible to work with either variation in epistemology, ontology and axiology. It is clear that a pragmatist paradigm is chosen when a mixed-method research approach is employed as the best approach to answering important research questions (Johnson & Onwuegbuzie, 2004). Pragmatism is intuitively appealing, largely because it avoids researchers engaging in what they see as rather pointless debates about such concepts as truth and reality.

This research has presented four research paradigms widely-used in business and management studies. In doing so, it has found that each approach has its own unique advantage that disseminates valuable knowledge and expands literature.

Research Philosophy in Management Research

It is the researcher's belief that it is important to understand the methodological choices affecting the cumulative body of knowledge in management research, as the field of management is about understanding human behaviour in organisational and organisational understanding itself (Armstrong & Fukami, 2009). Therefore in this

study the example of previous assumptions and the suggestions of research methods in management studies will be discussed.

Many knowledge management studies follow a positivistic research philosophy which is characterised by a reductionistic analysis of knowledge management (Cruywagen, et al., 2008). This is done to see the effect of variables statistically, to minimise complex forms of interaction and avoid non-linear relationships. In fact, there are numerous studies on the sharing of tacit knowledge, including in the public sector, that employ a quantitative method, such as Matthew and Sternberg (2009), Rowe and Christie (2008), Armstrong and Mahmud (2008), Cianciolo et al. (2006), and Wagner (1987).

Organisational learning (OL) research also generally takes positivism as a dominant paradigm. For instance, Kim (2003) examined and assessed three widely-used research paradigms in OL research, namely, positivism, interpretivism and critical sciences. His study found that OL would greatly benefit from adopting positivism as the principal research approach. His article argues that positivism is best able to demonstrate the validity of findings and the generalisability of results. The process of positivist studies involves testing hypotheses and being able to replicate the subsequent findings and will be less likely to contain errors introduced by investigator subjectivity. Importantly, reliability is a prerequisite for construct validation, but does not by itself prove validity. In the positivist tradition, what is deemed to be valid is considered public knowledge because others can replicate the findings by employing the same instruments and methods while reducing the potential consequences stemming from researchers' personal values and biases (Smith, 1983). The knowledge produced through these procedures can and should be replicated by anyone who uses the same methods.

However, a narrative review by Wang and Noe (2010) of 76 articles on knowledge sharing in between 1999 to 2008 indicates that one third of the studies employed a qualitative method that focused on specific issues and a small number used a combination of qualitative and quantitative methods. Thus, it was suggested that future research was needed to measure knowledge sharing both subjectively and objectively. Therefore, to extend knowledge in management research, the value of work that uses interpretive approaches should be recognised. The research must also be designed to

obtain findings that can be generalised and applied beyond the situation in which the study in initially carried out.

Scandura and Williams (2000) examined patterns in current practices in organisational studies between the 1980s and the 1990s based on articles published in the *Academy of Management Journal*, *Administrative Science Quarterly* and the *Journal of Management*, all top-ranking journals on management topics. The study found that researchers published in these journals were increasingly employing a triangulation approach in research strategies and methodologies. This is because the phenomenon of ‘knowing more’ in an empirical study is often discussed in terms of the triangulation approach (Moran-Ellis, et al., 2006). Thus, this study indicates that one of the criteria for publishable research can be a research design that includes a triangulation approach.

5.2.1 Research Paradigm and Methodology Chosen

The research paradigm and methodology of this study is based on the research ‘onion’ introduced by Saunders et al. (2009), as shown in Figure 5.1. By considering the philosophies as discussed above and current patterns of research methodology in management research, the organisation of the research design in this study followed the positivist paradigm illustrated in Table 5.1.

Further, there are differences between methodology and methods. Methodology concerns philosophical issues and is linked with the epistemology, whereas methods or techniques are related to the ways of gathering data, including technicalities of data collection and actual tools used to conduct research (Bryman, 1984).

Research methodology refers to the procedural framework within which the research is conducted. This procedural framework describes an approach to a problem that can be put into practice in a research programme or process which is formally defined as an operational framework within which the facts are placed so that the meanings are seen more clearly.

In the context of doing research, it must be acknowledged that there is no single correct method of knowledge discovery, but many appropriate methods (Hirschheim, 1992; Smith & Heshusius, 1986). Therefore, this present study does not argue that either the

tools of positivism or interpretivism are *correct* for research within organisations, but that is important to find the appropriate methods to achieve the aims of study. However the choices of methods must be consistent with the philosophical approach and the theoretical framework of the study.

After considering all the advantages and ‘valid’ methods, this study employed a combination of methods to obtain corroboration of evidence (McGrath et al., 1982). Therefore, the philosophy underlying this research falls between two philosophical paradigms, positivism and interpretivism, but with positivism rather than interpretivism as the dominant paradigm, as suggested by Kim (2003) and Scandura and Williams (2000). These studies suggested that management studies would best be served by placing more emphasis on positivism; however they also maintained that positivism should not be used as the sole management research framework. Researchers should be mindful of the benefit that can flow from the combination and application of other paradigms as a means of increasing the depth of the research.

Therefore, the weighted paradigm is more positivist rather than interpretivist. This approach is relevant in research of knowledge-based management through taking a quantitative approach supplemented by qualitative research methods to verify the results from one method with the other method. All the research questions can be answered by the positivism paradigm, but to gain more explanation of the reasons for the quantitative findings, qualitative analysis has also been conducted. A clear picture of the assumptions of the various paradigms can be seen in Table 5.2. Table 5.2 illustrates the understanding of the ontological, epistemological, axiological and rhetorical assumptions in the main paradigms.

Table 5. 2: Assumptions of the Main Paradigms

Assumption	Question	Positivism	Interpretivism
Ontological	What is the nature of reality?	Reality is objective and singular, separate from the researcher	Reality is subjective and multiple as seen by the participants
Epistemological	What is the relationship of the researcher to that researched?	Researcher is independent from that being researched	Researcher interacts with that being researched
Axiological	What is the role of values?	Research is value-free and unbiased	Researcher acknowledges that research is value-laden and biases are present
Rhetorical	What is the language of research?	1. Formal 2. Set definitions 3. Passive voice 4. Accepted quantitative words	1. Researcher writes in an informal styles 2. Uses the personal voice 3. Accepted qualitative terms and limited definitions
Methodological	What is the process of the research?	1. Deductive process cause and effect 2. Static design-categories isolated before study 3. Context-free 4. Generalisation leading to prediction, explanation and understanding 5. Accurate and reliable through validity and reliability	1. Process is inductive 2. Study of mutual simultaneous 3. Shaping of factors with an emerging design (categories are identified during the process) 4. Research is context bound 5. Patterns and/or theories are developed for understanding 6. Findings are accurate and reliable through verification

Source: Collis and Hussey (2009, adapted from Creswell, 1994)

5.2.1.1 Ontology

Before the researcher undertakes the research strategy, it is important to consider the overall research design carefully. This means that this study carefully considers the research community to which it belongs by learning about ontological, epistemological and axiological assumptions of doing research.

Ontology concerns the object of investigation, and whether it comes from the consciousness or independently (Remenyi et al., 1998). In other words, ontology illustrates what the research is about in a fundamental way. With reference to its ontological standpoint, this study adopts the positivist paradigm. Positivist research takes the view that ‘reality’ is external and objective to individuals (Burrell & Morgan, 1979; Sobh & Perry, 2006) and that it can be measured by research instruments, for example, questionnaires (Collis & Hussey, 2009). Thus, the ontological philosophy of positivism holds that there is a single reality (Clark & Creswell, 2008).

This study contradicts the interpretivist view of social reality. Interpretivists claim that reality is subjective, and that people have their own sense of reality; therefore there are multiple interpretations of reality (Collis & Hussey, 2009).

5.2.1.2 Epistemology

Epistemology is related to the place of knowledge in the world. In the context of research, the epistemological perspective describes the relationship of the knower to the known (Clark & Creswell, 2008), or, as Collis and Hussey (2009) put it, the relationship between researcher and that which is researched. Epistemology concerns what constitutes acceptable knowledge in a field of study (Saunders et al., 2009). Philosophers have classified knowledge as being derived from two sources, observation and thinking. In the empiricist epistemology, knowledge is acquired through 'observation' while the rationalist accepts true knowledge from 'thinking' (Johnson & Duberley, 2000).

Empiricists believe knowledge is gathered from observation and categorisation combined with experience and data analysis using scientific methods. This means that they consider the power of observation rather than the power of reason. Rationalists describe knowledge as being accessed, justified and understood exclusively by a process of reason. Baldacchino (2002) highlighted the importance of understanding epistemology linked with researchable topics, detecting research subjects and their roles in research, identifying appropriate methods and goals of the research and providing the way in which results are accepted.

In this research, the researcher's view of what is important determines the objects that are considered 'real'. These objects have a separate existence to the researcher and for that reason, the researcher claims that bias is minimised in the collected data and they are therefore more objective (Collis & Hussey, 2009). The researcher would place less authority on the collected data and external reality, as a positivist believes that the knower and the known are independent (Clark & Creswell, 2008).

The interpretivist judgement is that social phenomena have no external reality, but involve feelings and attitudes towards the object of the research (Saunders et al., 2009). Consequently, such a researcher might place more authority in data that cannot be

measured and modified. For positivists, data are presented in tables of statistical data rather than in the narrative style that is adopted by interpretivists.

5.2.1.3 Axiology

Axiology refers to the role of values in research choices (Saunders et al., 2009; Clark & Creswell, 2008). It is believed that a researcher's own values have an impact on research activities. Positivists claim that the process of research is free from the values of the researcher and the object of study will be unaffected by research activities (Collis & Hussey, 2009; Clark & Creswell, 2008).

However, interpretivist researchers believe that a research approach is the reflection of one's own values and the researcher is involved with what is being researched (Collis & Hussey, 2009). Disregarding one's own values may help in deciding what is appropriate ethically and in arguing one's position in the event of queries about decisions that have been taken (Saunders et al., 2009).

5.3 Research Approach

There are two research approaches, known as the deductive approach (testing theory) and the inductive approach (building theory).

5.3.1 Deductive Research

The aim of this study is to test or verify a theory; hence a deductive approach was employed. One of the key characteristics in the positivist approach is that it takes a reductionist approach to exploring the relationship among the variables being studied. As argued by Burrell and Morgan (1979) and Gill and Johnson (1991), the deductive approach to research has become synonymous with positivism.

Through data collection and analysis it is presumed that the researcher is enabled to test and build on existing theory (Creswell, 2003). There are several advantages to using the deductive approach. Firstly, it explains the causal relationship between variables. Consequently, the researcher can develop hypotheses and controls to allow the testing of hypotheses.

The researcher may use a highly structured methodology to facilitate replication, as an important issue to ensure reliability. Deductive analysis is operationalised in a way that enables facts to be measured quantitatively. However, qualitative data is also used in this study through the interviews with the case organisation to gain a better and deeper understanding about the context of research. The results of this study may be generalised to understand the nature of sharing managerial tacit knowledge in Malaysian local government, in line with Saunders et al.'s (2009) assertion that the final characteristic of deductive research is generalisation.

5.3.2 Inductive Research

With an inductive approach, the result of the analysis will formulate theory (Saunders et al., 2009). Researchers in this tradition usually work with qualitative data and use a variety of methods to collect data in order to establish different views of phenomena (Easterby-Smith et al., 2008). The inductive approach begins with collecting data, and proceeds by analysing data by making sense of it and forming the theory. The theory developed moves from individual observation to general patterns (Collis & Hussey, 2003).

5.4 Research Strategies and Data Collection Methods

Research strategies must be consistent with the research philosophy and the research approach in the process of answering the research questions (Saunders et al., 2009). Various strategies have been proposed in the field of business and management, as shown in Table 5.3, including experiment, survey, archival analysis, history, and case study (Yin, 1994). Some of the strategies, such as survey and experiment, belong to the positivist paradigm, while archival analysis, history and case study belong to interpretivism. However, some research strategies, such as case study, can be used to some extent for both paradigms (Remenyi et al., 1998).

Table 5. 3: Different Research Strategies

Research strategy	Form of research question	Control over behavioural events?	Focuses on contemporary events?
Experiment	how, why	yes	yes
Survey	who, what, where, how many, how much	no	yes
Archival Analysis	who, what, where, how many, how much	no	yes / no
History	how, why	no	no
Case Study	how, why	no	yes

Source: Yin (1994:6)

Depending on the field of research, mixed or multi-method approaches such as using qualitative and quantitative techniques, can be used to some extent, either sequentially or concurrently (Stange, et al., 1994). This study begins with a positivist paradigm using quantitative methods. To gain a more complete understanding, qualitative data are needed to explain the findings from the quantitative phase regarding knowledge sharing, tacit knowledge, personality traits and individual performance in Malaysian local governments. Therefore, this study employed mixed methods, combining the quantitative and qualitative approaches by using triangulation techniques. The rationale of triangulation is to gain more confidence in the results when different methods or sources that lead to the same results are used (Sekaran & Bougie, 2010). Apart from this, research on complex social and psychological phenomena suggests that research may be more useful if a multi or mixed method approach is used (Brannen, 1992; Rossman & Wilson, 1994).

Specifically, a questionnaire was employed to test the hypotheses while interviews were conducted to find the answers to the questions ‘how’ and ‘why’ in the research hypotheses, in order to support the research findings. The questionnaire was administered and interviews were conducted at the same time. It is noted that interviewees were respondents to the questionnaire who were willing to participate further by being interviewed. This complementary technique, using quantitative and qualitative methods within the same overall research project to gain elaboration and understanding of phenomenon, need not violate assumptions (Morgan, 1998). In fact, the purpose of developing a follow-up qualitative study is to provide information that

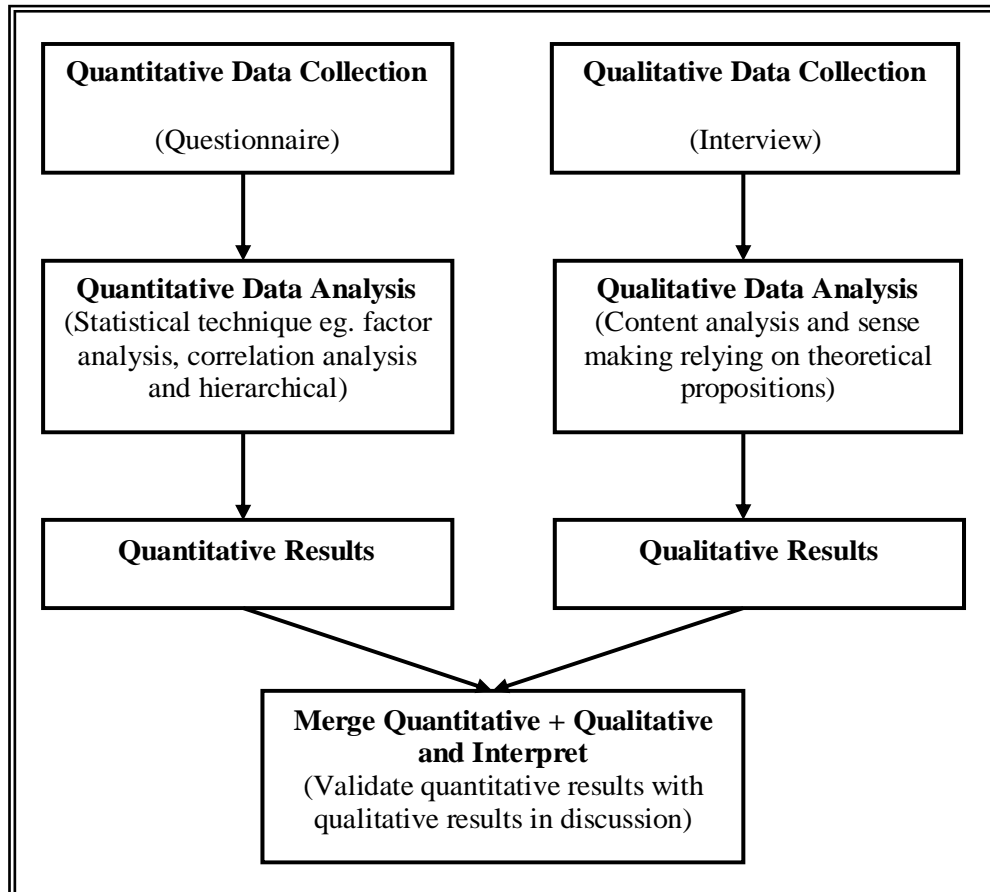
contributes to the meaning and interpretability of a quantitative study (Evans & Hardy, 2002).

Figure 5.2 shows the process of a triangulation mixed-method design in data collection and merging results. This figure demonstrates that the questionnaire was distributed to respondents, some of whom were later interviewed. These two datasets were interpreted and merged together in order to answer research hypotheses and support explanations.

Greene et al. (1989) list five purposes of mixed methods studies: a) triangulation or seeking convergence of results (b) complementary or examining overlapping and different facets of a phenomenon, (c) initiation or discovering paradoxes, contradictions, fresh perspectives, (e) expansion, or mixed methods adding breadth and scope to a project. Denzin (1978) described four different types of triangulation methods: data triangulation (the use of a variety of data sources in a study); investigator triangulation (the use of several different researchers); theory triangulation (the use of multiple perspectives to interpret the results of a study) and methodological triangulation (the use of multiple methods to study a research problem). In this study, a data triangulation approach was taken, using different data source to investigate a particular problem. While, Jick (1979) discussed triangulation in terms of the weaknesses of one method being offset by the strengths of another. In parallel/simultaneous (alongside/complementary) mixed method designs, the quantitative and qualitative data are collected at the same time and analysed in a complementary manner.

Creswell (1994) contends that quantitative results would necessarily relate to or be confirmed by qualitative results (and vice versa), which aligns with the design of this study, which sought to generate numerical and narrative data that answer similar questions. For instance, this was done by asking managers to complete a closed-ended survey concerning knowledge sharing practices, managerial tacit knowledge, and personality traits, while at the same time interviewing their directors about the same topics using an interview protocol in a semi-structured format. As the researcher analysed the numerical data and narrative administration data looked for agreement and explanation between the two data sources regarding the extent of the mechanism of sharing tacit knowledge and personality traits.

Figure 5. 2: The Triangulation Design of Data Collection and Merged Results



Source: Adapted from Clark and Creswell (2008:380)

5.4.1 Quantitative Study

The data collection method was to use self-administered questionnaires, which were distributed by mail and direct contact with respondents. This section discusses the process of developing the questionnaire and the administration process.

The advantage of self-administered questionnaires is to enable data collection from a large sample size with wide coverage at a relatively low cost. A self-administered postal questionnaire was chosen as the main method of data collection, as not all respondents like to use fax or the Internet. However, the disadvantage of this method is the researcher's lack of control; for example, the researcher does not know whether the intended person answered the questionnaire or someone else (Hair et al., 2010). For this reasons, the researcher contacted large organisations such as city halls and city councils that had more than 50 managers to arrange for the briefing session by the researcher. From 98 LGs, 35 (35%) were contacted by the researcher personally, but only 5 organisations arranged briefing sessions where the researcher would have the

opportunity to explain briefly about the questionnaire and simultaneously wait for respondents to answer. However, due to the respondents' work schedules, some of them were unable to return them to the researcher on the same day but posted them later.

5.4.1.1 Questionnaire Development

To ensure that the questionnaire development criteria were met, this study reviewed the aims, hypotheses and variables that were constructed. The variables were constructed based on previous studies and the measures in the questionnaires adapted from previous studies, enabling differences in findings (Punch, 2005; Saunders et al., 2007). The purpose of employing of established measurements from previous studies was to link with them and fill the research gap that was identified in the theoretical framework. The decision to adapt measurement items also took into consideration the reliability and validity of instruments in previous research (Creswell, 2003; Punch, 2005).

In addition, to avoid respondent bias arising from social desirability, it was recommended by Oppenheim (1992) not to apply open questions while measuring certain concepts being adopted in this study as independent variables. However, some of the measures in the demographic background and dependent variable sections were open questions.

Measurement of Demographic Variables

This section was developed to identify the respondents' characteristics. This demographic information was important in determining the respondents' background in terms of its relation with the study of managerial tacit knowledge. Previous studies demonstrated that managerial tacit knowledge is related to age, education, salary, job level, management experience, employees under supervision and experience of working in a number of different departments (Gottfredson, 2003).

Therefore, based on previous studies such as Sternberg et al. (2000), Wagner and Sternberg (1985), Wagner (1987) and Wagner et al. (1999) showing correlations between some demographic variables and managerial tacit knowledge, this study included the demographic factors that had been shown to be linked with managerial tacit knowledge. This was critical to verify that the respondents acquired managerial

tacit knowledge in the workplace by identifying participants' backgrounds, such as the following;

- Gender
- Age
- Current department name
- Scheme of service
- Job grade
- Level of education
- Period in current position – to determine novice, typical and experts
- Working experience (total)
- Number of respondents under supervision
- Year of service excellence award – to differentiate between experts and others

Measurement of Independent Variables

Knowledge Sharing Practices

The variables related to KSP are a combination of the variables of mentoring programmes and knowledge sharing mechanisms as proposed by Hsu (2008).

Mentoring - Mentoring effectiveness was assessed using an instrument developed in previous studies of the influence of peer mentoring on knowledge sharing/creation (Bryant, 2005; Bryant & Terborg, 2008) with Cronbach's alpha reliability of 0.85. The peer mentoring knowledge and skills instrument consisted of a 14-item scale designed on the basis of previous research on mentoring conducted by Scandura (1992). A 5-point Likert scale was used for reporting agreement/disagreement for each item. This instrument measures respondents' knowledge of peer mentoring skills as well as their actual behaviour in terms of using skills.

Knowledge Sharing Mechanisms – These are defined as the methods, procedures, or processes of sharing, integrating and interpreting and applying know-what, know-how, and know-why in groups that directly influence task performance. Items are divided into four groups: individual codification; individual personalization; institutional codification and institutional personalization. A 5-point Likert scale was used for reporting agreement/disagreement for each item. The instrument was originally

developed by Boh (2007), who explored mechanisms for sharing knowledge in project-based organisations.

Managerial Tacit Knowledge

This study adopted the managerial tacit knowledge inventory, known as the Tacit Knowledge Inventory for Managers, developed by Wagner and Sternberg (1985). This inventory, reviewed and republished by Sternberg et al. (2000), with a Cronbach's alpha of 0.90, was administered to all respondents in order to determine their levels of managerial tacit knowledge. The items of the instrument are given in Appendix A and the scoring regime explained in section 6.4. Theoretically, expert managers are expected to respond differently from lower level managers due to the content and organisation of their tacit knowledge (Hedlund et al., 2003; Wagner et al., 1999). The majority of previous studies have focused on comparing the responses of different groups of people such as business managers to scenarios depicted in the TKIM against scores obtained from a successful group (e.g. business experts) within that particular field, referred to as the "expert-novice comparison".

According to Wagner and Sternberg (1985) the inventory was developed to measure sub-scales of tacit knowledge, known as managing self, managing tasks and managing others. It refers to tacit knowledge as being based on content of the situation. There are arguments that the content of managerial tacit knowledge is fairly minimal compared to the actual spectrum of managerial tacit knowledge available in the manager's repertoire, but it is sufficient for this research, to identify the sample of managerial tacit knowledge that consists of practical intelligence behaviour in professional and managerial skills and then link this with knowledge sharing practice and personality traits.

Scoring of tacit knowledge is calculated by comparing the rating of means of experts' and rating scores with those of novice and typical groups. There are other ways, such as those proposed by Wagner and Sternberg (1987), Williams (1991) and Kerr (1991) of expert identification of tacit knowledge related to seniority and highly successful and very experienced managers in the managerial context. This present study identified the group of experts in managerial aspects in the work content, which is the Malaysian Public Sector, as those who had received the Service Excellence Award (SEA) for management in the past three years (Mahmud, 2006). Managers are selected for this

award based on their annual appraisals, achievement and the recommendation of their superiors. Candidates are chosen through rigorous selection by human resource management units in organisations and must not exceed 8% of the employees in any local governments.

Identification of the Managerial Tacit Knowledge of Local Government Leaders

In order to identify the managerial tacit knowledge of local government leaders, the set criteria of leaders were decided based on suggestions in previous studies. The questionnaires were distributed to managers who had employees under their supervision and who had been selected to participate in this study. The managers represented these three groups: novice, typical and expert.

The Criteria in the Selection of Experts

Sternberg et al. (2000) argue that individuals who are more experienced and successful are likely to have acquired some important knowledge which is required for their job. Hence, individuals who are currently practising in the domain of interest are more appropriate sources for understanding tacit knowledge in that domain than are individuals who hold other positions (e.g. supervisor) or have previously held the position of interest. Accordingly, interviews were conducted by Sternberg et al. (2000) with academic psychologists who were deemed successful on the basis of their positions in the company, with sales persons who were successful on the basis of their tenure and affiliation (e.g., full professors at Yale university) with business managers who considered successful on their basis of position in the company, with salespeople who were successful in their sales performance, with successful college students selected on the basis of grades and school affiliation, and with successful military leaders identified through a nomination process. Experts can also be chosen either by nomination (by peers or superiors) or on the basis of existing performance criteria. However, Polanyi (1966) considers tacit knowledge in terms of the knowledge possessed by individuals and their knowing how to use that knowledge regardless of other working factors.

Horvath et al. (1999) understand that tacit knowledge among experts is personal knowledge grounded in experience. According to Polanyi (1966), Nonaka (1991), and Johnson (1989), tacit knowledge is context-specific. Berry (1987) and Rashman & Hartley (2002), refer to tacit knowledge as a practical action, while Sternberg (2000)

classifies it as practical intelligence. Experts require practical skills to form an opinion (Sternberg 2000). Neston-Baker & Hoy (2001) claim that experts have extensive experience of working in their current and previous positions. Swap et al. (2001) claim that expertise take at least 10 years to develop. Therefore, this study holds that expertise takes 10 years' working experience within the working context. Busch (2006) proposed an approach to identifying an expert group that involved asking personnel within an organisation to identify colleagues they felt were particularly proficient at what they did. The scores of the identified experts were averaged and used as a basis. The closer the response of an individual to the expert group's results, the greater the amount of tacit knowledge held by the individual.

Considering these criteria established by previous studies, the categorizations of experts is driven by three main characteristics: firstly, many studies such as Sternberg et al. (2000), Horvath et al. (1999), Gill (2000), and Polanyi (1966) assert that experts are those who have a considerable knowledge of that particular work, related to experience. Experience is usually learned during observation and practice, or from prior experiences (Epstein, 1999). In this study, experts are people that have been involved with managerial work over a long period of service in a particular sector; here, the public sector. However, individual experience is not the only factor determining the success of managers; job experience alone does not indicate ability as an expert. Wagner (1987) argued that whilst tacit knowledge increased with job experience, it was not a direct function of that period of experience, assuming that there are those with long years of service who do not show evidence of higher levels of tacit knowledge. Therefore this study considers that individual excellence in work performance is the indication of an expert.

In this present study, the expert group consists of those who had a high performance appraisal and had been awarded a service excellence award in a management position. Armstrong and Mahmud (2008) suggested that in the Malaysian public sector, experts can be polled from those who have been recently awarded a service excellence award. This indicates that managers have established knowledge, practical skills and good interaction in work and with others over a period of time. The service excellence award was implemented mainly as an appreciation of those who are really efficient and excellent in their work (Hussain & Brahim, 2006). Secondly, experts must be leaders or

in management positions because the role of leader has an implication on others such as employees under supervision, peers and employers. In this situation, a leader would use tacit knowledge to manage self, tasks and others. A summary of an expert's profile as applied in the present study is as see Table 5.4.

Table 5. 4: Characteristics Determining an Expert

Criteria	Sternberg et al. (2000), Sternberg and Grigorenko (2000)	Armstrong and Mahmud (2008)	The Present Study
1.	Status in or outside companies <ul style="list-style-type: none"> Individuals who are more successful likely have acquired some important knowledge relevant to success that individuals who are less successful have not. 	Working within the same work context <ul style="list-style-type: none"> Participants working within the Malaysian public sector. 	Status in organisation <ul style="list-style-type: none"> Head of department with job title such as Presidents, Secretary council, director.
2.	Numbers of years of management experience <ul style="list-style-type: none"> Individuals who are currently practising in the domain of interest are more appropriate sources for understanding the tacit knowledge of the domain than are individuals who hold other positions (e.g. supervisor) or previously held the position of interest 	Length of working experience <ul style="list-style-type: none"> Novice: 1 years Typical: 2-32 years Expert : 6-25 years 	Experience in management positions <ul style="list-style-type: none"> Novice: 1 years Typical: 2-31 years Expert : 10-31 years
3.	Performance ratings <ul style="list-style-type: none"> Once a relevant pool of practitioners is identified, experts can be chosen either by nomination (by peers or superiors) or on the basis of existing performance criteria (eg, performance evaluation, salary) 	Received service excellence award in the past 3 years based on <ul style="list-style-type: none"> Nominated by their superior as being an exemplary manager. Received a score of greater than 90% for each of the last 3 years on their annual appraisal Only 5 % of the population for awards of each awarding committee. This award can be awarded again to the same people provided the rigorous selection 	<ul style="list-style-type: none"> Excellent performance appraisals Received service excellence award in the past 3 years
4.	Number of years of formal schooling	-	-
5.	Salary	-	-
6.	Number of employees supervised	-	Have employees under supervision

Measurement of Moderating Variables

Personality Traits

The moderating variable was the participant's score on the three trait factors obtained from the agreeableness, conscientiousness and openness traits in the Big Five Inventory (BFI). For this study, 28 items out of the 44 items of the BFI by John et al. (2008) were used. This version was selected rather than the original version of John et al. (1991) due to the availability of this source in John's (2008) *Handbook of Personality*. The development of items in BFI was based on the Five Factor Model by Costa and McCrae (1992).

Each item was rated on a scale ranging from 1 (strongly disagree) to 5 (strongly agree). In previous research, these domain scales have shown high reliability, with an average Cronbach's alpha of 0.90, clear factor structure, strong convergence with Big Five measures, and substantial self-peer agreement (Benet-Martínez & John, 1998; John et al., 2008).

Although most studies have used the NEO PI-R to measure the Big Five (DeYoung, et al., 2007), the main reasons for the selection of this measure were that the BFI indicates the strong convergent validity with other measures of the five factor model as well as high reliabilities for its dimensions (John & Srivastava, 1999). In addition, this BFI is shorter but retains the psychometric properties of the other scale (Niehoff, 2006), and easy-to-understand phrases that assess personality traits central to each of the Big Five domains (Colin et al., 2007). This inventory also has been tested in different countries. For example Benet-Mertinez and John (1998) adopted the BFI by John et al., (1991) to explore the generalisability of the Big Five structure in Latin cultures. Over the years there has been growing interest in use of the BFI, including Clark (1992); Cialdini, et al. (1995); Gross and John (1995); John et al. (1991); Johnson and Wolfe (1995); Neuberg and Newsom (1993); Watson, et al. (1994) and Worrell & Cross, Jr. (2004).

In Malaysia, as far as the researcher is aware, studies on personality have used only the Five Factor Model (FFM) inventory (Mastor, et al., 2000), but the BFI personality inventory by John has not been tested. However, this study uses the BFI inventory as the researcher holds that it is able to represent public sector employees' personality structure. Traditionally, in the study of personality, different researchers have taken

different approaches to the task of defining different personality characteristics within the Big Five domains (Christopher et al., 2008). These approaches have included identifying previously-studied psychological constructs that fall within the Big Five domain (e.g., Costa & McCrae, 1992), and factor-analysing sets of trait adjectives, questionnaire items, or scales within each domain (DeYoung et al., 2007; Roberts et al., 2005; Saucier, 1994; Saucier & Ostendorf, 1999).

The development of BFI referred to the FFM. John and Srivastava (1999) indicated that the BFI was developed specifically as a brief and psychometrically sound measure of the FFM. Moreover, a substantial amount of evidence has been reported on the structural and criterion-related validity of the BFI (Benet-Martinez & John, 1998; John et al., 1991; John & Srivastava, 1999).

Measurement of Dependent Variables

Individual Performance

Methods of measuring individual performance are similar to those used in previous studies (Baba et al., 2009; Brewer and Seldon, 2000; Hailesilasie, 2009) where reliance is placed on the outcomes of a formal performance appraisal system operated within the organisation. The system of appraisal used for managers and professional officers in the Malaysian Public Sector is known as the Malaysian Remuneration System (MRS). This was first introduced in 2002 and was designed to encourage continuous learning by focusing on aspects of self-development, application of knowledge, skills, creativity, innovation and multi-skilling in the workplace. The system aims to develop knowledge workers and is linked to salary progression and promotion to higher positions based on merit. Full details can be found in section 3.15.

Outcomes of the MRS are scores for work productivity (50% weighting), knowledge and skills (25% weighting), personal qualities (20% weighting) and activities and contributions outside official duties (5% weighting). This leads to cumulative marks for overall performance given as percentages which are then used to form categories. Overall scores of 49.9% and below are considered poor, 50-59.9 % is considered unsatisfactory, 60-79.9 % is considered satisfactory, 80-89.9 % is considered good, and 90-100 % is considered excellent.

Scores were obtained for each participant in the study based on the outcomes of their appraisal system in the previous year. Theoretically the range of scores is from 0 to 100 with a resolution of 0.1%, which means there is a possibility of 1000 values for this dependent variable. In practice, because the respondents in the study were officers from management and professional groups, the range of marks was between 83 and 96 percent, representing both good and excellent categories (refer to Table 6.3).

5.4.1.2 The Multipoint Rating Scale in the Questionnaire

This present study employed the same rating scales for answers to the questionnaire as used in the original version. The original rating scales were retained since there was no feedback in the pilot test about any confusion or irritation in answering the questionnaire due to use of different rating scales. Thus, this present study developed a questionnaire for KSP and PT with a 5-point rating scale and for TKIM with a 7-point rating scale, which is a common practice, as shown by previous studies.

For example, the BFI by John et al. (2008) was used by Benet-Mertinez and John (1998) in a Latin culture group; they also used a 5-point Likert scale as in the original version. Comrey and Montag (1982) used dichotomous, 2-choice and 7-choice item formats in a single study, on the premise that a multiple response format could provide a wider range of options for the respondents for the purpose of self-description. Barrick et al.'s (2005) study on personality traits and performance used a 5-point Likert scale to measure Five Factor Model personality and self-monitoring and a 6 point rating scale for interpersonal performance.

Sloan 's (2004) study on TKIM and personality traits also employed different Likert scales, as the original version for TKIM had a 7-point Likert scale and for personality, a 5-point Likert scale. The adoption of several response choices best reflects respondents response to the item (Spector, 1992). This was further confirmed by Brewer and Seldom (2000), who also used different rating scales in a study of organisational perceptions, including a rating scale of 1 to 5 for the first five items and the last item scaled 1 to 4 to test equitable treatment for employees.

5.4.1.3 Questionnaire Translation

The questionnaire was initially prepared in the English language as in the original version. It was subsequently translated into Malay, the first language of the potential respondents. Although Malay is the national language, English is considered to be a second language, particularly in the context of multiracial Malaysia. However, because most of the Malaysian public servants were Malays, the need for a Malay version was indicated. In addition, translation to the Malay language was done to minimise the possibility of a low response rate due to language difficulties.

For the first translation, the set of questionnaires was translated by a professional translator. The purpose of using a professional translator was related to the complexity of the set of questionnaires with various managerial tacit knowledge scenarios. To avoid any possible misleading and ambiguous management terminology, and out of concern for the accuracy of meaning, and the reliability and validity of the questionnaire, it was translated by a professional body in Malaysia. This institution, Malaysian National Institute of Translation (ITNB), has been recognised as professional body by the Malaysian Government. By employing a 'back translation' approach (Saunders et al., 2009), the same set of questionnaires was retranslated into English by a translator at the Magistrates' Jitra Court, Malaysia. After comparing both English versions of the questionnaires, it was found that they were almost exactly the same in terminology, meaning and contents.

5.4.1.4 Pilot Test

The pilot test was carried out to refine the questionnaire in both the English and Malay versions. The test was necessary to achieve clarity in terms of understanding the content and discovering any weakness in wording, format and other types of error. The pilot test was required as the questionnaire components, namely KSP, TKIM and PT, were developed in the context of management and psychology and the present study was conducted in a different context from the original.

The questionnaire was pilot tested with 30 Malaysian public servants who were studying at the University of Hull, UK. Another 30 questionnaires were answered by managers in the Department of Chemistry in Malaysia (Kuala Lumpur branch) to identify the true picture of managers involved with daily managerial work and to verify

internal consistency. The results from the pilot test indicated that respondents were able to understand all the questions but that it took them a long time to complete. Some of them took a break three times while answering, as the questions in the scenario situation required them to think and reflect on their experiences.

The reliability of the questionnaire in the pilot study was indicated by the results of the reliability assessment using Cronbach's alpha. For the questions on the mentoring programme, consisting of 14 items, Cronbach's alpha was 0.90, Cronbach's alpha for knowledge sharing mechanism with 18 items was 0.73, personality traits (28 items) had a Cronbach's alpha of 0.91. Lastly, for the TKIM measurement, Cronbach's alpha was 0.85 for 91 items.

5.4.1.5 Population and Sampling Procedure

The study targeted respondents among the Management and Professional Group (MPG) from Malaysian local governments who had been involved with the SRS in 2008. MPG refers to the middle management between top management and supporting staff (Ismail & Yusof, 2009). The group included Grade 41, Grade 44, Grade 48, Grade 52 and Grade 54.

The MPG group was selected because at this level managers are involved in policy-making for the human resource management, financial management and social economic development of the country. Nonaka and Takeuchi (1995) identify that middle managers play a key role in the organisational knowledge creation process. They were found to have knowledge that would enable them to become team leaders. In organisations, middle managers were found to be responsible for management activities and the supervision of subordinates. They act as mediators of the vision and ideals of top management to people on the front line (Nonaka & Teece, 2001). At this level, managerial knowledge is created systematically (McAdam & Reid, 2000).

The study population was 1364 from the MPG from 98 local governments, as shown in Table 5.5. Referring to Sekaran (2000), for the population of 1300, a sample of approximately 297 respondents would be the best ratio for conducting the survey, as "sample sizes larger than 30 and less than 500 are appropriate for most research" (p. 295). Stratified random sampling was used to determine sample size.

5.4.1.6 Stratified Random Sampling

This technique has been found to be efficient and appropriate in extracting information from various strata (several subpopulations) within the population (Sekaran, 2003). The technique involved in this sampling is to define the strata and also to determine how many members of each stratum to include in the sample. There are two common ways of allocating the sample. Firstly, equal numbers could be selected from the strata regardless of their sizes. Secondly, proportional allocation means that each stratum contributes to the sample a number of members proportional to its size. However, the most important reason for employing stratified random sampling is to ensure that members from each stratum are included in the sample and no stratum is excluded (Hinkle, et al.,1994). It has advantages over other probability samples because all groups are adequately sampled and comparisons between groups are possible (Sekaran, 2003).

Using this method, after selecting the relevant stratifying variables, the sampling frames were ordered into groups according to the category (or strata) of the stratifying variable and systematic sampling used to select the appropriate proportion of people within each stratum. The systematic sample was drawn using a sampling fraction of 1/20 (De Vaus, 1996).

Table 5. 5: Sampling of Respondents

Stars Rating System	Number of Local Governments	Total Respondents (Grade 41 to 52)	Sample Respondents (Grade 41 to 52)
4	10 City Hall & City Council	600	127 (21%)
3	24 City Council & Municipal	360	80 (22%)
2	46 Municipal & District Council	368	81 (22%)
1	18 District Council	36	9 (25%)
Total	98 (Total LG has been rating in 2008) from this 35 involve in this study	1364	297 (22%)
Actual Respondents		308 (31%)	

5.4.1.7 Response Rate

In this present study, although the sampling target was 297 respondents for a population of 1364 (Sekaran, 2000), 1000 questionnaires were sent to the 39 LGs, and 358 were returned from 35 LGs. This study was only distributed to managers working in 39 LGs in 6 states out of the 12 in Malaysia, as these states contained both high and low performing local governments (Malaysian Local Government Department, 2008).

There were 358 completed questionnaires returned, but only 308 were useable. This indicates a response rate of 31%. For questionnaires, as a rule of thumb, a 30% return is seen as fairly satisfactory and more than 50 per cent is good (Gillham, 2000).

5.4.2 Qualitative Study

Although a quantitative approach was taken as the main method to obtain gain data, a qualitative study was identified as a support for the quantitative results, for finding answers to the questions ‘how?’ and ‘why?’. According to Patton (1990) and Silverman (2000), qualitative research is used to obtain rich, in-depth information and understanding from the respondents’ perspective because the domain of qualitative research highlights participants’ experiences in a social context.

For the qualitative study, semi-structured interviews were carried out to support the survey as the primary method of data gathering. Specifically, the aim of the semi-structured interview was to discover what practitioners understood by each of the concepts underlying the study. Conducting semi-structured interviews enables the researcher to explore for more information and adapt the research instrument in order to generate the relevant information to answer the research questions, and modify their order based upon what seems most important in the context of the interview (Mason, 1996; Robson, 1993). Hence, it allows the discovery of additional issues which may not have been covered in the initial survey (Mason, 1996; Saunders et al., 2009). The interviews were tape recorded with the permission of the interviewee and then transcribed.

Interviewees were accessed by contacting the questionnaire respondents who were willing to participate in the interview session. Eight interviews to explain the results of the quantitative study were conducted with senior and middle managers from high

(managers A, B, C, D) and low (managers E, F, G, H) performance local governments. Senior managers are significant contributors to knowledge sharing, specifically as key decision makers promote a culture of knowledge sharing in which employees are encouraged to apply tacit knowledge in problem solving (Lin & Lee, 2004; Macneil, 2001).

There are many approaches to carrying out data analysis in a qualitative study such as grounded theory, matrix analysis, hermeneutical analysis, discourse analysis, content analysis and narrative analysis. In this study, content analysis was preferred because the techniques in this analysis are appropriate to obtaining findings and supporting quantitative findings by including selected quotations from interviews, following Taylor and Wright (2004). Content analysis is an observation research method that is used systematically to evaluate the symbolic contents of all forms of recorded communication (Kolbe & Burnett, 1991). It can be used to analyse newspapers, websites, advertisements, recording interviews and so on (Sekaran & Bougie, 2010). This method enables the study to shed light on a specific explicit area of content identified with little interpretation by theoretical assumptions or parts of the text that address a specific topic in an interview (Graneheim & Lundman, 2004). Content analysis is the common technique in studies using the positivist paradigm (Collis & Hussey, 2009). In particular, this study uses triangulation and therefore the quantitative research needs to be supported by some qualitative data.

However, it has been argued that in content analysis, the data are selected to determine an area of interest, leading to the strong possibility that large amounts of data that could help in understanding the phenomena under study at a deeper level may be ignored (Collis & Hussey, 2009). It seems that the data are made, not found. At this junction, researchers are obliged to say how they made their data (Krippendorff, 2004). Hence, qualitative content analysis was proposed (Priest et al., 2002), in which analysis can be made by a combination of manifest content and latent content. Manifest content refers to the respondents' actual words from concepts, while latent content derives from the judgement and interpretation of respondents' views (Woods et al., 2002). This analysis is undertaken with a computerised software package; Nvivo, to elicit meaning from text (Woods & Roberts, 2000).

5.5 Time Horizon

This study of sharing managerial tacit knowledge and individual performance was constructed within a limited time frame and the case study of local government was not aimed at studying change and development. The objective of this study is to determine the relationship between knowledge sharing, tacit knowledge, personality traits and individual performance in a practical context. A cross-sectional time horizon was therefore considered most appropriate for this study. According to Easterby-Smith et al., (2008), most cross-sectional studies are associated with the survey strategy where data are collected at a particular point in time. The time horizon of a survey is designed according to the research aims and independently from research strategy (Saunders et al., 2009).

5.6 Data Analysis

In the process of completing the task of data collection, a preliminary analysis test was conducted to identify the response rate, inter-rate agreement, validity and reliability of the study construct. For this purpose, factor analysis and reliability analysis were conducted to identify the reliability and validity of independent variables, namely mentoring programme, individual personalization, individual codification, institutionalized personalization, institutionalized codification, managing self, managing tasks and managing others as well as the moderating variables of agreeableness, conscientiousness and openness to experience. The characteristics of respondents were described in descriptive statistics such as means and frequencies. To test the hypotheses, multivariate analyses, specifically Pearson correlation, ANOVA, T-test and hierarchical regression analyses were conducted.

These analyses were chosen in alignment with the nature of the data and for their appropriateness to answering the research questions, as suggested by previous studies. Because the variables in this study represent different levels of data, direct analysis methods were used. Knowledge sharing consists of a knowledge-sharing mechanism that has never been tested in a quantitative study; factor analysis was required to confirm the validity of the instrument in the context of the study. This approach is also applicable for items of personality traits, of which only a part of the inventory was employed in this study. Further, managerial tacit knowledge inventory items also involve transformation of data including standardised standard deviation (refer to

section 6.4) to identify the differences between groups of respondents, consisting of experts, typical and novices.

In fact, some of the techniques in certain analyses are unnecessary in research if previous studies have shown that they are not appropriate. For example, Echambadi and Hess (2007) proved that mean-centring does not change the computational precision of parameters, the accuracy sample of main effects, or simple effects and that the R^2 and collinearity problem in the moderator regression also remain unchanged by mean-centring. Therefore, the researcher employed moderated regression models without mean-centring in an attempt to mitigate collinearity between the linear and interaction terms.

The first research objective was achieved by carrying out a correlation analysis, as suggested by Suppiah and Sandhu (2011), who studied tacit knowledge-sharing behaviour in the Malaysian context using factor analysis and correlation to find and check convergent and discriminant validity. Melissa (1991), Sternberg et al. (2000), and Colonia-Willner (1998) also analyse correlation and regression analysis to study managerial tacit knowledge in the context of managerial work as initial studies in understanding the context of managerial tacit knowledge in different working environments.

This study draws on three different variables which are the implementations of KSP, TK and PT combined in the second research objective, to explain the mechanisms that underlie knowledge sharing between managers in organisations with different levels of performance: high and low. This study aims to investigate the different implementations of KSP, TK and PT among managers that can be distinguished by analysis enabling the comparison of two different groups; t-test analysis is appropriate to compare between these groups (Hair et al., 2010; Sekaran, 2003).

The third research objective was answered by the results of the hierarchical regression analysis to produce moderator roles of personality traits. As proposed by Baron and Kenny (1986), hierarchical regression analysis is a powerful technique for producing moderator effects. Furthermore, this analysis was also informed by previous studies in a

similar research context such as Bryant (2005), Quigley et al. (2007), and Sternberg et al. (1995).

5.6.1 Goodness of Measures: Factor Analysis and Reliability

The present study involves multidimensional independent variables, moderating variables and a dependent variable. Independents are multi-dimensional constructs, therefore factor analysis was run in the study. Factor analysis was carried out using a principal axis factoring with oblimin rotation (Hair et al., 2010) to identify the underlying interrelationship of variables into a set of common dimensions. Factor analysis enables the production of descriptive summaries of data metrics, which are later used to detect meaningful patterns among the set of variables (Dess et al., 1997). Factor analysis was employed for all the independent and moderator variables. Hair et al. (2010) suggested that for a sample size more than 300, a factor loading of 0.30 is needed to assess statistical significance.

Factor analysis enables items separated into respective factors to be subjected to reliability analysis before further computerisation analysis to represent the latent variables. Reliability analysis demonstrates the internal consistency, which indicates the homogeneity of items in the measure that is measuring the latent variables (Cooper & Schidler, 2003). Hair et al. (2010) explained that the role of reliability analysis was to measure the extent to which a variable or a set of variables consistently measures what it is intended to measure. In order to measure internal consistency, Cronbach's alpha is one of the most commonly used reliability coefficients (Coakes & Steed, 2003; Sekaran & Bougie, 2010). A reliability analysis was conducted on the scales used to measure items of mentoring programmes, knowledge sharing mechanisms, managing self, managing tasks, managing others, agreeableness, conscientiousness and openness. It is generally accepted that the lowest level of Cronbach's Alpha reliability value should be more than Nunnally's (1978) recommended 0.70. The items of each construct, following to factor analysis and reliability analysis, were used for further analysis. The results and factor analysis are reported in the following chapters.

Goodness of Fit

1. Bivariate Correlation and Multiple Regression

Bivariate correlation was carried out for different purposes; firstly to test the relationship between knowledge sharing practices (mentoring programme, individual personalization, individual codification, institutional personalization and institutional codification) with managerial tacit knowledge and secondly, to test the relationship between managerial tacit knowledge (managing self, managing tasks, managing others) with knowledge sharing practices.

The correlation analyses demonstrate the direction, significance and strength of the bivariate relationships of the study variable (Sekaran & Bougie, 2010). At the same time, multiple regression testing was used to reveal the significance of dependent variables as predictors (individual performance) from the independent variables of mentoring programme, individual personalization, individual codification, institutional personalization and institutional codification, managerial tacit knowledge (managing self, managing tasks, managing others). Multiple regression analysis is the statistical analysis that provides an understanding of how much variance in the dependent variable is explained by independent variables when theorised to influence simultaneously the former (Sekaran & Bougie, 2010).

2. Hierarchical Multiple Regression

Hierarchical multiple regression analysis was selected to examine whether personality traits moderated the relationship between knowledge sharing practices and individual performance as well as to test whether personality traits moderated the relationship between managerial tacit knowledge and individual performance. This analysis was utilised in research concerning the detection of moderating effects, as recommended by Chaplin (1991), Cohen and Cohen (1983), Stone and Hollenback (1984) and Zedeck (1971). It is supported by Baron and Kenny (1986), who agreed that the use of multiple regression in detecting moderating effect was the most appropriate test.

The process of performing hierarchical multiple regression encompassed several steps. It began with entering the sets of predictors into the regression block in order. Firstly, the main effects of knowledge sharing practices variables were entered into the block regression. Secondly, the moderating variable, personality traits, was entered into the

second block. Lastly, the final step was enter of the two-way interaction terms into the last block. These two-way interaction terms were obtained by multiplying the moderator with the variables of personality traits.

5.6.2 Reliability

Reliability analysis is used to evaluate the stability and consistency of the measurement items in each latent construct (Saunders et al., 2009). Reliability refers to the idea of a 'replication', 'replicability' and the ability to repeat the same study and obtain the same results not only from the same research but also from different research based on the same data (Collis & Hussey, 2009; Bryman & Bell, 2007). In other words, reliability is concerned with the stability of the measurement tools used and results obtained (Easterby Smith et al., 2002; Ghauri & Gronhaug, 2002). The questions in this survey were taken from previous studies to measure the components used. Therefore, there is consistency of instruments used to measure the construct of study and they expected to have a high level of reliability. This survey-based research used Cronbach's alpha analyses to measure the reliability and confidence of the questions (Sekaran, 2003). The criteria that were determined to delete the items were dependent on (a) its corrected items to total correlation (b) whether this deduction improved the corresponding alpha values (Hu et al., 2009; Parasuraman, et al., 1988). The high reliability analysis identified indicates the questionnaires as reliable.

5.6.3 Validity

The validity of a measurement instrument is the degree to which the instrument accurately measures. This can be ascertained by a pilot test. Validity is important to make sure that data collected represent the intention of research (Collis & Hussey, 2009). In this research, a pilot test was carried out in order to make sure the respondents understood the questions and to avoid any error of measurement.

The validity of the instruments was assured by the adoption of items tested in previous studies. For example, the value of personality as a predictor of job performance has received substantial research attention over the past 25 years (Guion & Gottier, 1965; Hunter & Hunter, 1984; Reilly & Chao, 1982; Schmitt et al., 1984). For the personality traits, Barrick & Mount (1993) indicated that conscientiousness is a valid predictor for job group and job related criterion types studied. These results show that highly

conscientious individuals generally perform better than others who do not demonstrate this trait. Barrick and Mount (1991) reported that other trait dimensions are also valid predictors in some occupations with smaller validities.

Similarly, the tacit knowledge inventory has been used in tests for over 20 years. The Tacit Knowledge Inventory for Managers (TKIM) by Wagner and Sternberg (1991) is a test of tacit knowledge or practical know-how (Wagner, 1987). This inventory is used purposely to identify individuals whose tacit knowledge indicates the potential for successful performance in managerial or executive careers (Wagner & Sternberg, 1991). Wagner and Sternberg's inventory (1991) has been tested in five studies to examine the criterion-related validity of their tacit knowledge measures in academic and business settings. A moderate correlation was found between their measures and a variety of criteria and some of them were considered as job performance measures.

Only the instruments in the knowledge sharing practices consisting of mentoring programme and knowledge sharing mechanism were not tested in previous studies, and testing these was therefore one of the main contributions of this study.

The discussion above refers to internal validity. External validity, on the other hand, refers to the extent to which the findings can be generalised to particular persons, setting and times, across organisations (Ghuri & Gronhaug, 2002). This research examined the practices of sharing managerial tacit knowledge among local government managers; external validity was used as a basis for generalising the implementation of sharing managerial tacit knowledge among managers in other public agencies as well.

The importance of understanding validity has an effect on the research findings. If the study lacks construct validity, the findings are meaningless, destroying also the internal and external validity of the findings (Ghuri & Gronhaug, 2002).

5.7 Ethical Considerations

This research involved human participants for data analysis and sampling. Hence, following appropriate research ethics was important. In order to treat the participants fairly, the researcher built up contacts and received permission from the Ministry of Housing and Local Government to negotiate and deal with local government. Initially, a

few local governments were contacted via email about the research intention in terms of data gathering. According to Fisher and Downes (2008), the ethical issues that usually appear in research involve negotiating with organisations, the right to privacy, access to personal records, confidential information and informant consent. Therefore, researcher is aware of the importance of obtaining approval and acknowledgement from respondents or particular bodies involved in this research. In fact, the researcher had to register with the Malaysian Economic Planning Unit (EPU) before starting the fieldwork as a requirement for collecting data in Malaysia. This registration enabled the researcher to upload information from the national research database, which was recognised as academic research. By registering with EPU, the research was facilitated as the researcher was given a research permission card that outlined the significance of this research to the country.

Moreover, during the data collection, the respondents' rights were taken into consideration, particularly, their right not to answer the questionnaire. At the same time, respondents' privacy, confidentiality and personal details were given priority. This study also entailed several semi-structured interviews with top management, such as the Mayor of a local government. To ensure that the researcher had the opportunity to interview top management in an ethical way, an early appointment was made and willingness to conduct the interview after office hours was ascertained. In fact, before data collection, a copy of the questionnaire was sent and information from organisations, particularly about the star rating system, was requested as early as possible for a better understanding of local governments' working environment.

5.8 Summary

In summary, this chapter has discussed the research philosophy, approach, strategies, and choices and techniques for data analysis in this present research. The determination of research design and approach were based on the arguments and suggestions in previous work. Since the focus of this research is the sharing managerial tacit knowledge in Malaysian local governments by considering the personality traits that influence individual performance, some previous studies in this particular field were referred to in order to ensure the reliability and validity of the research.

This chapter also highlighted analysis, techniques and justification used with the quantitative and qualitative data. The next chapters will report the analysis techniques employed and the results obtained, in order to answer research questions and test the hypotheses.

Chapter 6

Quantitative Data Analysis and Results

6.1 Introduction

This chapter discusses the analysis, including goodness of measures through the validity and reliability analysis and analysis related to the research objectives and research hypotheses. The first section explains the analysis strategy and reports the validity and reliability analysis. The second section discusses the assumption violations of data, and the third section demonstrates the use of multivariate analyses to test the hypotheses of the study. Lastly, there is a section of additional findings that emerged from the results but were not hypothesised in this study.

6.2 Analysis Strategy

Initially, data collected was put through a process of screening to identify data errors such as missing data and outliers. These were identified by analysing the descriptive, frequency and exploration data involved in the 308 cases. The aim of this strategy was to ensure the accuracy of the results in the main analysis (Tabachnick & Fidell, 2007).

6.2.1 Data Screening

When the data were entered in the SPSS spreadsheet, they were screened to ensure that there were no errors during data entry as errors can affect the results of statistical analysis. This was done by identifying data located outside the range specified by using descriptive and frequency commands in SPSS. The results of descriptive analysis showed that the means and standard deviation for continuous variables were in the appropriate range, which indicates that the variable data were clean (Meyers et al., 2006).

6.2.2 Recoding Data

The questionnaire comprises positive and negative statement items. Thus, items with negative statements have to have data recoded into the same variables. As proposed by Comrey and Montag (1982) and Spector (1992), if positively and negatively worded items are used in a study, the negative items must be reverse score. Thus the negative item scores were recoded by reversing rating items, whereby high score items were

converted to a low score and vice versa (Coakes & Steed, 2003; Pallant, 2007). Recoding data in this present study was only applicable to the personality trait variables in item numbers 1, 5, 7, 11, 14, 16, 22, and 27. These 8 items were from the 2 subtraits of personality, agreeableness and conscientiousness, while there was no negative item in openness to experience. The different reliability values of Cronbach's alpha before and after recoding items is shown in Table 6.1.

Table 6. 1: The Reliability Values Before and After Recoding Data in Personality Traits

Variables	Before Recode	After Recode	Items (n)
Personality Traits	0.693	0.870	28
*Agreeableness	0.140	0.709	9
Openness	0.780	0.780	10
*Conscientiousness	0.091	0.784	9

* Sub-traits have negative and recoded items.

6.2.3 Missing Data

Missing data refers to the valid values of variables which are not available for the analysis (Hair et al., 2010). Missing data have effects on data analysis, in terms of the results of analysis, sample size, generalisation, and bias when data are not random and the application of the remedies is inappropriate. Hence, to avoid missing data, an immediate approach was been taken such as checking the answers of respondents at the time of survey collection to ensure respondents answered all questions. If there were any questions unanswered, the respondents were either asked at the end of the briefing session, met in person during the survey collection or asked by telephone for clarification. However, several parts of the questionnaire were still not answered by some respondents. Thus, data obtained from 48 cases were excluded due to several missing data per case.

Despite this, where the variables contain missing data on 5% or fewer of the cases, this can be ignored (Meyers et al., 2006). In this regard, the particular variables, namely salary and individual performance mark appraisals, involved missing values of more than 5% of the total cases because respondents had forgotten the actual marks. Hence, the missing value was replaced by mean value (Meyers et al., 2006).

6.2.4 Outliers

Outliers are the observation data identifiable as distinctly different from the other observations (Hair et al., 2010). Normally, outlier data emerges in a situation of high or low value on a variable or a combination of values across several variables that make the data stand out from the others. Outliers are beneficial when they represent the population that would be discovered in the normal course of analysis. However, they can be problematic if not representative of the population, as they can then distort the statistical test.

Outliers occurred in four categories, namely procedural error, extraordinary events, extraordinary observations and unique in the combinations. Procedural errors, data errors or mistakes in coding should be identified in the data cleaning stage. The objective of identifying outliers is to determine whether the extraordinary data should be deleted or retained to match with research objectives. Lastly, there may be outliers in a combination of values across several variables that fall within the ordinary range of values on each of the variables. There are combinations of high and low amounts that are unique across values. Thus, this kind of outlier should be retained in the data unless there is evidence of its invalidity to the population (Hair et al., 2010). Ultimately, the determination of whether to retain or delete the data depends on the researcher's identification of whether the data are helpful or harmful (Hair et al., 2010).

In the present study, outliers were examined by identifying extreme scores in box plots to check the univariate outliers. Box plots are a useful representation of data compared with graph would not generally provide useful information (Sirkin, 2006). Extreme scores can affect many of the statistical results that would ordinarily be computed in the course of performing routine statistical analyses (Meyers et al., 2006). Box plot analysis showed that some respondents had different combinations of high and low scores in the data set of numbers 356, 355, 318, 292, 84 and 38. Further, the data were reviewed with the original questionnaire to avoid the possibility of errors during the data entering and coding processes. However, there was no error in the data entering process. To confirm that the data were clean from outliers in the preliminary stage, this study screened for outliers by comparing the gap differences between mean and 5% trimmed mean in descriptive analysis (Pallant, 2007).

The comparison showed differences in figures between mean and trimmed mean were small, which indicates that no outliers appear in this data. Therefore the data can be considered as inappropriate for elimination from further analysis. If the trimmed mean and mean values are very different, the data may need to be investigated further. If the two means are very similar, these cases will remain in the data file (Pallant, 2007). Hence, in this preliminary data analysis stage, all the data were retained. As proposed by Hair et al. (2010), even when outliers occur in a situation of a unique combination of high and low different cases out of the range of the majority of respondents, there is no valid indicator of degrading the valid membership of the population.

6.2.5 Normality

Statistical approaches that can be applied for univariate normality begin with skewness and kurtosis. The additional statistical tests include the Kolmogorov Smirnov test and Shapiro Wilk test. Skewness and kurtosis is a measure of the symmetry of a distribution with positive skewness indicating that a distribution's mean lies on the right side of distribution and negative skewness shows that a distribution's mean is on the left side of the distribution. Kurtosis represents the peakedness of distribution. Positive kurtosis is known as leptokurtosis where the extreme peak is in the centre of distribution, while negative kurtosis, called platykurtosis, suggests an extremely flat distribution. Thus, normal distributed variables generate skewness and kurtosis values located around zero. The Kolmogorov Smirnov test and Shapiro Wilk test measure by stringent alpha level ($p < .001$) results in a possible univariate normality violation (Meyers et al., 2006), as the multivariate normality is closely related with its univariate counterpart. The violation of the assumption of normality in this study was tested by means of the Kolmogorov Smirnov technique, which takes a significant level approach to evaluation.

The outcomes of Kolmogorov Smirnov are presented in Table 6.2. The results show the data generally presented as normal, with a significant value of data set.

Table 6. 2: Tests of Normality

Tests of Normality						
	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Individual Performance	.107	308	.000	.974	308	.000
Managing Self	.074	308	.000	.979	308	.000
Managing Task	.094	308	.000	.932	308	.000
Managing Others	.106	308	.000	.949	308	.000
Tacit Knowledge	.050	308	.063*	.973	308	.000
Mentoring 1	.117	308	.000	.974	308	.000
Mentoring 2	.175	308	.000	.924	308	.000
Institutional Codification	.180	308	.000	.948	308	.000
Institutional Personalization	.177	308	.000	.940	308	.000
Individual Codification	.172	308	.000	.939	308	.000
Knowledge Sharing	.059	308	.011	.986	308	.004
Agreeableness	.102	308	.000	.940	308	.000
Conscientiousness	.076	308	.000	.980	308	.000
Openness	.092	308	.000	.956	308	.000
Personality Traits	.069	308	.001	.953	308	.000

According to Hair et al. (2010), data that have values $p < 0.05$ indicate the rejection of normality assumption at the level of expectation of the possibility 0.05. The data of this study analysed through Kolmogorov Smirnov appear in the significant range ($p < 0.05$), which means that the data are outside the range of the specified value of normality assumption. However, there were data which were not specified in the significant range of data ($p > 0.05$) representing the normality position of data. For data of tacit knowledge indicating the test of normality, the Kolmogorov Smirnov value was 0.063 ($p > 0.05$). Thus, the present study has a combination of normal and not normal data that were not a serious violation of the normality assumption for multivariate tests in a large sample.

The acceptance of normality is consistent with the point of the central limit theorem, which suggests that for studies involving a large sample size (above 30), the sampling distribution will take the shape of a normal distribution regardless of the shape of the population from which the sample was drawn (Field, 2009). According to the central limit theorem, sample means of moderately large samples are often well-approximated by a normal distribution even if the data are not normally distributed. If the sample is

large, it is better to inspect the shape of the distribution instead of using formal inference because the equation for standard error in Kolmogorov Smirnov contains N , and normality is likely to be rejected with large samples even when the deviation is slight (Tabachnick & Fidell, 2007). Thus, the problem of violation of normality was not significant in this study because 308 responses indicate a strong sample size and some of the data met the assumption of normality, with a significant value $p > 0.05$.

6.3 Description of the Respondents

In the initial process of data analysis, it is recommended to screen the data (Tabachnick & Fidell, 2007) to ensure the accuracy of data in the original document against the data in computerised data set in the SPSS program. The statistical values of mean, standard deviation, minimum and maximum were calculated for respondents' background, independent and dependent variables. The results for respondents' background are shown in Table 6.3.

6.3.1 Profiling of Respondents

The profiling of respondents was obtained and summarised as follows:

Table 6. 3: The Description of Sample (Individual Characteristics)

Demographic	Mean	Range
Age	38	23 – 57
Experience in Management Position	7.7	1 – 31
Experience in Public Services	12.4	1 – 37
Employees Supervised	35	1 – 653
Performance Appraisal	89.6	83 – 96
Demographic	Number	Percentage
Gender		
Male	180	58.4
Female	128	41.6
Total	308	100
Education		
Secondary and below	2	0.6
Diploma/certificate	7	2.3
Undergraduate	250	81.2
Master's	42	13.6
PhD	3	1
Other qualifications	4	1.3
Total	308	100

Table 6.3 presents background information on the respondents who participated in the survey. The respondents were public managers employed by the Ministry of Housing and Local Government (MHLG). As can be seen from the Table 6.3, the average age of respondents was 38, with experience of working in a management position of around 8 years but a total experience in the Malaysian public service of approximately 12 years. Respondents had an average of 35 employees under their supervision and their average performance appraisal mark was 89. With respect to the individual background, most of the respondents were male (58 %) with female managers making up the remaining 42 percent. The majority of the respondents (81 %) had a first degree (undergraduate level), while the lowest level of education was secondary or below (0.6 %).

Table 6. 4: Respondents from Different Working Departments

Department	Frequency	Percentage
Accounting	6	1.94
Administrative	81	26.29
Agriculture	2	0.64
Architecture	6	1.94
Audit	5	1.62
Building Controlling	1	0.32
Building Planning	1	0.32
Building Surveyor	7	2.27
Cultural	2	0.64
Economic Affairs	1	0.32
Enforcement	2	0.64
Engineering	30	9.74
Environmental	2	0.64
Evaluation	4	1.29
Finance	9	2.92
Geological	1	0.32
Health	6	1.94
Human Resource Management	14	4.54
Information Technology	9	2.92
Landscape	12	3.89
Legal	1	0.32
Library	2	0.64
Licensing	33	10.71
Management Services	1	0.32
Medical	1	0.32
Musician	1	0.32
One Stop Centre	9	2.92
Planning	1	0.32
Production	1	0.32
Public Relations	6	1.94
Quantity Surveying	5	1.62
Technical	1	0.32
Town Planning	26	8.44
Valuation	18	5.84
Veterinary	1	0.32
Total	308	100

Table 6.4 presents the information on the backgrounds of respondents who participated in this study. From this table it can be seen that the managers were from a variety of departments. The majority of respondents were working in technical departments, but they were heads of departments dealing with the managerial aspect rather than conducting field work. They were handling daily managerial work such as decision

making, customer and stakeholder services, negotiation with consultants and planning for their organisation in general.

The 308 returned and usable responses were from different departments. The highest percentage (27 %) of responses came from the administrative department. In some organisations, the administrative department is known as the management and human resource management department but they have similar roles and function. Because these departments have many subdivisions, the managers mostly came from this department. Examples of subdivisions include training, personnel, quality system, and management support and welfare. However, some managers were from other departments with low response rates, with only 1 respondent (3 %), such as the building, economic affairs, geological, legal, management services, medical, musician, planning, production, technical and veterinary sections. The largest non-administrative concentrations were from engineering (10 %) and licensing (10.7 %).

Table 6. 5: Management Position

Position	Number	Percentage
Secretary of Council	5	1.62
Director	21	6.81
Deputy Director	38	12.33
Assistant Director	52	16.88
Head of Department	71	23.05
Head of Division	121	39.28
	308	100

Table 6.5 illustrates the designation of the managers involved in this study. The largest concentration of the respondents were heads of division (40 %) followed by heads of department (23%). Division head is the highest position in the LGs. The Secretaries of the Councils, mostly from low performance LGs, were the top management group least willing to respond to the questionnaire, as the lowest response group with 1.6 % of total respondents.

6.3.2 Descriptive of the Expert Group

Table 6.6 provides background information on the characteristics of experts who participated in this study. The characteristics examined include age, experience, subordinates under supervision, performance appraisal, gender, and level of education under an expert group.

Table 6. 6: Summary of Expert Group Backgrounds

Demographic	Mean	Range
Age	48	40 – 56
Experience in Management Position	16	10 – 31
Experience in Public Services	23	12 – 37
Employees Supervised	59	2 – 650
Performance Appraisal	91	85 – 96
Demographic	Frequency	Percentage
Gender		
Male	24	75
Female	8	25
Total	32	100
Education		
Diploma/certificate	1	3.1
Undergraduate	22	68.8
Master's	6	18.8
PhD	1	3.1
Other qualifications	2	6.3
Total	32	100

This table illustrates that on average, the expert group were relatively senior managers with an average age of 48, and had been working fairly long in management positions (mean = 16 years). With respect to working experience in the Malaysian public service, on average, the expert group members had been working a reasonably long time (mean = 23 years) and they were supervisors with employees under their supervision (mean = 59 employees). The majority of the experts were male (75 %), whilst only 25% were female. 68 % of the expert members had undergraduate level qualifications. The lowest qualification was diploma/certificate (1 %) and the highest qualification was PhD (1 %).

6.4 Calculating Differences Scores in the Tacit Knowledge Inventory for Managers

The rationale for choosing TKIM was because this instrument directly measured practical knowledge and learning acquired while on the job (Sternberg et al., 1995; Wagner, 1985) and associated with individual performance (Wagner & Sternberg, 1987; Sternberg & Horvath, 1999). In TKIM scoring, an expert profile of successful managers as a baseline of quality was created for comparison with the other employees (Almeida, 1994).

There are a number of specific techniques to calculate the score of tacit knowledge. Sternberg and Grigorenko (2001) and Hedlund et al. (1998) recommended three ways of calculating tacit knowledge scoring: (a) correlating between subjects' rating with an index of group members; (b) examining the degree of participants' responses with professional rules of thumb, or; (c) computing difference or agreement scores between subjects' ratings and an expert prototype. This present study employed the technique of determining difference or agreement scores between respondents' ratings and those of an expert. This crucial technique was adopted because of its accuracy and because it is a reliable method in the specific managerial context, as confirmed by Wagner (1987) and Armstrong and Mahmud (2008).

The calculation of score for tacit knowledge involved:

1. Rating scores of expert, novice and typical groups (Armstrong & Mahmud, 2008) were identified after considering Wagner's (1987) observation that tacit knowledge scores are affected by individual differences, as studying tacit knowledge involves the deviation of rating scores from the expert and other groups.
2. The mean and standard deviations of respondents in the TKIM Inventory were calculated.
3. The mean and standard deviation values were applied in transformation of rating scores to the standard score TKIM by adopting the standardised transformation TKIM formula with standard deviation 1.5 by Wagner (1987). The ratings were transformed to create an equal standard deviation of ratings across items for every subject. The analysis of TKIM scores focused on the level of agreement found between experts' and non-experts' choices. After this, all the data of TKIM responses was subtracted from the specific mean and standard deviation of the experts' group.

4. There are no right or wrong answers items in the test, and the interpretation of the non-experts' score is not directly related to how low or highly the participant rated the items, but to how low or high was his or her normalised score of deviation from agreement with the experts. TKIM is a deviation score; the smaller the deviation, the stronger the agreement with the experts (Colonia-Willner, 1998: 49).
5. Specific equations were adopted from Armstrong and Mahmud (2008), following the techniques of TKIM by Wagner (1987), Menkes (2002) and Forsythe et al. (1998) as below :

$$((X_{ij} - X_i)/sd_i) \times 1.5$$
 where
 $i = 1-308, j = 1-91,$
 X_{ij} = rating score each subjects
 X_i = mean across each subject's response items,
 Sd_i = standard deviation across each subject's response items.

6. This equation was used to produce the standardised deviation score for each subject. Further, this absolute standardised deviation score had to be subtracted from the experts' average deviation score by adopting the next equation, shown below:
7. Differences tk score = corrected TK rating – experts' mean TK

$$Dtkij = ABS (ztkij - xtkj),$$

 Where;
 $i = 1-308, j = 1-91,$
 dtk = differentiated TK score,
 ztk = corrected TK ratings,
 xtk = expert's mean tacit knowledge

8. The values for each score in the inventory were then summated in order to produce scores for managing self, managing tasks, managing others and overall tacit knowledge. This approach followed Sternberg and Grigorenko's (2001) technique of computing a profile match or difference score between participants' ratings and an expert prototype. Averaging was necessary to obtain meaningful results of differences because the results of subscale contexts were not composed of the same number of items.
9. The present study differed slightly from Colonia-Willner (1998), who performed deviation TKIM by adding the squared z score (squared difference between non-experts' rating and experts' mean rating) for each

item and dividing the sum by the number of strategy items in the area (a D^2/N formula). However, Cianciolo et al. (2006) calculated the difference score of TKIM by squared Mahalobis distance (D^2) to obtain standardised distance.

10. Regarding the technique of square differences score to remove the polarity, it has been argued that squaring tends to inflate the value and affects further calculations. Therefore, the recommendation to use absolute value for comparisons between experts' and novices' scores (Kerr, 1991; Mahmud, 2006), was followed in this present study.
11. For this reason, the scoring method by Wagner (1987), transforming the raw data of rating tacit knowledge and identifying the deviation from the expert profile, has been recognised for its ability to allow for meaningful comparisons between groups (Sternberg et al., 1995).

6.5 Goodness of Measures

Two main techniques that are used to assess the goodness of measures are validity and reliability (Sekaran, 2000), also known as psychometric characteristics of an instrument (Punch, 2005:95). Therefore, the reliability and validity of the constructs were measured by summated scale (i.e., summated scale in factor analysis). Further details are given in the sections below.

6.5.1 Validity

Validity is the extent to which a measurement tool accurately measures what it is supposed to measure (Hair et al., 2010; Punch, 2005). The purpose of validity is to ensure that the scale measures the concept definition, is unidimensional and has appropriate levels of reliability. Thus, a scale's validity has to be examined before further analysis. Punch (2005) and Sekaran (2000) stated that three types of validity are content and face validity, criterion-related validity and construct validity. Content validity is related to the full content of a conceptual definition being represented. A factor is considered to have content validity if there is theoretical support from the literature that items included in each summated factor representatively sample the intended domain of the concept it is intended to measure (Taylor & Wright, 2004). The discussion in the preceding literature review reflects the origin of the construct in the relevant literature. The purpose of content validity is to specify the content of a

definition, and to develop indicators which sample from all areas of content in the definition. Face validity, on the other hand, subjectively assesses the correspondence between individual items and the concept through ratings in a pilot test with sub-populations. The objective is to ensure that the selection of scale items of measurement meet theoretical assumptions and practical understanding (Hair et al., 2010).

Criterion-related validity is an indicator that a measured construct acts as expected based on theory compared with another measure of the same construct in which the researcher has confidence. Two type of criterion validity are concurrent validity and predictive validity. Concurrent validity is the criterion validity at the present time, while predictive validity is the criterion validity which may exist later. Because the time horizon of this present study is cross-sectional, concurrent validity has been adopted. As seen in from the literature review, numerous relationships between variables are expected. These are the expected correlations used in considering the criterion-related validity.

Construct validity focuses on to what extent a measure confirms theoretical expectations. Construct validity evaluates any measure in a given theoretical context and therefore show relationships with other constructs which can be predicted and interpreted within that context. In construct validity, there are two methods to assess validity, convergent and discriminant validity. Convergent validity is used to assess scales correlation with other factors of the same construct, while discriminant validity is to identify whether the scales are different from other constructs (Hair et al., 2010). Hence, factor analysis and correlation matrix analysis were performed to assess the convergent and discriminant validity of the data.

Factor analysis is an well-established tool used to identify the construct adequacy of a measuring device (Cooper & Schindler, 2003). All the data collected for the predictive variable were included in the validity analysis because these responses did not include any disagreement that required the data to be excluded. Regarding the sample size for factor analysis, Comrey and Lee (1992) suggest that 100 = poor, 200 = fair, 300 = good, 500 = very good, 1000 or more = excellent. Factor analysis was carried out with data collected from 308 subjects. This is an acceptable number according to Hair et al., (1998), Meyers et al. (2006), Coakes and Steed (2003) and Bartlett et al. (2001), for

conducting factor analysis. However, this study did not meet the minimum number per subject, which is five subjects per item according to Coakes and Steed (2003), ten subjects per item according to Meyers et al. (2006) and twenty subjects per item according to Hair et al. (1998). In this study, 151 items were analysed and a sample size of 308 is therefore considered less than satisfactory for conducting a single analysis. For this reason, a separate factor analysis was performed for all the interval scales measured. The validity and reliability of the three constructs, namely, knowledge sharing practices, managerial tacit knowledge and personality traits, were examined. The following sections discuss in details the construct validity (factor analysis) of the study variables.

6.6 Factor Analysis

Factor analysis (FA) refer to all the correlated items in the same group or separate from other variables. It is necessary to take a few steps and make certain decisions before conducting factor analysis. Firstly, the matrix of association must be identified, followed by the methods of factor extraction and rules of factor retention. Because all classical statistical analyses are fundamentally correlations (Cohen, 1968; Knapp, 1978), the idea of factor analysis is to derive factors by analysing the pattern of covariation (or correlation) among items. In each factor, the items that form the factor are those that with stronges interrelation. Thus, a higher interrelation among items reflects the same construct (convergent validity) and a low intercorrelation of items reflects a different construct (discriminant validity) (Spector, 1992). The interrelated items also have effects on the issues of interrelated sets of variables (multicollinearity). Sufficient intercorrelation of variables is important to produce representative factors.

Secondly, factor extraction, namely factor analysis (principal axis factoring) was chosen to identify fixed items loading in every factor. The aim of factor analysis is to determine what theoretical constructs underlie a given data set and the extent to which these constructs represent the original variables (Henson & Roberts, 2006; Kieffer, 1999). Hence, patterns of correlations are identified and used as indicative of underlying theory (factor analysis) rather than as descriptive (principal component analysis). Principal component analysis (PCA) is more appropriate for data reduction. Because this study aims to identify the underlying structure of items to develop factors, it was appropriate to employ factor analysis with principal axis factoring (PAF). Fabrigar et al. (1999) and

Hair et al. (2010) claim that principal axis factor analysis is used when a researcher wishes to identify a set of latent constructs underlying a battery of measured variables. For the factor rotation, oblique factor solution with direct oblimin technique was carried out. The purpose of the oblique rotation method is to obtain several theoretically meaningful factors or constructs, because in reality few constructs in the real world are uncorrelated (Hair et al., 2010). Direct oblimin is a technique of oblique rotation which strongly supports methods for the assumption of interfactor relationship (Tabachnick & Fidell, 2001) and is sufficiently reliable to produce better estimate of factors among correlated latent variables (Fabrigar et al., 1999). The most important reason for choosing oblique rotation for the present study was because it is a slightly superior technique for factor replication (Reise et al., 2000). In addition, the oblique rotation technique was employed to obtain the appropriate items for each underlying variables.

Thirdly, the rules of factor retention were applied to determine the number of factors to retain. The most frequently used method is to accept eigenvalues of more than 1 with a significant Bartlett test. Bartlett's test of sphericity is a statistical test for the presence of correlations among variables. It indicates the statistical significance ($p < 0.05$) that the correlation matrix has a significant correlation among variables (Hair et al., 2010; Hensen & Roberts, 2006). The measure of sampling adequacy (MSA) is used to identify the degree of intercorrelation among variables and the appropriateness for factor analysis. The cut-off point for MSA is 0.50, and if variables are below that value, specific MSA value can identify variables for deletion to achieve an overall 0.50 (Hair et al., 2010).

Regarding the practical significance of the factor loadings in the range of $\pm .30$ to $\pm .40$ are considered to meet the minimal level for interpretation of structure for a sample size over 300 (Hair et al., 2010). A smaller loading is needed for the analysis of a larger sample size or larger number of variables because FA is based on correlation, and it is assumed that the relationship between the variables is linear. It is not practical to check scatterplots of all variables with all other variables. Tabachnick and Fidell (2007) suggest that a 'spot check' of some combination of variables is enough to check linearity. Unless there is clear evidence of a curvilinear relationship, it is probably safe to proceed with an adequate sample size and ratio of cases to variables (Pallant, 2007)

Factor analysis creates a correlation matrix that contains all the variables. Thus, the variance that accounts for variables can be observed from communality values. The level of communalities plays a critical role; for example, when communalities are consistently high, greater than 0.6, then an aspect of sampling that has a detrimental effect on model fit and precision of parameter estimates receives a low weight. When communalities are consistently low, with many or all under 0.5, but there is still a high over determination of factors (e.g., six or seven indicators per factor and a small number of factors), a larger sample (over 100) is required. With low communalities, a small number of factors and only three or four indicators for each factor, a much larger sample size is needed, probably at least 300 (MacCallum & Widaman, 1999). Thus, for a sample size of more than 300, the level of communalities can be as low as 0.6. The present study used the minimum level of communality value, 0.4, as stated by Miles and Huberman (1994). Even though this is low, it is generally considered as a good range. Kahn (2006) also supported this argument, stating that samples of 300 or more and low communalities are still safe for convergence to the appropriate solution. This is because users are unable to predict the magnitude of the coefficients and communalities before collecting data. Moreover, the variance explains at least 60% by consideration of several alternative solutions to ensure the best structure is identified (Hair et al., 2010).

Tabachnick and Fidell (2007) recommend that researchers can consider these techniques when making decisions concerning the number of factors to retain. However, ultimately, the pre-determined number of factors is subject to the research objectives and prior research. It depends on the researcher's judgement (Hensen & Roberts, 2006) to determine the number of factors considered as best describing the underlying relationship among variables (Pallant, 2007).

6.6.1 The Differences between Exploratory Factor Analysis and Confirmatory Factor Analysis

Generally, factor analysis is divided into two main techniques: exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) (Henson & Roberts, 2006; Floyd & Widaman, 1995). The characteristic of EFA is the summarising of data by grouping correlated variables. The technique of EFA is used to investigate the factor structure model of measured variables (Henson & Roberts, 2006). However, CFA is a more advanced technique to be performed when factor structure is known or at least

theorised. This analysis is for testing generalisation of factor structure of the data, through the Structural Equation Modelling (SEM) method.

In this regard, it was preferred in the present study to employ factor analysis as an exploratory method suitable to the nature of data in this study. Firstly, there is a construct of this study that required identification of variance in an exploratory manner. Knowledge Sharing Mechanism items adopted in this study was derived from themes from interviews in a previous study by Boh (2007) that had never been tested in a questionnaire design. The intercorrelation of such items should be identified using the exploratory factor analysis technique. This technique would also be appropriate when there is no such basis for *a priori* structures or they were not confirmed. The source of an *a priori* structure could be “an existing or newly developed theory, a literature review or meta analysis, or previous empirical work (which did not employ the same data)” (Hurley et al., 1997:673).

Secondly, as explained in Chapter 3, only 3 personality traits were applied in this study. In the light of this, exploratory analysis was appropriate to identify items that represent the personality of managers and validate the previous studies.

Thirdly, for the consistency of data analysis, the same approach was applied for all the constructs of this study. This is because it is not very informative, and can be misleading, to follow an exploratory analysis with a confirmatory one on the same data set (Henson & Roberts, 2006).

Fourthly, two different multi-point, Likert-type rating scales were used. A 5-point scale was used for the knowledge sharing practices and personality traits variables, while a 7-point scale was used for managerial tacit knowledge. When two scales with a different number of points are used in a single study, then an exploratory approach may be appropriate to uncover which items result in the greatest differences. The less restrictive exploratory procedure can be used to determine where the ‘breakdown’ occurs, particularly if the expectation was that the samples would interpret the items using identical frames or reference. This strategy can address whether one group differed from the other groups in their response tendencies (i.e., biases) across the items. If non

equivalencies are found, then an exploratory mechanism may be employed to discover where the differences are in the database (Hurley et al., 1997).

Fifthly, this technique is appropriate for the study as it involves the translation of the questionnaire. In this study, the set of questionnaire was translated into the native language of the respondents due to face and content validity concerns. This method is consistent with a previous study of Lijffijt et al. (2005), in which the personality questionnaire that was translated into another language from the original version was analysed using an exploratory techniques for the purpose of data confirmation.

The exploratory technique is useful in determining the number of separate components that might exist for a group of items (Spector, 1992) and with further analysis such as regression coefficient. Conversely, the confirmation technique is a type of SEM (Musil et al., 1998) that deals specifically with measurement models; thus confirmatory analysis should be conducted prior to the specification of an SEM model (Brown , 2006).

However, use of the term ‘exploratory’ does not necessarily imply that there are no preconceived ideas about what research may find. The most fruitful explorations involve a great deal of forethought. Even the best designed exploration would be presumptive if couched in terms of confirmation (Hurley et al., 1997). Statistically, if the sample size is sufficiently large and the scale at least sufficiently different to result in some discriminant validity between them, then there is basically no difference in the statistical outcomes of exploratory and confirmatory analysis (Hurley et al., 1997).

A further argument was that to write up the results as CFA at this point would have been misleading. CFA is supposed to be theory driven, with modification indices, letting the data tell what should be done. However, the tendency to rewrite hypotheses (as employed in this present study) was influenced by the investigator’s own personal opinions, informed by literature; as such, this practice borders on being non-scientific; exploratory, that is, not confirmatory (Hurley et al., 1997). Historically, exploratory factor analytic techniques have been used for more than 60 years to achieve both exploratory and confirmatory analytic goals, whereas confirmatory factor analysis was developed largely within the past 20 years (Joreskog, 1969). In general, to perform CFA

researchers need to have a strong theory underlying their measurement model before analysing data (Williams, 1995). In this present study, there is limited theory that purposely focuses on the linkages between knowledge sharing practices, managerial tacit knowledge, personality traits as moderators and individual performance as dependent variables in the context of high and low performance organisation.

6.6.2 Factor Analysis for Knowledge Sharing Practices Variable

The knowledge sharing practices variable was measured using 32 items representing the mentoring programme and knowledge sharing mechanism factors. These items were analysed using a principal axis factoring and oblimin rotation, which loaded items in 8 dimensions. After 9 items were deleted because of low factor loading and loading in different dimensions, the remaining items were loaded in 5 factors. As in this present study, for a sample size more than 300, a factor loading of 0.30 is appropriate to access the significant items (Hair et al., 2010). Kahn (2006) claimed that if variable retaining is a goal, then all the variables with structure coefficients of at least 0.30 should be retained. Therefore, any items loaded at less than 0.30 or loading in different factors were subject for deletion. The resulting factor loading was 23 items loading in 5 dimensions. In order to run factor analysis, a minimum of 3 items should load in each factor (Hair et al., 2000) as Table 6.7, but this is subject to the original instruments adopted. The results of the factor analysis for knowledge sharing practices met this criterion, as shown in Table 6.7.

Table 6. 7: The Results of Factor Analysis for KSP

	Factor				
	1	2	3	4	5
*MP1	.564				
MP2	.742				
MP3	.823				
MP4	.573				
MP5	.428				
MP6	.379				
MP9				-.593	
MP11				-.469	
MP12				-.606	
MP13				-.683	
MP14	.354				
KSM3			.341		
KSM4			.858		
KSM5			.561		
KSM10					.493
KSM11					.700
KSM12					.592
KSM13					.589
KSM14a		.685			
KSM14b		.670			
KSM14c		.723			
KSM14d		.752			
KSM14e		.452			

Extraction Method: Principal Axis Factoring.

Rotation Method: Oblimin with Kaiser Normalisation.

*MP/KSM is a code for each item in a mentoring programme and knowledge sharing mechanism instruments follow sequence numbering. The statements for each item can be seen in the full set of instruments in Appendix A.

The output in Table 6.7 shows that the Kaiser Meyer Olkin (KMO) Measure of Sampling Adequacy for the 5 dimensions solution was 0.877, with significant Bartlett Test of Sphericity (sig=.000). This indicates that data are suitable for factor analysis (Coakes & Steed, 2003; Hair et al. 1998; Meyers et al. 2006). The variance was explained was 57%, with 5 extracted factors based on an eigenvalue of more than 1.

Principal axis factoring using oblique rotation found support for this research with some expectations. The final version of factor analysis loaded items into 5 factors, and therefore was slightly different from the measurement of the original version of the instrument. The original scale of items assessed only 5 factors, with 1 factor of the mentoring programme and 4 factors of knowledge sharing mechanisms, consisting of individual codification, individual personalization, institutional codification and institutional personalization. However in the present study, 5 factors emerged, with 2

factors of the mentoring programme and 3 factors of knowledge sharing mechanisms, with 1 factor of knowledge sharing mechanism (individual personalization) having been deleted because of inconsistent loading.

The original version of the instrument only had a single factor for the mentoring programme. This present study differed slightly from the original version, in that mentoring programme emerged in 2 factors. However, this was not a problematic issue because the original instrument set also explained that the mentoring instruments represented 2 different elements, namely, competence and behaviour. The original instrument scale items were developed to assess participants' knowledge of the peer mentoring skills category as competence as well as their actual behaviours in using particular skills, which was labelled 'behaviours' (Bryant, 2005; Bryant & Terborg, 2008).

This means that the mentoring programme instruments were developed to measure 2 constructs, firstly, knowledge and skill, categorised as competence, and secondly, behaviour of individuals (co-worker, supervisor, subordinate) involved in the mentoring programme. Thus, the present study is consistent with the previous version. In this study, the results of the factor analysis appear very similar to the pattern of results in the original version. For example, in the original version items number 9 and 13 were described as the 'behaviour' items. This parallels the present study, where items number 9, 11, 12 and 13 had loaded in the second factor of mentoring programme, which was named mentoring programme 'behaviour', as suggested by Bryant (2005) and Bryant and Terborg (2008). The rest of the mentoring items loaded in another factor named 'competence'.

The first factor is composed of seven items and explains 31% of the variance in the knowledge sharing practices construct representing mentoring 1 (competence). The second factor consists of five items and explains 9% of the variance in the knowledgesharing practices construct, corresponding to institutional codification. The third factor consists of three items for individual codification and explains 6% of the variance in knowledge sharing practices. The fourth variable consists of four items of mentoring programme 2 (behaviour) and explains 6% of the variance in the knowledgesharing practices construct. The last variable consists of four items of institutional personalization and explains 5% of the variance in the knowledge sharing practices

construct. With these variances, the factor analysis results indicated that items in the knowledge sharing practices variable were practical and meaningful in a theoretical sense.

6.6.3 Reliability Analysis

Reliability of the measure was conducted for data of responses in the main study. The Cronbach's Alpha coefficient for each variable is presented in table 6.8. As suggested by (Nunnally, 1978), internal consistency must be in the range of 0.7 to 0.9 as sufficient indicators to use the particular items. Hair et al. (2010) assert that the commonly accepted lower limit for Cronbach's Alpha is 0.70, although it can be decreased to 0.60. Hence, it could be remarked that the reliability of the entire knowledge sharing practices construct was higher than others, with $\alpha = 0.889$, followed by mentoring programme 1 and institutional codification, which were similar, with $\alpha = 0.825$ and 0.820 respectively. The reliability for mentoring programme 2 and institutional personalization were $\alpha = 0.767$ and 0.732 respectively. However, the reliability for individual codification was at below 0.7, $\alpha = 0.649$, but still acceptable.

Table 6. 8: The Result of the Reliability Analysis for KSP

Variables(Items)	n	Mean	SD	Range	α
1. Mentoring Programme1(7) (Competence)	308	4.05	.46	2.29 - 5	0.825
2. Mentoring Programme2(4) (Behaviour)	308	4.29	.46	2.25 - 5	0.767
3. Individual Codification(3)	308	3.93	.60	1.00 -5	0.649
4. Institutional Codification(5)	308	3.98	.56	2.00 -5	0.820
5. Institutional Personalization (4)	308	4.0	.53	2.00 - 5	0.732
6. Knowledge Sharing Practices (23)	308	4.0	.37	2.39 – 4.91	0.889

6.6.4 Factor Analysis for Managerial Tacit Knowledge

Table 6.9 presents the factors that underlie the structure of TK measurement. Ninety-one items were analysed used principal axis factoring and oblique rotation. The data in Table 6.9 represent the analysis of KMO Measure of Sampling Adequacy for three dimensions, which was 0.804, with a significant Barlett's Test of Sphericity (Sig.=.000). This indicates that the data are appropriate for factor analysis (Hair et al., 2010; Meyers,

2006; Coakes and Steed, 2003). The variance explained is 35.4%, with three extracted factors. This is acceptable and better than in previous studies, such as 10.2% in Mahmud (2006:252). The first factor contains eight items and explains 16.4% of the variance in the managerial tacit knowledge construct. The second factor is composed of nine items and explains 12.72% of the variance in the TK construct. The last variable consists of eight items and explains 6.27% of the total variance in the TK construct. The results for the TK construct from factor analysis provide the confirmation that this construct agrees with the suggestions of theory.

Initially, the number of items of tacit knowledge to be retained was determined by Kaiser's eigenvalue greater than 1 criterion, but the results of the patterns matrix disappear with the default 25 iteration. Statistically, the number of eigenvalues greater than 1 is highly influenced by the number of variables in the factor analysis (Reise et al., 2000). Thus, the tacit knowledge construct consisting of 91 items did not fit with the rules of an eigenvalue of more than 1. No particular patterns emerged that could support the model of tacit knowledge suggested by Wagner and Sternberg (1985). Such a situation also arose in studies by Mahmud (2006) and Edwards and Schleicher (2004).

Despite using the criterion of eigenvalue 1 to identify the respective factors, it is acceptable for the researcher to instruct the computer to extract the same number of factors that was previously found in other research (Hair et al., 2010). Previous studies of TK such as Armstrong and Mahmud (2008), Colonia-Willner (1998), Edwards and Schleicher, (2004), Sternberg et al. (2000), and Wagner and Sternberg (1985) proposed a TK consisting of three variables: managing self, managing tasks and managing others. It was therefore decided in this present study to extract the same number of factors as suggested by previous studies, by forcing item loading into three factors.

The outcome met the criteria suggested by Hair et al. (2010), that items should load at 0.3 or higher in specific factors and have a loading no higher than on the other factors. These three factors were named according to the items loaded in each factor. Factor one contained all the practices related to managing self. Factor two consisted of all managing task practices. Factor three comprised all managing others practices.

Table 6. 9: The Results of Factor Analysis for Managerial Tacit Knowledge

	Factor		
	1	2	3
*dtk21s	.335		
dtk30s	.339		
dtk31t		.413	
dtk36t		.541	
dtk37t		.438	
dtk48t		.594	
dtk49t		.439	
dtk51t		.371	
dtk57t		.589	
dtk58t		.544	
dtk60t		.537	
dtk64s	.473		
dtk65s	.450		
dtk67s	.412		
dtk68s	.633		
dtk69s	.648		
dtk70s	.496		
dtk71o			-.508
dtk72o			-.398
dtk73o			-.593
dtk74o			-.507
dtk76o			-.584
dtk77o			-.504
dtk78o			-.392
dtk80o			-.375

Extraction Method: Principal Axis Factoring.

Rotation Method: Oblimin with Kaiser Normalisation.

*dtk is a code for each item in managerial tacit knowledge instruments follow sequence numbering. The statements for each items can be refer in the full set of instruments in Appendix A.

The results of the factor analysis for TK indicated that 28% (25 out of 91) items remained after factor analysis, as shown in Table 6.9. Although the item loading of this variable seems low, there has been an example in past research with similar results. Mahmud (2006) studied the level of accumulated managerial tacit knowledge in the Malaysian public sector and excluded the first scenario⁶ from the TKIM, meaning that the final version had a total of 81 items, rather than the original version, which had 91 items. From the results of the 81 items in the factor analysis, 38% (31 of 81) of the

⁶ The first scenario was excluded based on the review of the experts, who were two senior civil servants with extensive experience in the Malaysian public sector. Both expert reviewers proposed that the first scenario of TKIM was unrelated to the public sector and they believed respondents would have problems answering it and more importantly, they would not refer to their experience but would be more likely to answer it by conjecture (Mahmud 2006:185)

items remained. In this regard, if this present study had excluded the first scenario, as in Mahmud's (2006) study, then the factor analysis statistically reported would have been 31% (25 of 81).

Table 6.10 also illustrates the reliability of items in the managerial tacit knowledge variable. It can be seen that items in this particular variable had a high reliability alpha coefficient as presented in the following table. These three variables had good value of reliability, namely managing self=0.714, managing task=0.755 and managing others=0.753. These values are fairly similar to those in the study by Colonia-Willner (1998): 0.85 for overall TK, 0.74 for self, 0.67 for others and task 0.64. In Wagner (1987), reliabilities for the total score of tacit knowledge ranged from 0.74 to 0.90, with individual tacit knowledge subscales ranging from 0.48 to 0.90.

Table 6. 10: The Reliability and Descriptive Statistics for the TK Subscales

Variables (items)	n	Mean	SD	Range	α
1. Managing Tasks(9)	308	1.28	0.586	0.45 – 3.62	0.755
2. Managing Others(8)	308	1.44	0.644	0.35 - 4.35	0.753
3. Managing Self(8)	308	1.47	0.593	0.24 – 3.42	0.714
4. Total Tacit Knowledge (25)	308	1.39	0.403	0.43 – 3.14	0.773

6.6.5 Factor Analysis for the Personality Traits Construct

As illustrated in Table 6.11, to assess the underlying structure of the personality traits variable, the 28 items measuring 3 sub-traits in personality were analysed using principal axis factoring and oblique rotation. The KMO measure of sampling adequacy for the single dimension solution was 0.894, with a chi-square of Bartlett's test of Sphericity of 2490.774, and the degree of freedom was 210, significant at .000. The variance explained was 47.91% with 3 factors extracted. The results showed that the data were suitable for factor analysis (Coakes & Steed, 2003; Hair et al, 2010; Meyers et al., 2006).

As mentioned previously in the literature reviews, this study only focused on three traits rather than the five traits of the Big Five Inventory⁷. The result for the present analysis loaded in three factors, based on an item loading of 0.3 or higher on a specific factor. After dropping items because of low and inconsistent loading, finally only 21 items remained. The first factor contained eight items and explained 30.17% of the variance in the personality traits construct. The second factor had five items that explained 11.09% of the variance in the personality traits construct and the third factor consisted of eight items and explained 6.63% of the variance in the personality traits construct.

All these factors were adopted from a study by John et al. (2008). This present study employed principal axis factoring with oblimin rotation general support for this model with moderate expectations.

All the 22 items had substantial loadings on the three factors ranging from as low as 0.3 to a high of 0.8. According to Hair et al. (2010), the minimum number of items for each factor load must be 3. Following the suggestion of Hair et al. (2010), the researcher only interpreted meaningful factors where each factor had items loading more than 3.

⁷ The main reasons for the adoption of the three traits of personality were that they were highly related with knowledge sharing (Martler et al., 2008), contextual performance (Witt et al., 2002) and because agreeableness and conscientiousness had been shown to be applicable to the Malay personality structure (Mastor et al., 2000)

Table 6. 11: Results of the Factor Analysis for Personality Traits

	Factor		
	Openness 1	Conscientiousness 2	Agreeableness 3
*PT30	.676		
PT4A			.443
PT6O	.465		
PT9O	.497		
PT10A			.467
PT12O	.621		
PT15O	.675		
PT18O	.787		
PT19A			.433
PT23C		.359	
PT24O	.703		
PT25O	.664		
PT26A			.387
PT1AR			.473
PT5CR		.401	
PT7AR			.492
PT11CR		.440	
PT14CR		.806	
PT16AR			.348
PT22AR			.381
PT27CR		.583	

Extraction Method: Principal Axis Factoring.

Rotation Method: Oblimin with Kaiser Normalisation.

*PT is a code for each item in personality traits instruments follow sequence numbering. The statements for each items can be refer in the full set of instruments in Appendix A.

For the reliability analysis, the results of Cronbach's Alpha is presented in Table 6.12. The results indicate that the instruments of personality traits were very good except for the conscientiousness construct, which had lower reliability than others, but still in the acceptable range.

Table 6. 12: The Results of Reliability and Descriptive Analysis for Personality Traits

Variables (items)	n	Mean	SD	Range	α
1. Agreeableness (8)	308	4.28	.46	1.5 - 5	0.742
2. Openness (8)	308	4.01	.54	1.38 - 5	0.850
3. Conscientiousness (5)	308	3.69	.63	1.00 - 5	0.713
4. Personality Traits (21)	308	4.04	.43	1.33 - 5	0.864

6.7 Restatement of the Study Hypotheses

The variations in the Knowledge Sharing Practices, Managerial Tacit Knowledge and Personality Traits derived from the factor analysis presented above required that the hypotheses concerning these dimensions be restated. The adjustment concerned the construct of knowledge sharing practices, which yielded in different dimensions from the original version. After factor analysis, five constructs of knowledge sharing practices emerged, comprising mentoring programme 1, mentoring programme 2, institutional codification, institutional personalization and individual codification, while individual personalization was excluded. As the variable of KSP was excluded, hypotheses were restated. This only involved the variables in KSP, but did not change the total number of hypotheses. Apart from those concerning KSP, the hypotheses remained as proposed in the literature review, with a total of 11 hypotheses.

- H1: There is a relationship between knowledge sharing practices and managerial tacit knowledge.
- H2: There is a relationship between mentoring programme (mentoring 1 and mentoring 2) and managerial tacit knowledge.
- H3: There is a relationship between knowledge sharing mechanisms (individual codification, institutional codification and institutional personalization) and managerial tacit knowledge.
- H4: There is a relationship between managing self and knowledge sharing practices.
- H5: There is a relationship between managing others and knowledge sharing practices.
- H6: There is a relationship between managing tasks and knowledge sharing practices.
- H7: There is a difference in knowledge sharing practices in high and low performance local governments.
- H8: There is a difference in managerial tacit knowledge in high and low performance local governments.
- H9: There is a difference in individual performance in high and low performance local governments.
- H10: Personality traits moderate the relationship between knowledge sharing practices and individual performance.
- H11: Personality traits moderate the relationship between managerial tacit knowledge and individual performance.

Table 6. 13: Correlation Matrix of Variables (n=308)

Variables		IP	Self	Task	O	TK	M1	M2	InstC	InstP	IndC	KSP	Agree	Cons	Open	PT
Individual Performance (IP)	r	1	-.202**	.088	-.078	-.089	.213**	.126*	-.047	.127*	.101*	.144**	.119*	.050	.053	.092
	Sig.		.000	.061	.087	.060	.000	.014	.204	.013	.039	.006	.019	.191	.178	.054
Managing Self (Self)	r		1	-.063	.381**	.633**	-.174**	-.243**	-.186**	-.192**	-.166**	-.262**	-.097*	-.099*	-.055	-.101*
	Sig.			.135	.000	.000	.001	.000	.001	.000	.002	.000	.045	.042	.166	.038
Managing Task (Task)	r			1	.167**	.580**	.105*	.211**	.040	.057	.055	.123*	.175**	.044	.061	.116*
	Sig.				.002	.000	.033	.000	.245	.158	.168	.015	.001	.221	.143	.021
Managing Others (O)	r				1	.778**	-.166**	-.106*	-.136**	-.140**	-.176**	-.202**	-.136**	-.120*	-.144**	-.167**
	Sig.					.000	.002	.032	.008	.007	.001	.000	.009	.018	.006	.002
Managerial Tacit Knowledge (TK)	r					1	-.112*	-.058	-.136**	-.132*	-.140**	-.162*	-.024	-.085	-.068	-.072
	Sig.						.025	.154	.008	.010	.007	.002	.341	.069	.117	.103
Mentoring Programme 1 (M1)	r						1	.551**	.336**	.431**	.380**	.792**	.320**	.200**	.413**	.400**
	Sig.							.000	.000	.000	.000	.000	.000	.000	.000	.000
Mentoring Programme 2 (M2)	r							1	.413**	.417**	.333**	.732**	.246**	.090	.220**	.238**
	Sig.								.000	.000	.000	.000	.000	.057	.000	.000
Institutional Codification (InstC)	r								1	.480**	.288**	.723**	.252**	.133**	.253**	.271**
	Sig.									.000	.000	.000	.000	.010	.000	.000
Institutional Personalization (InstP)	r									1	.327**	.726**	.203**	.136**	.235**	.244**
	Sig.										.000	.000	.000	.008	.000	.000
Individual Codification (IndC)	r										1	.601**	.209**	.122*	.202**	.226**
	Sig.											.000	.000	.016	.000	.000
Knowledge Sharing Practices (KSP)	r											1	.350**	.198**	.387**	.399**
	Sig.												.000	.000	.000	.000
Agreeableness (Agree)	r												1	.545**	.454**	.820**
	Sig.													.000	.000	.000
Conscientiousness (Cons)	r													1	.415**	.776**
	Sig.														.000	.000
Openness (Open)	r														1	.813**
	Sig.															.000
Personality Traits (PT)	r															1
	Sig.															

Correlation at the **0.01,

*0.05(1tailed)

M1–Mentoring (competence), M2–Mentoring (behaviour)

6.8 Exploring the Level of Managers' Accumulated Managerial Tacit Knowledge

This section aims to discover the differences in levels of accumulated managerial tacit knowledge (LAMTK) among respondents. Comparisons were made between the expert, novice and typical groups. The result of a one-way between group analysis of variance (ANOVA) indicates that there were significant differences between these three group (F= 7.563, df=305, p<0.05) in terms of LAMTK.

Table 6. 14: Comparisons of LAMTK scores for Expert, Typical and Novice

Group	n	Mean	Std. Deviation	df	F	Sig
Expert	32	1.13	0.342	305	7.563	.001
Novice	38	1.44	0.321			
Typical	238	1.42	0.411			

*p<0.05

The result of the ANOVA shown in Table 6.14 indicates there were significant differences in LAMTK across the three groups of subjects; thus, a *post hoc* analysis was carried out to identify these differences. Before this, a Levene's test was conducted to examine the homogeneity of the variance in these groups (Pallant, 2007). The results of the Levene's test illustrated no violation of the assumption of homogeneity of variance, with no significant value at 0.273 (p>0.05). This means that the variance of the three groups showed no differences and did not violate the homogeneity of variance assumption.

Therefore, *post hoc* multiple comparisons were conducted, using the Scheffe test as an accurate test for the equal variance in the group and the most common method for reducing the risk of Type 1 error (Field, 2009). These comparisons indicated that the mean score for experts (mean =1.13, sd = 0.342) was significantly different from that of novices (mean =1.44, sd = 0.321). The typical group (mean =1.42, sd = 0.411) did not differ significantly from the novice group. The result is consistent with Armstrong and Mahmud (2008), indicating there was a different level of managerial tacit knowledge for successful managers (mean =0.882, sd = 0.125), novices (mean =0.944, sd = 0.190) and typical managers (mean =0.893, sd = 0.111). It is also consistent with Neston-Baker and Hoy (2001), who also indicated differences in the amount of tacit

knowledge between successful and typical superintendents, and Sternberg et al. (1995), who indicated differences in development of tacit knowledge between business managers, business graduate business students and undergraduate business students.

6.9 Testing the Hypotheses Pertaining to the First Research Objective

Based on the literature review, hypotheses were developed to support the research aims of the study and to test the related theory. The results of data analyses can be used to reject or accept the hypotheses depending on the test performed on the observed variables. The results are determined by the significance of the data at a level of significance of 0.05, 0.01 or 0.001, which represent acceptable significance, high significance and low significance respectively.

The first hypothesis was developed to identify the nature of the relationship between knowledge sharing practices and managerial tacit knowledge. To test this hypothesis, a correlation analysis was conducted.

Hypotheses 1: There is a relationship between knowledge sharing practices and managerial tacit knowledge.

This hypothesis was developed to test the previously reported phenomenon that a knowledge sharing practices programme as a method of sharing tacit knowledge affects managerial tacit knowledge. As argued by Mohamed and Egbu (2010), knowledge sharing is a process wherein individuals, groups or departments exchange or share their knowledge (tacit or explicit) and together create new knowledge or share task relevant ideas, information and suggestions with each other throughout the whole department or organisation. To confirm this hypothesis, the Pearson correlation was conducted and showed a significant result between the variables.

Table 6. 15: Pearson Correlation of KSP and TK (n=308)

Variables	Overall Tacit Knowledge	
Knowledge Sharing Practices	Pearson (r)	-.162*
	Sig. (1-tailed)	.002

*p<0.05

Table 6.15 illustrates the significant relationship between knowledge sharing practices ($r=-.162$, $p<0.01$) and TK. However, the relationship was in a negative direction. This negative sign appeared because of different scores in TKIM. Thus, the lower the score in the relationship between knowledge sharing practices and TK, the closer the knowledge of responses corresponds to the expert prototype (Wagner, 1987).

The study of TKIM was associated with the deviation score indicating that the lower the deviation values, the stronger the agreement with experts (Sloan, 2004, 2009). Therefore, negative correlations reflect a positive association between tacit knowledge and the criterion measure (Sloan, 2004:46). Sternberg et al. (1995) and Colonia-Willner (1998) explained that a negative correlation for tacit knowledge was expected because of the deviation scoring system used, in which better performance corresponds to less deviation from the expert prototype and thus to lower scores. Hence, this correlation indicates higher scores on knowledge sharing practices are related to higher levels of tacit knowledge, but in the negative value, which is better tacit knowledge scores of managers, while the values of correlations indicate the level of the relationship between constructs. Thus, a positive relation between tacit knowledge and other variables (e.g. cognitive ability) would be represented by a negative correlation (Wagner, 1987; Sternberg et al., 1995).

In the present study, the relationship between these two variables showed a weak level of correlation, although it was acceptable, with highly significant association. In other words, managers who practise knowledge sharing influence the increments in the accumulation of managerial tacit knowledge. This is consistent with Mohamed and Egbu (2010), who found that in the context of Malaysian local government, knowledge sharing is a good way effectively and efficiently to create, sustain and transfer various aspects of knowledge, including management, decision making and operational processes.

Therefore, hypothesis 1, concerning the relationship between knowledge sharing practices and overall managerial tacit knowledge was **accepted**.

The second hypothesis concerned the relationship between the content of the types of knowledge being shared and how that knowledge is shared (Bryant & Terborg, 2008). To test this hypothesis, correlation analysis was conducted.

Hypothesis 2: There is a relationship between mentoring programmes and managerial tacit knowledge.

This hypothesis was developed to test the previously reported phenomenon that a mentoring programme as a method of sharing tacit knowledge has an effect on managerial tacit knowledge. To confirm this hypothesis, a Pearson correlation was conducted to show significant results according to the variables.

Table 6. 16: Pearson Correlation of MP and TK (n=308)

Variables	Overall Tacit Knowledge	
Mentoring Programme 1 (Competence)	Pearson (r)	-.112*
	Sig. (1-tailed)	.025
Mentoring Programme 2 (Behaviour)	Pearson (r)	-.058
	Sig. (1-tailed)	.154

*p<0.05 (1-tailed)

Table 6.16 illustrates the significant relationship between mentoring programme 1 ($r = -.112$, $p < 0.05$) and TK. However, no significant relationship is indicated between mentoring programme 2 and overall managerial tacit knowledge ($r = -.058$, $p > 0.05$). The negative correlation indicates that higher scores on mentoring programme 1 (competence) are related to a high TK with a negative value, which indicates better tacit knowledge scores, while the values of the correlation indicate the level of the relationship between constructs.

In this study, the relationship between these two variables showed a low level of correlation but an acceptable significant association. This provides evidence that managers who have a level of competence, by involvement with a mentoring programme, increased the managerial tacit knowledge. However, the result of the

correlation reveals that the behaviour of managers was not associated with managerial tacit knowledge. This finding nonetheless indicates that mentoring programmes have a correlation with TK. This finding was consistent with Bryant (2005), who found that peer mentoring and knowledge creation and sharing were correlated, with $r=0.56$, $p < 0.05$. It is also consistent with the Aryee et al.'s (1996) study conducted in Singapore, which showed that low correlations between the motivation to mentor with organisation-based self-esteem ($r=0.15$, $p < 0.05$), positive affectivity ($r=0.37$, $p < 0.01$) and altruism ($r=0.36$, $p < 0.01$). Eddy et al. (2005) showed that openness ($r=0.15$, $p < 0.05$) opportunities to learn ($r=0.18$, $p < 0.05$), co-workers' support ($r=0.14$, $p < 0.05$), assign to avoid error ($r=-0.23$, $p < 0.05$) and big picture awareness ($r=0.23$, $p < 0.05$) were related to peer mentoring.

Therefore, hypothesis 2, considering the relationship between mentoring programmes and overall managerial tacit knowledge was **partly accepted**. For further details on this relationship, the present study demonstrates the association between mentoring programmes and each subscale of tacit knowledge with the level of correlation between dimensions.

In detail, some relationships between mentoring programmes and sub-scales of tacit knowledge were shown to be significant, while others emerged as not significant. Significantly, mentoring programme 1 (competence) had a relationship with managing others ($r = - .166$, $P < 0.01$), managing tasks ($r = .105$, $p < 0.05$) and managing self ($r = -.174$, $p > 0.01$). Different patterns in the results occurred for mentoring programme 2 (behaviour) as, while no relationship with the total managerial tacit knowledge was indicated, there was a significant correlation with the subscales of tacit knowledge. Mentoring programme 2 was correlated with managing self ($r = -.243$, $p < 0.01$), managing others ($r = -.106$, $p < 0.05$) and managing tasks ($r = .211$, $p < 0.01$).

Hypotheses 3: There is a relationship between knowledge sharing mechanisms (individual codification, institutional codification and institutional personalization) and managerial tacit knowledge.

Table 6. 17: The Results of Pearson Correlation for KSM and TK (n=308)

Variables of Knowledge Sharing Mechanism		Overall Tacit Knowledge
Institutional Personalization	Pearson (r) Sig. (1-tailed)	-.132* .010
Institutional Codification	Pearson (r) Sig. (1-tailed)	-.136** .008
Individual Codification	Pearson (r) Sig. (1-tailed)	-.140** .007

*p<0.05, **p<0.01

Concerning this hypothesis, a correlation test was performed to gain insights into the relationships among all the variables in the KSM, namely institutional codification, institutional personalization and individual codification, with the total of tacit knowledge. The results of the Pearson correlation shown in Table 6.17 indicate a significant relationship between variables, despite weak relationships, which parallels the results of other study and provides full **support** for hypothesis 3.

Three dimensions of knowledge sharing mechanism were statistically related to TK, as illustrated in Table 6.17. Specifically, TK was significantly correlated with institutional personalization ($r = -.132$, $p < 0.05$), institutional codification ($r = -.136$, $p < 0.01$) and individual codification ($r = -.140$, $p < 0.01$). The results were similar to those of Syed-Ikhsan and Rowland (2004b), who found that the better the sharing of tacit knowledge among individuals through formal and informal discussions/meetings (institutional personalization), the better the performance of knowledge transfer ($r = 0.279$, $p < 0.01$).

The results show that KSM variables have relationships with TK that are consistent with the expectation that tacit knowledge has to be codified before it can be shared with others (Nonaka & Takeuchi, 1995). The correlation coefficients emerged in a negative direction with a medium association between KSM and TK. These relationships offer an insight that the proposed mechanism for sharing knowledge is applicable to accumulated managerial tacit knowledge. Managers in this present study believed that

their tacit knowledge was increased by involvement with individual or institutional codification and personalization.

Interestingly, these results illustrated that the subscale of tacit knowledge were significantly correlated to the subscales of knowledge sharing mechanism. This may be a different result from the hierarchical regression findings.

Hypothesis 4: There is a relationship between managing self and KSP.

Table 6. 18: Pearson Correlation of Managing Self and KSP (n=308)

Variables	Knowledge Sharing Practices	
Managing Self	Pearson (r)	-.262**
	Sig. (1-tailed)	.000

**p<0.01

As can be seen from Table 6.18, there was a relationship between managing self as a subscale of tacit knowledge and knowledge sharing practices. It was revealed that managing self was correlated with knowledge sharing practices ($r=-.262$, $p<0.01$). The correlation was expected to be negative, indicating that an increase in knowledge sharing practices was associated with decreasing deviation from the expert prototype (Wagner, 1987). Thus, this hypothesis was **accepted**. The results imply that managers who are involved with knowledge sharing practices are self-competent.

Hypotheses 5: There is a relationship between managing others and KSP.

Table 6. 19: Pearson Correlation of Managing Others and KSP (n=308)

Variables	Knowledge Sharing Practices	
Managing Others	Pearson (r)	-.202**
	Sig. (1-tailed)	.000

**p<0.01

As Table 6.19 illustrates, the dimension of TK was also measured in terms of managing others and a significant relationship with KSP. A significant relationship between

managing others and knowledge sharing practices ($r = -.202, p < 0.01$) was found. This result of the Pearson correlation implies that KSP was correlated with the capability of managing others. Thus, this hypothesis was **supported**.

Hypothesis 6: There is a relationship between managing tasks and KSP.

Table 6. 20: Pearson Correlation of Managing Tasks and KSP (n=308)

Variables	Knowledge Sharing Practices	
Managing Task	Pearson (r)	0.123*
	Sig. (1-tailed)	.015

* $p < 0.05$

The research hypothesis assumed that managing tasks was significantly associated with knowledge sharing practices (Table 6.20). The results of testing hypothesis 6 showed that managing tasks had a significant positive relationship with knowledge sharing practices. The results of correlation ($r = 0.123, p < 0.05$) led to the conclusion that the involvement of managers in knowledge sharing practices significantly increased their knowledge in managing tasks. As explained by Sternberg et al. (1995), because TKIM is a deviation score, the smaller the deviation value, the stronger the agreement with experts.

However, TKIM scoring can have a positive or negative value to indicate the level of closeness of data to the experts' group. Obviously, in studies of TKIM, it is common to have mixed findings in a single data set (see Sternberg et al., 1995; Wagner 1987; Colonia-Willner, 1998). In this current study, absolute values for TKIM data were adopted; thus negative or positive signs only pointed to the closeness of data to the experts' group score, and did not indicate the direction of the relationship between managing self and managing others with knowledge sharing practices. Nevertheless, this positive value still has relevance because it emerged with a small value, which indicates it is close to the experts' score.

Although the value of the correlation is at a lower level, this relationship also indicates the relevance of knowledge sharing practices for managers in managing their work. Thus, the results of this hypothesis support the assumption that differences in amount of

managerial experience can also predict individuals' managerial success, by participation in knowledge sharing practices.

Although the results of Pearson correlation demonstrate a weak relationship of tacit knowledge with some constructs of knowledge sharing practices, these findings are **acceptable** and consistent with other studies that used similar measures of tacit knowledge. This was not surprising, since other studies of tacit knowledge have shown correlations at the same level; for instance, correlations between tacit knowledge and personnel management ($r = 0.29, p < 0.05$), bank policy ($r = 0.39, p < 0.05$), number of years of management experiences ($r = 0.21, p < 0.05$) (Wagner & Sternberg, 1987), tacit knowledge and school success personality ($r = .34, p < 0.05$) (Edwards & Schleicher, 2004), rewards and TKIM ($r = -.40; p < .04$) (Colonia-Willner, 1998), and tacit knowledge with job satisfaction ($r = 0.19, p < 0.05$) (William, 1991).

6.10 Testing the Hypotheses Pertaining to the Second Research Objective

Hypothesis 7: There is a difference in KSP in high and low performance LGs.

Table 6. 21: Result of T-test for KSP and Organisation Performance

Group	n	Mean	Std. Deviation	df	t	Sig
High	222	4.04	.36	306	-1.078	.282
Low	86	4.09	.38			

Hypothesis 7 was developed to test the assumption of differences of knowledge sharing practices in local governments with high and low levels of performance. Table 6.21 illustrates that there were no significant differences between knowledge sharing practices among managers who were working in high or low performance local government. It is conceivable that there was no difference in level of performance of local government in terms of knowledge sharing practices. Managers working in both high and low performance local governments have similar practices and guidelines in implementing knowledge sharing exercises. Therefore, if knowledge sharing is well practised in high performance local governments, the same applies in low performance local governments. Thus, this hypothesis, which assumed differences in knowledge sharing practices in local governments with high and low levels of performance, was **rejected**.

Hypothesis 8: There is a difference in TK in high and low performance LGs.

Table 6. 22: Result of T-test for LAMTK and Organisation Performance

Group	n	Mean	Std. Deviation	df	t	Sig
High	222	1.40	.40	306	.732	.465
Low	86	1.36	.38			

Hypothesis 8 posited that there was no difference in the managerial tacit knowledge in high and low performance local governments ($t = 0.732$, $p > 0.05$). The results as seen in Table 6.22, failed to reveal that the managerial tacit knowledge was different between managers working in high and low performance local governments. Both local governments were seen to have the same accumulated managerial tacit knowledge among managers, which may be because they have the same operational level of work and parallel managerial situations. This shows that managers in both types of local government used tacit knowledge in their practical work. Hence, this hypothesis was **rejected**.

Hypothesis 9: There is a difference an individual performance in high and low performance LGs.

Table 6. 23: Result of T-test for Individual Performance and Organisation Performance

Group	n	Mean	Std. Deviation	df	t	Sig
High	222	89.72	2.70	306	.636	.525
Low	86	89.49	2.92			

Table 6.23 shows the results of the T-test analysis of the variable of individual performance in relation to different levels of performance of local government. This hypothesis assumed that differences in managers' performance appraisals were influenced by the level of their organisation's productivity (either high or low). However, this assumption was rejected in view of the fact that no significant differences in values between the performance of managers working in high and low performance local government were found. As can be seen in Table 6.23, there were no significant differences ($t = 0.636$, $p > 0.05$) between individual performance among employees working in high and low performing local governments. The result of the analysis

indicates that managers working in Malaysian local government were not affected by differences in performance evaluation with the star rating system that was introduced in 2008. Therefore, hypothesis 9 was **rejected**.

6.11 Testing the Hypotheses Pertaining to the Third Research Objective

After demonstrating the linear relationship among variables in the correlation and differences analysis, a general understanding of the existing interrelationships between variables, as well as the direction of each correlation, has been reached. However, these correlation interpretations and directions cannot express any causal meaning (Field, 2009). Thus, a regression analysis using the hierarchical regression analysis technique was performed to interpret the meaning of the interrelationship findings. However, before this, the assumption in the multiple regression analysis of the linearity of the phenomena was measured, and homoscedasticity, normality of the error term distribution and multicollinearity were confirmed.

6.11.1 Examination of Violations Assumption

To understand and examine the underlying assumptions of the multiple regressions, the variables were checked for outliers, normality, linearity, multicollinearity and homoscedasticity (Field, 2009; Hair et al., 2010; Pallant, 2007).

Normality

The underlying assumptions for multiple regression analysis are that all variables and linear relationships of variables are normally distributed. In regression analysis, normality assumptions are assessed through histograms and residual plots. The plots should appear normally distributed in order to meet the assumption of normality.

Figures 6.1, 6.2 and 6.3 illustrate the data in the normal distribution position for the KSP, TK and PT constructs. The histogram chart indicates that the data were distributed in the normal curve, while the plot charts illustrate that there is no residual cluster in the middle and that the distribution is not positively or negatively distributed. To check the normality assumption, the residual points should lie reasonably on the straight diagonal line from bottom left to top right. In this study, the plots indicate that the points lie closely on the straight diagonal line from bottom left to top right, showing that normality assumptions have not been violated.

Figure 6. 1: Histogram and Residual Plot for Knowledge Sharing Practices

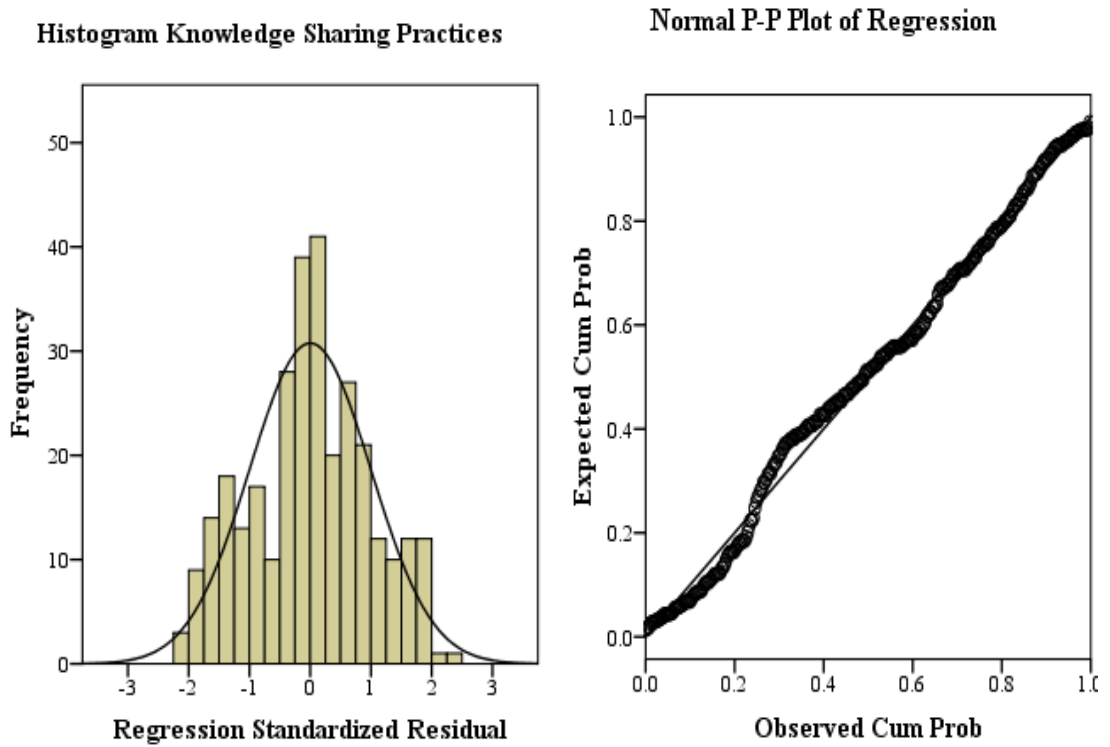


Figure 6. 2: Histogram and Residual Plot for Managerial Tacit Knowledge

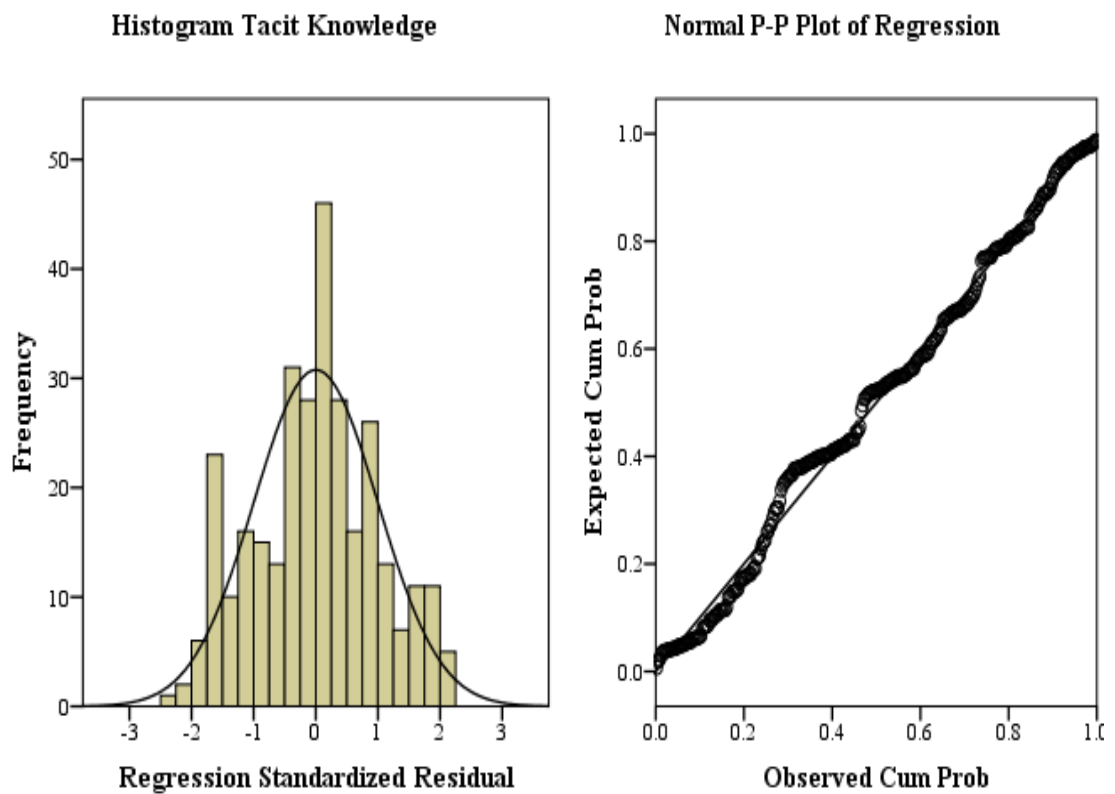


Figure 6. 3: Histogram and Residual Plot for Personality Traits

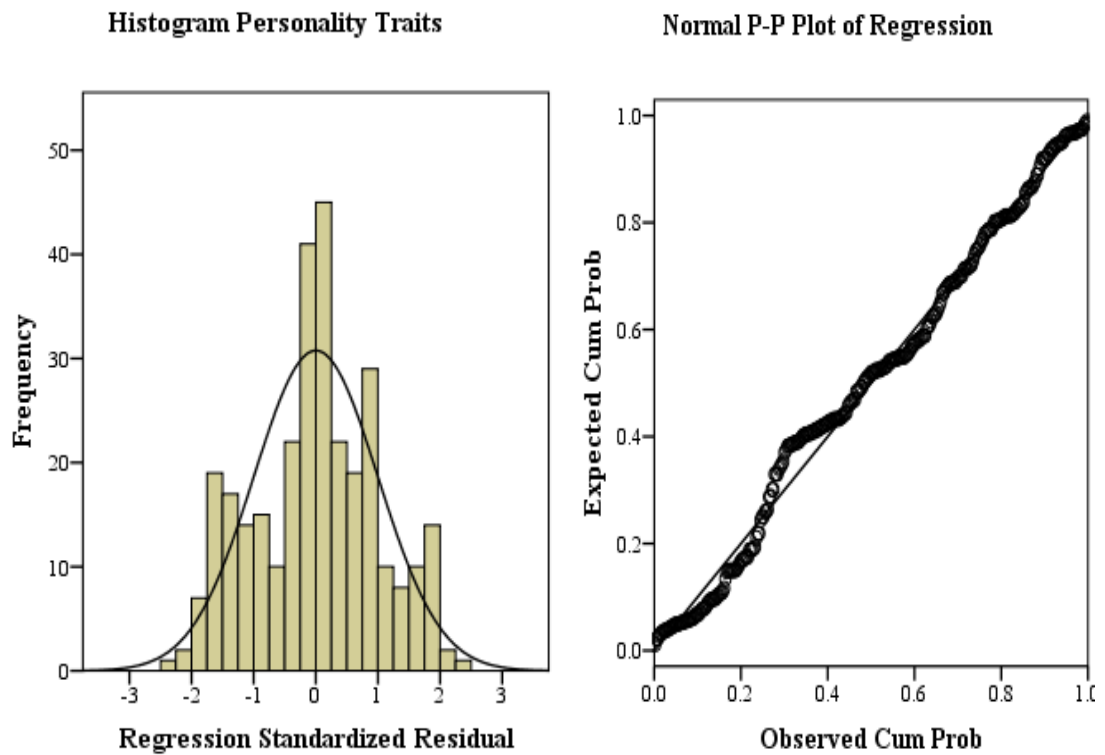
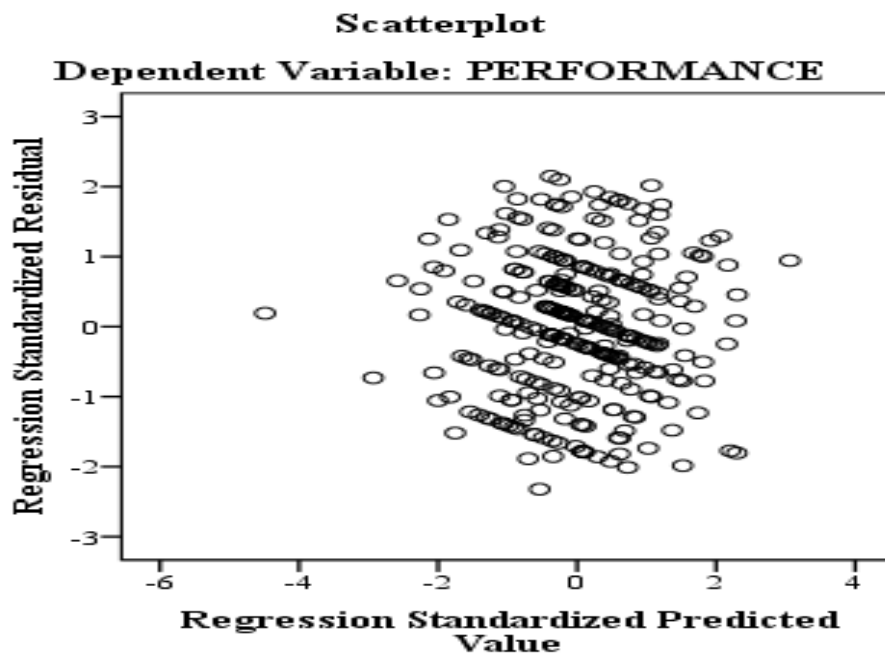


Figure 6. 4: Scatter Plot for Independent and Dependent Variable



Linearity

Another underlying assumption in regression analysis is that the relationship between dependent and independent variables is linear. The linearity of this relationship between independent and dependent variables means that change in the independent variables is associated with changes in the dependent variables (Hair et al., 2010). Thus, in the regression analysis, the linear relationship was a critical issue as an underlying assumption to verify the relationship between independent and dependent variables. The linearity of the bivariate relationship can be examined through a residual scatter plot by plotting the standardised predicted value against residual. To meet the assumption of linearity, the residuals should scatter around 0 or most of the scores be concentrated in the centre along the 0 point (Flury & Riedwyl, 1988). The plot shown in Figure 6.4 indicates the relationship between KSP, TK, PT and individual performance in terms of the linearity assumption. In this plot, the linearity assumption was met, as the plot indicates the residual scores were concentrated in the centre along the 0 point.

Outliers

Multivariate outlier detection was also examined to check the underlying assumption before conducting regression analysis. There are several methods of detecting outliers. The present study employed scatterplots for the standardised residual approach to eliminate the outliers. Most of the scores should be concentrated in the centre (along the 0 point) of the scatter plot (Field, 2009), indicating that there is no violation of the assumption. Deviation from the centralised rectangle is an indication of the detection of outliers. Outliers exist for data that have standardised residuals of more than 3.3 or less than -3.3 (Tabachnick & Fidell, 2007). The present study did not violate the assumption of outliers because the data were centralised in the 0 point and within the range of the standardised residuals (Figure 6.4). If a few deviate from the range, with a large sample size, it is not necessary to take any action (Field, 2009).

Homoscedasticity

The assumption of homoscedasticity is related to the constancy of residuals across the values of the independent variables (Hair et al., 2010: 221). The homoscedasticity (equality of variance) assumption requires the variances of the dependent variables to be the same at all values of the independent variables or constant variance of error term (Hair et al., 2010). If the dispersion is unequal across the values of the independent

variables, then the relationship becomes heteroscedastic. Homoscedasticity was examined by visual inspection of the residual scatter plots (Figure 6.4). Residuals rather than the original values of the dependent variables were used because the focus was on the prediction of error, not on the relationship captured in the regression equation (Hair et al., 2010). Homoscedasticity is assumed when there is no pattern in the data distribution and the residuals are scattered randomly around the horizontal line through 0 (Norusis, 1999). Thus the graph of residual scatter plots indicates that the assumption of homoscedasticity was supported.

Multicollinearity

Multicollinearity refers to the degree of correlation among the independent variables themselves being high (above 0.90) (Hair et al., 2010). Rather than multicollinearity, singularity is the statistical problem for single variables; when the variables are redundant, one of the variables is a combination of two or more of the other variables. Multicollinearity and singularity both cause logical and statistical problems (Tabachnick & Fidell, 2001). The logical assumption is that it is not a good idea to include the redundancy variables in the same analysis. Statistically, multicollinearity and singularity inflate the size of error terms and actually weaken the analysis.

The two most common methods for assessing multicollinearity problems are to look at the variance inflation factor (VIF) and tolerance value. The common cut-off threshold for a tolerance value is 0.10, which corresponds to a VIF value not exceeding 10 (Hair et al., 2010; Pallant, 2007). In the present study, none of the values of tolerance is less than 0.10 and VIF values are not greater than 10, as shown in the table of regression analysis (Table 6.24). Thus, there are no problems of multicollinearity in this present study.

In addition, SPSS programs also protect against multicollinearity and singularity by incorporating a collinearity diagnostic in which a conditioning index is produced, as well as variance proportions associated with each variable. Variables with large variance proportions are those which present problems (Tabachnick & Fidell, 2001).

6.11.2 Interaction Effects of Personality Traits, Knowledge Sharing Practices and Managerial Tacit Knowledge on Individual Performance

Typically, interaction or moderator effects are introduced when there is an unexpectedly weak or inconsistent relation between a predictor and criterion variables, including a relation holding in one setting but not in another, or for one sub-population but not for another (Baron & Kenny, 1986). A moderator interacts with predictor variables to impact on the level of dependent variables (Holmbeck, 1997). This section presents the results concerning the interaction effects between personality traits, knowledge sharing practices, and managerial tacit knowledge in predicting individual performance and at the same time answers the third research objective. Moderated multiple regression or hierarchical regression analysis was conducted to examine interactions between these variables. Using analytic technique, the investigator hierarchically regresses the dependent variables onto (a) the independent variables, (b) the moderator variables and finally, (c) the product of two (Chaplin, 1991:148; Holmbeck, 1997). However, before proceeding with hierarchical regression analysis, a multiple regression was performed to determine the strength of the prediction between these variables. Table 6.24 displays the results of the multiple regression analysis of the effects of PT, KSP, TK on individual performance.

Table 6. 24: Results of Multiple Regression Analysis

Variables	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	86.590	2.173		39.849	.000		
Managing Self	-.886	.457	-.190	-1.941	0.05*	.312	3.202
Managing Tasks	.173	.449	.037	.385	.701	.331	3.023
Tacit Knowledge	.107	.830	.016	.129	.897	.205	4.879
Mentoring1	1.174	.442	.195	2.656	0.008*	.553	1.807
Mentoring2	-.049	.432	-.008	-.113	.910	.581	1.721
Institutional Codification	-1.011	.325	-.206	-3.107	0.002*	.685	1.459
Institutional Personalization	.506	.351	.097	1.441	.151	.661	1.513
Individual Codification	.079	.282	.017	.280	.780	.791	1.264
Agreeableness	.824	.601	.138	1.372	.171	.298	3.353
Conscientiousness	.005	.399	.001	.011	.991	.353	2.831
Personality Traits	-.594	.897	-.092	-.662	.508	.154	6.496
Coefficient of Determination (R ²):	.113						
Adjusted R ²	.080						
Std. Error of the estimate	2.65299						
F-Value	3.413						
Significance	0.000						

*Significance at the 0.05 level

The overall model fit can be revealed through the coefficient of determination (R²), adjusted coefficient of determination (adjusted R²) and F statistical test. The R² indicates the amount of the variance in the dependent variables explained by the model. The value of 1 in the R² implies that the regression model perfectly predicts the differences in dependent variables, with the R² value of 0 indicating that using a regression model rather than a baseline prediction (mean value) offers no improvement in predictive power. At the same time, the function of adjusted R² can be interpreted as having the same meaning as R², but adjusted for the number of predictors relative to the sample size. Therefore, adjusted R² is meaningful for comparisons across regression models with different numbers of independent variables and different sample sizes. The significance of the overall model measured by the F ratio to test of the amount of

variation explained by the regression model is better than the baseline prediction ($R^2 > 0$) (Hair et al., 2010).

To compare the different variables, it is important to look at the standardised coefficients rather than the unstandardised ones. 'Standardised' means that these values for each of the difference variables have been converted to the same scale and therefore the variables can be compared, while unstandardised coefficients, listed as B, are used to construct regression equations. Standardised (beta) values are used if the study is theoretical and unstandardised (B) coefficients (with their standard errors) if the study is applied (Pallant, 2007). Standardised values indicate the number of standard deviations that scores in the dependent variable would change if there was one standard deviation unit change in the predictor.

The multiple correlation (R), squared multiple correlation (R^2), and adjusted squared multiple correlation (Adj. R^2), indicate the degree of prediction of independent variables on dependent variables. The results indicate that the regression prediction was significant, $R = 0.336$, $R^2 = 0.113$, $R^2_{adj} = 0.080$, $F(3.413)$, $p = 0.000$. This shows that the multiple correlation coefficient between independent and dependent variables was 0.33, and all these predictors accounted for 11 % of the variation in individual performance. This model can be generalised to another population as such 8%. The fact that the R^2_{adj} only differed by 0.033 from the R^2 demonstrates that the cross-validity of this model is still acceptable. The significant value of the F test ($F = 3.413$) indicates that the linear relationship and the independent variable significantly predict the dependent variable.

Hence, Table 6.24 represents the individual contribution of predictors within the regression block. This regression analysis shows that institutional codification was the highest prediction variance on individual performance with $\beta = -0.206$, $t = -3.107$, $p = 0.02$. In addition, the predictor variables appear as an important contributor to individual performance, as mentoring 1 ($\beta = 0.195$, $t = 2.656$, $p = 0.008$) and managing self ($\beta = -0.190$, $t = -1.941$, $p = 0.050$) had significant standardized beta coefficient responses to the individual performance. These significant results illustrate that individual performance was predicted by the variables of institutional codification, mentoring 1 and managing self. While, mentoring 2, individual codification, institutional personalization, managing

tasks, managing others, agreeableness, conscientiousness and openness were not shown to have a significant influence on individual performance. However, some of these independent variables exist in the significant contribution of dependent variable when interacting (multiplied) with moderators, such as mentoring 2, managing tasks, managing others, agreeableness, conscientiousness and openness.

Although these criterion variables contributed only 11% to the prediction variables, this indicated significant and relevance. According to Hair (2010), based on the interplay of assumption and sample size, the significance level (α) and the number of independent variables, the possible level of significant R^2 can be identified. In this study, for the sample size of 308 cases, the significance level (α) of 0.05, and the number of the independent variables varying from 14 variables, the minimum relationship with R^2 values of approximately 6 to 8 can be detected, as illustrated in Table 6.25.

Table 6. 25: The Interactions among R^2 , Sample Size, Significance Level (α) and the Number of Independent Variables

	Significance Level (α) = 0.01				Significance Level (α) = 0.05			
	No. of independent Variables				No. of independent Variables			
	2	5	10	20	2	5	10	20
Sample size	Possible Level of R^2				Possible Level of R^2			
20	45	56	71	NA	39	48	64	NA
50	23	29	36	49	19	23	29	42
100	13	16	20	26	10	12	15	21
250	5	7	8	11	4	5	6	8
500	3	3	4	6	3	4	5	9
1000	1	2	2	3	1	1	2	2

NA=not applicable

Source: Hair et al. (2010:174)

The sample size has an impact on the generalisation of research results; therefore, the ratio of cases to independent variables was identified (Hair et al., 2010:175). The minimum ratio is five cases for each independent variable (5:1). If there are fewer than five cases for each independent variable, there may be over-fitting of the regression model to the sample. The desirable ratio is 15-20 cases to one independent variable (15:1 or 20:1). The results can be generalizable when this level of ratio is met and the sample represents the population well. With a sample size in this study of 308 cases and the maximum number of independent variables being 14, the desirable level of the ratio

of cases to independent variables is met with an actual ratio of 20:1 = 280:14. Thus, according to these criteria, the sample should not be over-fitted in this study and the results are generalizable, with 280 cases: 14 variables.

The significant of the interaction of variables will be discussed in the discussion on the findings of the hierarchical regression analysis. In this regard, a moderator regression was conducted to examine the effect of personality traits on the relationship between KSP and individual performance and also to test the hypothesis. Table 6.26 illustrates the results of the moderating relationship proposed in hypothesis 10.

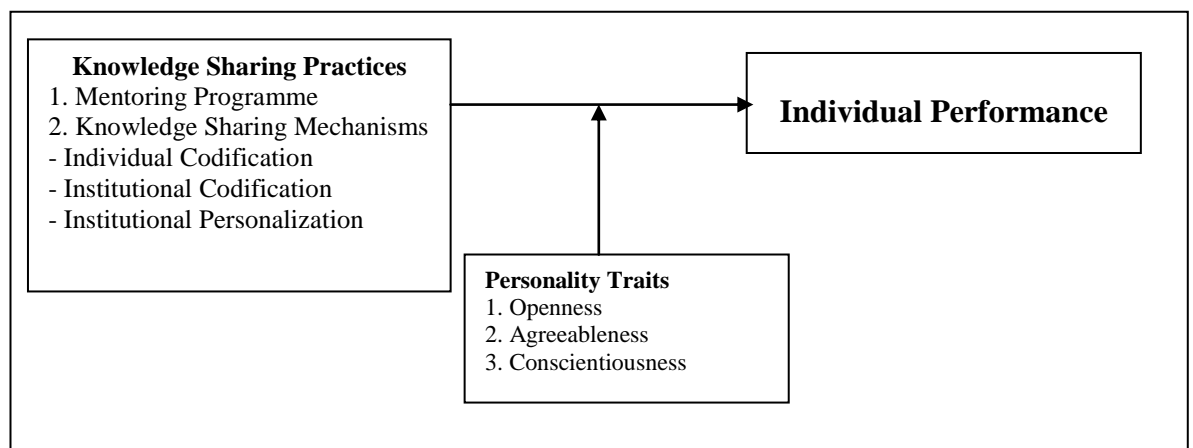
Hypothesis 10: Personality traits moderate the relationship between knowledge sharing practices and individual performance.

Hypothesis 10 proposed that personality traits moderate the effect of knowledge sharing practices on individual performance. Figure 6.5 illustrates the moderated relationship proposed in hypothesis 10. Individual performance, which is the dependent variable, was kept at its original scale. According to Schroeder et al. (1986), moderator regression analysis is an extension of the analysis from the linear regression model to demonstrate the relationship and interaction between variables. The significance of this study's choice of regression analysis rather than SEM was because of the requirement of the data set, which was affected by the development of new instruments, particularly mentoring and knowledge sharing mechanism instruments. This was consistent with Bryant (2005), who employed hierarchical multiple regression to test a mentoring programme and perception of knowledge sharing and creation, as regression allows controlling for the effects of possible covariates and is robust to violations of the normality assumption. SEM is often considered to be the preferred method because of the information that it provides on the degree of 'fit' for the entire model after controlling the measurement error (Peyrot, 1996), but an appropriate and correct use of regression technique can also provide a meaningful test of hypotheses (Holmbeck, 1997). Thus, in this study, a hierarchical moderated regression was performed again for further confirmation of moderating effects.

In order for a variable be considered as a moderator, Baron and Kenny (1986), Chaplin et al. (1991) and Frazier et al. (2004), argued that the variables must be found to have a weak causal relationship or a causal relationship not be found empirically for the

particular construct. However, this does not indicate that further investigation of the moderation effect is exempted if a causal effect is significant, or that one will always find a moderating effect if overall causal effect is not found. The reasons for the true causal effect are not found because of an unexpectedly weak relationship and as a result, there is a hidden moderating effect. An overall causal effect may not be significant because the causal effect is true only in a small group of the sample, but not for the rest. A non-significant true causal effect also might occur if the causal relationship is positive for one sub-group and negative for another, which may drop the overall causal effect (Wu & Zumbo, 2008). As noted previously, moderator is a third variable that can modify the form and/or strength of the relationship between independent and dependent variables, as proposed in Figure 6.5 (Hair et al., 2010).

Figure 6. 5: Moderating Relationship Proposed in Hypothesis 10



Hence, the moderator hypothesis is supported if there are interactions. There may also be a significant effect for the predictor and the moderator, specifically, within a correlation analysis framework; a moderator affects the zero order correlation between two other variables (Baron & Kenny, 1986:1174). Another assumption was that the moderator is not correlated to either the independent variable or the dependent variable, or with not so much significance (Jaccard et al., 1990). This means that in some situations, a moderator also can have and not have correlation either with the independent or dependent variable.

A moderated relationship is one in which a variable (Z) interacts with a predictor variable (X) to change the relationship between the predictor and an outcome (criterion) variable (Y) (Villa et al., 2003). Moderated multiple regression (MMR) or hierarchical

regression is a straightforward technique to test the form of the relationship changes with the addition of a moderator (Stone & Hollenbeck, 1984). These two terms differ only in their names, as both refer to the techniques used to perform analysis of interaction variables that produce moderator effects. It can be seen that many previous studies used these two terms interchangeably. However, in this study, it is preferred to apply the term ‘hierarchical regression analysis’ since previous studies on personality as a moderator in management fields have found it preferable to use this terminology.

Previous studies used both terms to refer to the interaction technique that produces a moderator effect. For example Quigley et al. (2007) used hierarchical regression analysis to identify the relationship between knowledge sharing and performance, controlling for task ability, while Barrick et al. (2005) used moderated hierarchical regression analysis pertaining to the moderating effect of self-monitoring between personality traits and task performance, and Niehoff (2006) used a hierarchical regression approach to control variables of prior experience. Fuller et al. (2010) used a moderated hierarchical regression analysis to explore job autonomy as a moderator between personality and job performance, and Skarlicki et al., (1999) used hierarchical regression analysis to identify the role of personality in the relationship between fairness and retaliation. Further, Lin (2007a) used hierarchical moderated regression to confirm the moderating effects of exchange ideology in a knowledge sharing study, and Chang (1999) investigated the moderating role of career commitment by utilising hierarchical regression analysis, while Barney and Elias (2010) used the terminology of hierarchical moderated multiple regression to test moderator factors.

In the MMR technique, an interaction term as a product of IV is added to the regression equation that contains the interaction term, as shown below.

$$Y = \alpha + \beta_1X + \beta_2Z + \beta_3XZ$$

The main effect of the X and Z variables are linearly partially from the XZ term by entering the X and Z variables into the regression equation along with the XZ term. The lower order terms (X and Z) and the higher order term (XZ) are entered into the equation simultaneously to test the significance of each term. If the interaction term β_3 is significant, this indicates a moderation relationship and means that XZ contributes to

the prediction of Y over and above the other predictor variables in the equation (Aiken & West, 1993; Cohen & Cohen, 1975).

Hair et al. (2010: 232) explained that the set of independent variables are exactly specified and the regression model is essentially used in a confirmation approach, known as simultaneous regression, where all the variables are included together. There are two common estimation techniques in regression: the sequential search method and the combinatorial process. Because this is a confirmatory study, the combinatorial approach was used. This is a generalised search process across all possible sub-set regressions, as the name suggests. All the possible combinations of independent variables are examined and the best-fitting set of variables is identified.

Table 6. 26: Results of Moderator Regression Analysis for Hypothesis 10

Variables	Standardised Coefficients	t	Sig.
	Beta		
Step 1			
(Constant)		49.639	.000
Mentoring 2	.070	.746	.228
Institutional Codification	-.361	-3.956	.000
Institutional Personalization	-.023	-.257	.399
Individual Codification	-.077	-.968	.167
Knowledge Sharing	.520	2.783	.003
Step 2			
(Constant)		42.973	.000
Agreeableness	.106	1.485	.069
Conscientiousness	-.018	-.269	.394
Openness	-.058	-.852	.197
Step 3			
(Constant)		4.082	.000
Mentoring2	3.462	3.198	.001
Institutional Codification	-2.438	-2.595	.005
Institutional Personalization	-2.194	-2.480	.007
Individual Codification	-1.006	-1.134	.129
Knowledge Sharing	7.243	3.658	.000
Agreeableness	.718	.799	.212
Conscientiousness	.486	.614	.270
Openness	-.596	-.806	.211
Agreeableness x Mentoring 1 (Competence)	-4.389	-2.979	.002*
Agreeableness x Mentoring 2 (Behaviour)	3.592	2.273	.012*
Agreeableness x Institutional Codification	-.738	-.629	.265

Agreeableness x Institutional Personalization	-.164	-.148	.441
Agreeableness x Individual Codification	.437	.389	.349
Conscientiousness x Mentoring 1	.455	.396	.346
Conscientiousness x Mentoring 2	-.946	-.877	.190
Conscientiousness x Institutional Codification	-.518	-.667	.253
Conscientiousness x Institutional Personalization	.514	.546	.293
Conscientiousness x Individual Codification	-.116	-.198	.422
Openness x Mentoring 1	.053	.040	.484
Openness x Mentoring 2	.201	.176	.430
Openness x Institutional Codification	.990	1.053	.147
Openness x Institutional Personalization	.616	.540	.295
Openness x Individual Codification	-1.089	-1.129	.130
	Step 1	Step 2	Step 3
R	.270	.284	.369
R ²	.073	.081	.136
Adj R ²	.057	.056	.066
R ² Change	.073	.008	.055
F	4.734	3.275	1.943
Significant	.000	.001	.007

* Significant at 0.05 level (1-tailed)

Table 6.26 illustrates the hierarchical multiple regression carried out to assess the interaction effect of personality traits on the relationship between knowledge sharing practices and individual performance. Hierarchical regression analysis was used to predict the interaction effect through the significance of the R² change. The KSP variables (mentoring programme 1, mentoring programme 2, individual codification, institutional codification and institutional personalization) were first entered in step 1, followed by entering the moderator variables of personality traits (agreeableness, openness and conscientiousness) in step 2, and the interaction terms in step 3 of the regression model.

Step 1 represents the constructs of the independent variables and statistically significant regression coefficients. The set of knowledge sharing practices variables entered in step 1 accounted for approximately 7% of the variance in individual performance. Scanning the 'significant' column, it can be seen that only two variables made a statistically significant contribution ($p < 0.05$). The statistical regression coefficient indicates that institutional codification and knowledge sharing were significant at level 0.05 in individual performance. The standard coefficient Beta for institutional codification ($\beta = -0.361$, $t = -3.956$, $p < 0.05$) and knowledge sharing practices ($\beta = 0.520$, $t = 2.783$, $p < 0.05$) had significant major effects on individual performance. This implies that

individual performance was predicted to increase in a negative direction with institutional codification and in a positive direction with overall knowledge sharing practices.

Quigley et al. (2007) also found that shared knowledge and self-set goals had a direct positive influence on the performance of managers when entered simultaneously in a regression after controlling for task ability ($\beta = 0.36$, $p < 0.001$) and goals and knowledge shared ($\beta = 0.29$, $p < 0.001$ respectively, $\Delta R^2 = 0.23$).

The moderator variable entered at step 2 accounted for approximately 8% of the variance in individual performance. There was no significant prediction of agreeableness, conscientiousness and openness on individual performance. However, the purpose of step 2 was to identify the significance of moderator variables solely in terms of prediction and from that, to give an indication of their roles as moderator or only as independent variables.

Step 3 showed the interaction output between independent and moderator constructs on individual performance. When the interaction terms were entered, an increase in R^2 by another 6%, to 14% was observed. In other words, the model of interaction effect influenced 14% of the variance on the individual performance. It was found that the interaction terms between agreeableness x mentoring 1 ($\beta = -4.389$, $t = -2.979$, $p = 0.003$) and agreeableness x mentoring 2 ($\beta = 3.592$, $t = 2.273$, $p = 0.023$) had an effect on individual performance.

The results of the interaction techniques are interesting, because when mentoring programme 1 (competence) analysis is entered in the multiple regression (in step 1), it is reported as not significantly influencing individual performance. However, when this variance is multiplied with moderator factors, it appears as significant. This situation was accepted because the variances of mentoring competence were different in interaction with the variance of moderator factors, giving a different effect on individual performance. As explained by Villa (2003), technically, significant interactions may occur without the main effects of the predictor variables. In summary, two interactions were significant with pure moderator interaction; hence hypothesis 10 appears to be at least **partially supported**.

The present study indicates the interaction between agreeableness and mentoring and individual performance was 13.6%. This result is consistent with the findings of Niehoff (2006), who also employed BFI to illustrate the results of a hierarchical regression approach with interaction only for openness to experience with mentor (18.7%) and a significant beta coefficient of openness to experience ($\beta = 0.18$).

6.11.3 Moderator Variables

Regression analysis was used to investigate the relationship between the predictor variable(s) and the criterion variable for each subgroup. According to Sharma et al. (1981), the typologies of moderator variables consist of pure, quasi and homologizer moderators, as shown in Figure 6.6.

Figure 6. 6: Typology of Specification Variables

	Related to Criterion and/or Predictor	Not Related to Criterion or Predictor
No Interaction With Predictor	1 Intervening, Exogenous, Antecedent, Suppressor, Predictor	2 Moderator (Homologizer)
Interaction with Predictor	3 Moderator (Quasi Moderator)	4 Moderator (Pure Moderator)

Source: Sharma et al. (1981:292)

The classification of the types of moderator varies in two criteria: the interaction effect and the relationships between independent and dependent variables (Arnold, 1982). If the moderator variable interacts significantly with independent variables, and there is no significant correlation with dependent variables, it is a pure moderator. However, if there is a significant correlation between a moderator and dependent variables, then the significant interaction with independent variables is known as a quasi moderator. If it has no significant correlation with either independent or dependent variables, it may be a homologiser moderator or it may not be a moderator at all. Homologiser moderated is to test the effect of the strength rather than the form of the relation as pure and quasi

moderated and typically best detected by applying sub group analysis (Sharma et al., 1981). For hypothesis 10, there are five groups of independent variables and three factors in the personality traits as moderators; this hypothesis was tested 15 times (5 x 3); thus, 15 interactions between moderators and independent variables appear. The results show only two significant interactions, appearing between agreeableness with mentoring 1 and agreeableness with mentoring 2.

The present study focuses more closely on pure moderators because of the findings of the moderator analysis obtained in the pure moderator quadrant. A pure moderator indicates that the variances in the regression coefficient for each variable have an effect across moderator values. Pure moderators appear in a clear relationship as moderating the interaction between independent variables and dependent variables. As indicated in Table 6.26, the independent variables (mentoring 1 and mentoring 2), and the moderator factor ‘agreeableness’ were not significant when standing alone in step 1 and step 2, but when there was interaction between these three constructs (in step 3), it appeared to moderate the relationship significantly.

Hypotheses 11: Personality traits moderate the relationship between managerial tacit knowledge and individual performance.

This section identifies the moderating effect of personality traits and TK in predicting individual performance. To give a clear picture of the relationship as stated in hypothesis 11, Figure 6.7 shows the interaction between these three variables.

Figure 6. 7: Moderator Relationship proposed in Hypothesis 11

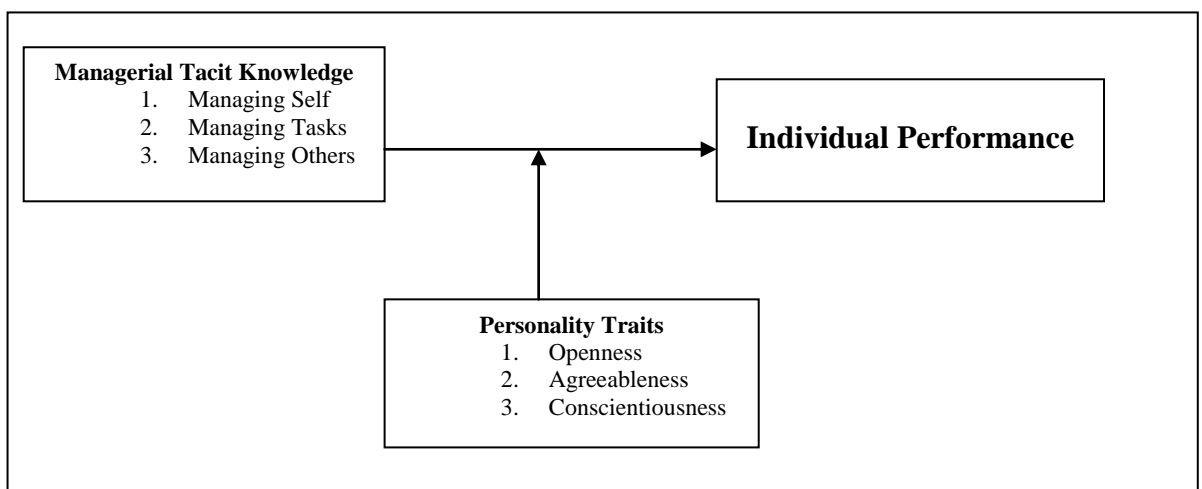


Table 6. 27: The Result of Moderator Regression Analysis of Personality Traits, Managerial Tacit Knowledge and Individual Performance

Variables	Standardized Coefficients		t	Sig.
	Beta			
Step 1				
(Constant)			159.007	.000
Self	-.173		-1.749	.041
Task	.098		1.048	.148
Tacit Knowledge	-.036		-.301	.382
Step 2				
(Constant)			52.096	.000
Agreeableness	.105		1.464	.072
Conscientiousness	-.030		-.438	.331
Openness	.003		.045	.482
Step 3				
(Constant)			15.471	.000
Self	-.256		-.235	.407
Task	1.126		1.235	.109
Tacit Knowledge	-.968		-.772	.220
Agreeableness	-.368		-1.293	.099
Conscientiousness	.721		2.628	.005
Openness	-.119		-.411	.341
Agreeableness x Self	1.625		2.023	.022*
Agreeableness x Task	1.341		1.701	.045*
Agreeableness x Others	-1.060		-1.280	.101
Conscientiousness x Self	-1.043		-2.221	.014*
Conscientiousness x Task	-1.576		-3.201	.001*
Conscientiousness x Others	.585		1.329	.092
Openness x Self	-.111		-.184	.427
Openness x Task	-.427		-.631	.264
Openness x Others	1.022		1.714	.044*
	Step 1		Step 2	Step 3
R	.216		.234	.339
R ²	.047		.055	.115
Adj R ²	.037		.036	.070
R ² Change	.047		.008	.060
F	4.980		2.918	2.533
Significant	.002		.009	.001

* Significant at 0.05 level (1-tailed)

Table 6.27 shows the results of the hierarchical regression analysis to test research hypothesis 11. As can be seen in the table, the finding indicates that personality traits

moderate the effect of managerial tacit knowledge on individual performance in the typologies as a pure moderator.

In step 1, the managerial tacit knowledge subscale (managing self, managing tasks, managing others) and overall tacit knowledge, were entered. In step 2, the moderator variables, namely agreeableness, openness and conscientiousness were entered, and the interaction terms were entered in step 3 of the regression model. However, managing others was excluded from the linear regression in step 1, although it was significant when interacting with the moderator value in step 3. In this case, in step 1, it is likely that the variance of managing others was not strong enough to predict individual performance by itself.

The set of managerial tacit knowledge variables entered in step 1 accounted for 4.7% of the variance in predicting individual performance. Only one of the three sub scales of the managerial tacit knowledge variable was found to have an influence on individual performance. Specifically, managing self (self) ($\beta = -0.173$, $t = -1.749$, $p = .041$) was found to have a significant influence on individual performance, while managing tasks and overall tacit knowledge were not significant. At this prediction level, two subscales of tacit knowledge had no significant effect on individual performance, but the existence of a moderating variable may explain the result of these two subscales.

As mentioned earlier, the calculation of managerial tacit knowledge was produced by the difference scores of the expert, typical and novice groups. Therefore, it is acceptable as a positive direction, although the result of subscales of tacit knowledge, particularly managing self and overall tacit knowledge had a negative value in the present analysis.

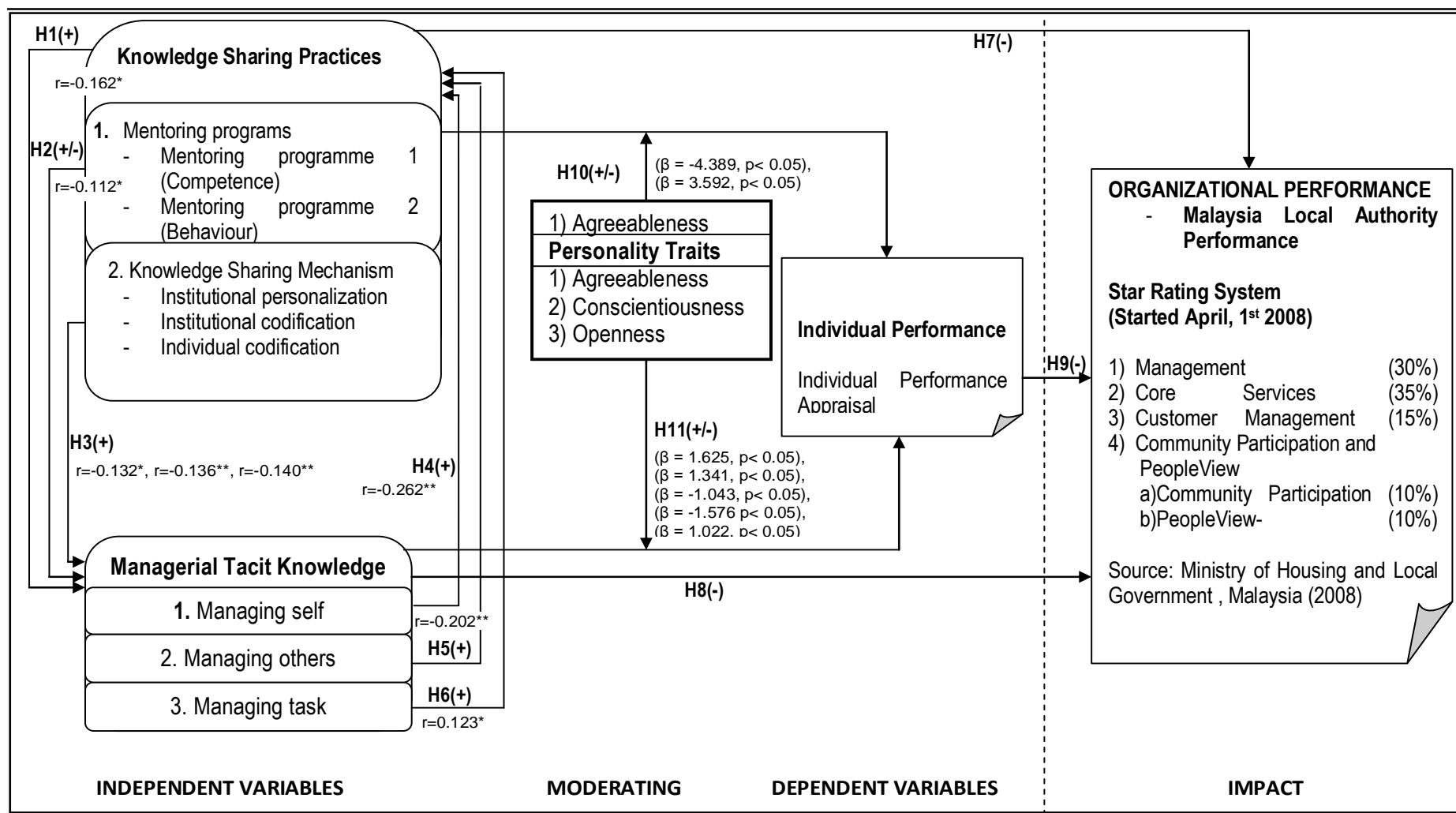
In the second step, moderator factors, namely agreeableness, openness and conscientiousness, were entered into the analysis in order to examine their effect as independent predictors of individual performance. When moderator factors were entered in the regression model, the R^2 increased from 4.7% to 5.5%, indicating a change of 1%, which was a significant response to individual performance.

In the third step, 9 interaction terms were entered into the model. From Table 6.27, it can be seen that 11.5% of the variance explained by interaction terms was significant ($p < 0.05$), indicating that there was a moderating effect.

From the final regression block, it can be observed that five of the nine interactions were significant at the 0.05 level. An examination of the full model from the block of interaction in step 3 revealed the pure moderator effect of agreeableness x self ($\beta = 1.625$, $t = 2.023$, $p = 0.022$), agreeableness x task ($\beta = 1.341$, $t = 1.701$, $p = 0.045$), conscientiousness x self ($\beta = -1.043$, $t = -2.221$, $p = 0.014$) conscientiousness x task ($\beta = -1.576$, $t = -3.201$, $p = 0.01$) and openness x others ($\beta = 1.022$, $t = 1.714$, $p = 0.44$). The other interactions appeared to have no effects on individual performance. Thus, these findings provided **partial support** for hypothesis 11.

Overall, the variance of interaction between moderator factors with prediction variables had effect on criterion variables in this present study, which was consistent with previous studies. Although the results of this study differ slightly from those of previous studies, such findings are expected in the context of the study of tacit knowledge, as most of the studies in this field resulted in a low prediction. In this present study, the explanatory power of the subtraits personality and managerial tacit knowledge of 11.5% of variance in individual performance was consistent with other studies, such as Menkes (2002), who found that the regression model using the Wonderlic Personnel Test and the TKIM yielded an $R^2 = .23$ (adj. $R^2 = .21$), accounting for approximately 21% of the variance in critical thinking skills (CTST). The pattern of this result was closely consistent with that of Sternberg et al. (1995), who found in the hierarchical regression that tacit knowledge accounted for 32% of criterion variance that was not accounted for by IQ and an additional 5% variance between age and years of education with tacit knowledge.

Figure 6. 8: Summary of the Results of Testing Hypotheses 1 to 11



(+) Accepted hypotheses, (-) Rejected hypotheses, (+/-) Partially supported hypotheses, *p<0.05, **p<0.01

6.12 Additional Results

Additional results were examined to explore the concrete and robust findings that are not represented in the hypotheses of the study. These additional findings were intended to support the importance of consideration of tacit knowledge, knowledge sharing and personality traits in attempting to understand the criteria needed for managerial success.

6.12.1. Exploring the KSP and Personality Traits in Different Group of Respondents

Firstly, an assessment of the differences in scores of expert, novice and typical groups that reflect the knowledge sharing practices and personality traits across the subjects was made. An ANOVA test was performed to identify what types of methods of KSP and traits of personality were related with the respondents. The results indicated that in the main mechanisms of knowledge sharing practices and personality traits were significantly different among the respondents. Thus, to explore the differences among the groups of respondents in terms of KSP and PT, a comparative analysis was conducted for these two constructs.

Table 6. 28: The Results of ANOVA for KSP among Respondents (n =308)

ANOVA		Sum of Squares	df	Mean Square	F	Sig.	
Mentoring2 (Behaviour)	Between Groups	1.774	2	.887	4.276	.015	
	Within Groups	63.261	305	.207			
	Total	65.035	307				
Institutional Codification	Between Groups	2.672	2	1.336	4.316	.014	
	Within Groups	94.406	305	.310			
	Total	97.078	307				
Institutional Personalization	Between Groups	3.292	2	1.646	6.048	.003	
	Within Groups	83.018	305	.272			
	Total	86.311	307				
Knowledge Practices	Sharing	Between Groups	1.564	2	.782	5.816	.003
	Within Groups	40.994	305	.134			
	Total	42.557	307				

*P<0.05

Table 6.28 illustrates the significant differences between expert, typical and novice groups in terms of knowledge sharing practices. This means that the mechanisms of sharing knowledge among expert, typical and novice are different. Therefore, further analysis was carried out of knowledge sharing practices constructs to explore the specific differences between these mechanisms, namely mentoring programme 2 (behaviour), institutional codification, institutional personalization and knowledge sharing, as indicated in the table below.

Table 6. 29: The Results of KSP according to Group of Respondents (n =308)

Variables	Group	n	Mean
Mentoring 2 (Behaviour)	Expert	32	4.4766
	Typical	238	4.2521
	Novice	38	4.3816
Institutional Codification	Expert	32	4.2375
	Typical	238	3.9756
	Novice	38	3.8579
Institutional Personalization	Expert	32	4.3047
	Typical	238	3.9632
	Novice	38	3.9934
Knowledge Sharing	Expert	32	4.2663
	Typical	238	4.0316
	Novice	38	4.0423

Table 6.29 above illustrates that the means of experts are different from novice and typical managers. In fact, statistically, experts are the highest in terms of sharing their knowledge in the mentoring programme emphasising behaviour (mean = 4.4766) compared to typical managers (mean = 4.2521) and novice managers (mean = 4.3816). The credibility and intention of experts to share their knowledge can be seen in the higher means for the mechanisms of institutional codification and institutional personalization. However the expert group also has a higher mean for knowledge sharing practices in total, compared with the typical and novice groups.

Table 6. 30: The Results of ANOVA for Sub traits of Personality (n =308)

ANOVA		Sum of Squares	Df	Mean Square	F	Sig.
Conscientiousness	Between Groups	4.596	2	2.298	5.822	.003
	Within Groups	120.379	305	.395		
	Total	124.975	307			
Openness	Between Groups	4.014	2	2.007	7.080	.001
	Within Groups	86.470	305	.284		
	Total	90.485	307			
Personality Traits	Between Groups	2.678	2	1.339	7.545	.001
	Within Groups	54.126	305	.177		
	Total	56.804	307			

*P<0.05

Table 6.30 shows the results of the ANOVA testing the differences between subtraits of personality among respondents. Two traits, personality and overall personality traits, were shown to have significant differences among the expert, typical and novice groups. However, there were no differences in agreeableness among these three groups. Therefore, in order to identify the differences between each group, a *post hoc* comparison was made to distinguish the scores between groups.

In running differences analysis such as t-test and ANOVA there are possibilities of drawing invalid conclusions, as either a ⁸Type 1 error or a Type 2 error. *Post hoc* comparisons are alternative approaches to protect against Type 1 errors. Using post hoc comparisons it is possible to explore the differences between each of the groups. The Levene's test assumes that equal variance has not been conducted first to check there is no violation of the normality assumption. All the techniques discussed in this chapter yielded statistically significant outcomes that do not occur by chance.

⁸ Type 1 error (rejecting a null hypothesis when it is true) or a Type 2 error (accepting a null hypothesis when it is false)

The findings of the Levene's test show no significant differences between group, indicating no violation of variance between the groups. Hence, a Scheffe analysis was performed to check the differences in means between the groups.

Table 6. 31: The Results of Sub traits of Personality among Respondents (n =308)

Variables	Group	n	Mean
Conscientiousness	Expert	32	4.0125
	Typical	238	3.6765
	Novice	38	3.5105
Openness	Expert	32	4.3477
	Typical	238	3.9806
	Novice	38	3.9441
Personality Traits	Expert	32	4.3095
	Typical	238	4.0192
	Novice	38	3.9586

The results of comparisons between groups of respondents (Table 6.31) revealed that personality traits for the expert group were more positive than for the novice and typical groups. The expert group was more conscientious about their managerial work (mean =4.012) compared with the typical group (mean =3.6765) and novice group (mean =3.5105). Similarly, openness for the expert group (mean =4.3477) was also higher than for the typical and novice groups, both of which had a similar level of openness (mean =3.9806 and mean =3.9441, respectively). For the overall personality traits, the expert group had a significantly higher score with mean =4.309, than the typical group (mean =4.0192) and novice group (mean =3.9586). This implies that the expert group was higher in conscientiousness, openness and overall personality traits compared with the typical and novice groups.

6.12.2. Test of Differences between Groups of Managers according to Demographic Variables

Table 6. 32: The Results of ANOVA for Respondents' Background (n =308)

Variables		Sum of Squares	df	Mean Square	F	Sig.
Age	Between Groups	4950.881	2	2475.441	46.487	.000
	Within Groups	16241.180	305	53.250		
	Total	21192.062	307			
Education	Between Groups	2.209	2	1.105	3.547	.030
	Within Groups	94.995	305	.311		
	Total	97.205	307			
Salary	Between Groups	133807595	2	66903798	47.437	.000
	Within Groups	430164940	305	1410377		
	Total	563972535	307			
*Experience	Between Groups	4638.589	2	2319.294	40.526	.000
	Within Groups	17455.291	305	57.230		
	Total	22093.880	307			
*Period	Between Groups	4156.184	2	2078.092	73.637	.000
	Within Groups	8607.358	305	28.221		
	Total	12763.542	307			
Individual Performance	Between Groups	66.159	2	33.080	4.422	.013
	Within Groups	2281.527	305	7.480		
	Total	2347.686	307			

*Experience – Length of experience in Malaysian public agencies

*Period – Years of experience in the a management position in Malaysian local government

*P<0.05

A one-way ANOVA test of mean differences was performed to determine the extent of differences according to age, level of education, salary, and working experience in Malaysian public agencies, working experience in Malaysian local government and individual performance between the groups of respondents. Table 6.32 tabulates the results of the ANOVA test on the mean differences between the three categories of managers (expert, typical and novice). The results showed that there were significant differences between the categories of managers according to age (F=46.487), level of education (F=3.547), salary (F=47.437), length of working experience in Malaysian public agencies (F=40.526), length of experience in managerial work in Malaysian local government (F=73.637) and individual performance (F=4.422). In order to examine the

specific differences between categories of managers, *post hoc* multiple comparisons using Levene and Scheffe tests were employed to demonstrate the means between groups.

Table 6.33: The Results of Post Hoc Multiple Comparisons of Managers' Backgrounds

Category (n=308)	n	*Period	*Years of Experience	Individual Performance	Age	Education	Salary (RM)
Expert	32	16.44	22.53	90.8031	48.3750	3.4063	5324.9063
Typical	238	7.51	11.97	89.6322	37.0714	3.1345	3439.3342
Novice	38	1.00	6.53	88.8626	32.0526	3.1053	2659.6953

Table 6.33 displays the result of the ANOVA test between groups of managers in terms of personal background. It reveals significance differences according to years of experience, as the expert group had been involved in managerial work (period) in local government compare for an average of 16 years, compared to eight years for the typical group and one year for the novice group. In terms of working experience in Malaysian public agencies (years of experiences), the average for the experts was 23 years, 12 years for the typical managers and seven years for the novices. In term of performance appraisals, expert managers received 91 marks, followed by typical managers with 90 marks and novices with 89 marks. The average age of the experts was 48, which indicated a considerable difference from the ages of the typical and novice managers. The age gap between experts and novices was 16 years. For education level, most managers were degree holders with undergraduate qualifications. Further, the salary for experts was RM 5324, for typical managers it was RM 3439, and for novices, RM 2659.

6.12.3. The Relationships in Respondents' Profiles

Table 6. 34: The Results of Pearson Correlation of Respondents' Profiles (n=308)

Variables		Salary	Exp	Period	EmPLY	Perf.	Age	Educ
Salary	r	1	.670**	.658**	.253**	.384**	.689**	.204**
	sig.		.000	.000	.000	.000	.000	.000
Experience (Exp)	r		1	.701**	.200**	.374**	.921**	.172**
	sig.			.000	.000	.000	.000	.001
Period	r			1	.059	.366**	.687**	.131*
	sig.				.152	.000	.000	.011
Employees (EmPLY)	r				1	.259**	.201**	.079
	sig.					.000	.000	.085
Performance (Perf)	r					1	.325**	.078
	sig.						.000	.087
Age	R						1	.158**
	sig.							.003
Education (Edu)	r							1
	sig.							

** . Correlation is significant at the 0.01 level (1-tailed).

* . Correlation is significant at the 0.05 level (1-tailed).

The linear relationship as shown in Table 6.34 indicates the interrelationship between salary, working experience in the Malaysian public agencies, management experience in Malaysian local government, number of employees under supervision, individual performance, age and level of education. The highest correlation was between working experience in Malaysian public agencies and age ($r=0.921$, $p=0.000$), followed by working experience in Malaysian public agencies and working experience in management position in local government ($r=0.701$, $p=0.000$), salary and age ($r=0.689$, $p=0.000$) and working experience in management position in local government and age ($r=0.687$, $p=0.000$). Furthermore, a highly significant correlation can also be seen between salary and working experience in Malaysian public agencies ($r=0.670$, $p=0.000$) and between salary and working experience in a management position ($r=0.658$, $p=0.000$). There were only moderately significant correlations between salary and performance, salary and working experience in Malaysian public agencies, salary and working experience in management position, and age and individual performance.

However, weak correlations were seen in the relationship between salary and number of employees under supervision, salary and level of education, working experience in

Malaysian public agencies and number of employees under supervision, working experience in Malaysian public agencies and level of education, working experience in management position and level of education, number of employees under supervision and individual performance, number of employees under supervision and age, and age and level of education.

Lastly, there were no significant relationships between working experience in management position and number of employees under supervision, number of employees under supervision and level of education, and individual performance and level of education.

6.13 Summary

In general, the data analysis strategy provided clear data to arrive at the results. The factor analysis of knowledge sharing practices, managerial tacit knowledge and personality traits yielded a structure consistent with the results of previous studies with some minor modifications. The reliability analysis indicates that the items were reliable and could be used for further analysis.

The correlation analysis demonstrated that managers were in the position of sharing their managerial tacit knowledge in the mentoring programme, individual codification, institutional codification and institutional personalization. These findings confirm the propositions in the SECI Model.

In addition, the analyses of differences revealed no differences in knowledge sharing practices, managerial tacit knowledge and individual performance among managers working in high and low performance organisations. The analysis indicates that these three variables are implemented equally in organisations with different levels of performance.

The multivariate analysis results revealed that some subtraits of personality moderate the relationship between subscales of the effect of knowledge sharing practices on individual performance. Specifically, the study found that mentoring competence interacted in a negative direction with agreeableness in influence in terms of individual performance. In contrast, mentoring behaviour interacted in a positive direction with

agreeableness in impact on individual performance. These findings also revealed that all subtraits of personality, consisting of agreeableness, conscientiousness and openness had joint effect with managerial tacit knowledge in predicting individual performance.

Finally, additional analysis was conducted to clarify relationship of the main variables that were not hypothesised. Apart from this, an analysis of the differences among novice, typical and expert groups in these main variables was also carried out, as this study examines the differences among these groups in terms of managerial tacit knowledge. The following chapter will discuss the findings of this study in terms of similarities to and differences from previous studies, as well as the meaning of the findings in the present study.

Chapter 7

Discussion

7.1 Introduction

This chapter discusses and interprets the results and links them with the findings from other studies to discover the similarities and differences. The results of this study are important in demonstrating that the interrelationship between knowledge sharing practises and managerial tacit knowledge, taking personality traits into consideration, is influential on individual performance. The findings supported the research hypotheses and were generally consistent with previous studies.

Firstly, the results of the factor analysis are discussed to identify the implications of the emerging factor structure. Drawing from the literature review, this study proposed a mechanism of sharing tacit knowledge and corresponding to theories and a model which were integrated into a framework. Next, the discussion covers the results of hypotheses that were structured according to the independent variables. This chapter also discusses the clarification of findings that linked with the research contribution in the next chapter.

7.2 Results of Factor Analysis

In Chapter 5 the instruments that were developed for the empirical research were presented; namely knowledge sharing practices consisting of mentoring programmes and the knowledge sharing mechanism, managerial tacit knowledge and personality traits. The results of the factor analysis provided feedback for the relevant items for this study. Exploratory factor analysis was employed, consistent with the previous research, as explained in the section 5.6.1. However, the most important factor analysis was alignment with the technique employed by the main scholar in this field, Sternberg, who used factor structures for tacit knowledge studies, with a sample of a different nationality, a different set of tests and different method of analysis (exploratory rather than confirmatory analysis) (Sternberg, 2005).

7.2.1 Knowledge Sharing Practices

Mentoring Programme

Regarding the mentoring programme, one of this study's interesting findings was the details and specific types of mentoring preferred by managers in the public sector. Although these results are unexpected and contrast with results of previous studies, they offer new findings in terms of mentoring programmes that are relevant for the study of managerial tacit knowledge among managers in the public sector. In the factor analysis, some items that loaded in different factors or had values below the cut-off point were deleted. From 32 items tested, 9 items were deleted, leaving 23, which is still acceptable for factor analysis dimensions that are appropriate for the public sector working environment in Malaysian local government. This is probably because this instrument was developed by Bryant and Terbong (2008) and Bryant (2005) has not been well tested in other countries and with different samples such as public managers; thus different patterns emerge from this instrument when it is tested in a different context or working environment.

Specifically, the results found that two categories emerged in the mentoring approach: competence and behaviour. This result differs slightly from the original version by Bryant (2005), which only has a single mentoring programme measurement; in this present study there are two dimensions of the mentoring programme. Thus, in general, the results of this study make a theoretical contribution to the existing literature on mentoring programmes in the context of the ways in which tacit knowledge are acquired and shared through managers' approaches.

While, Bryant (2005) proposed a single variable for the mentoring programme, the content of instrument in his measurement actually represents two different factors, i.e. competence and behaviour and for this reason in this present study, the new factors emerging are named competence and behaviour. Similarly, Kram (1985a) stated that mentors help their protégés by providing two general types of function or behaviour. The first is the career development functions or competence which facilitates their protégés' advancement in the organisation. Second, there are the psychosocial function or behaviour which contribute to the protégés' personal growth and professional development. Swap et al. (2001) also mentioned that normally a mentoring programme

involves the transfer of skills and a managerial system that can be categorised as core competencies and norms of behaviour and values.

The emergence of factor loading in two categories of MP was unexpected, but appears relevant due to the relation of mentoring to other variables in this study. This is the only study to investigate the link of MP not only with knowledge sharing practices but also with managerial tacit knowledge and personality traits that influence individual performance. Therefore MP (competence) was assumed to relate more closely with managerial tacit knowledge and also measured individual competency. Sternberg et al. (1995) argue that in real-world concerns, the acquisition and use of tacit knowledge appear to play a unique and important role in competent performance.

On the other hand, knowledge sharing practices and personality link towards individual behaviour. Thus, a mentoring programme with behavioural content becomes a platform for senior and junior managers to bridge the gap between natural behaviour and expected behaviour in the workplace and to contribute to a successful career. Politis (2005) suggested that the behaviour and skills of knowledge workers are essential for knowledge acquisition and knowledge sharing. This finding was further confirmed by Niehoff (2006), who found that in a mentoring programme, the mentor has to communicate with protégés on such matters as advising, networking and direction, opportunities for gaining new experiences and solving problem. Ashton and Lee (2001) agreed that conscientiousness, extraversion and openness were related to domains such as the social aspect, tasks and knowledge which are involved in the mentoring environment. However, personality traits of neuroticism and agreeableness leaders are not interested in becoming involved in a mentoring programme based on voluntary participation (Niehoff, 2006; Judge et al., 2002).

These findings were explained by the suggestion that to develop managers to become leaders, work competency and excellent behaviour are required. In the mentoring programme with the competency approach, the mentors provided ideas and share their knowledge, best practices in doing work and capability to handle different types of job. Through mentoring programme behaviour, the mentor or senior manager helps and provides guidelines to protégés or junior managers to identify excellent behaviour.

The retention of mentoring programme factors can be applied in the context of this study since this study also involves different categories of managers, namely expert, typical and novice. It can be assumed that for novices in this present study, talent and ability would be the most compelling factors in initially attracting the attention of the mentor or expert. In addition, motivation and willingness on the part of the protégé (novice) to learn will be necessary to generate further development of their relationship. However, if the protégé (novice) lacks drive and is not open to learning, the relationship will not progress and hence be less successful (Allen et al., 1997b).

Knowledge Sharing Mechanism

With respect to the findings of the factor analysis for KSM, it can be seen that this is also in disagreement with the previous version. As shown in the original version, there are four mechanisms of knowledge sharing, called individual personalization, individual codification, institutional personalization and institutional codification (Boh, 2007). In contrast, this study uses an abbreviated version from which individual personalization has been excluded because of factor loading in different dimensions. Several items of individual personalization loaded on the wrong factor, loaded on more than one factor or demonstrated minimally acceptable factor loading (less than 0.30). The remaining factors of the knowledge sharing mechanism were therefore individual codification, institutional codification and institutional personalization.

The main reason for excluding individual personalization in this study was the expectation that managers prefer to go to their mentor as the person who has been appointed or has informally agreed to teach mentees or novice managers, rather than approach other experts personally. Klauss (1981) found that in the public sector, the roles of the mentor consist of giving career strategy advice, making an individual development plan, counselling, sponsoring/mediating, monitoring, giving feedback, and role modelling. Although not all roles were performed by each mentor, a combination of this set of roles represents the core activities which are carried out in mentoring relationships. For instance, the mentor openly shared a self-assessment of career development needs and personal career goals. These functions were sufficient to attract new employees or novices to go to their mentor rather than personally approach someone that they did not know, as over time, people learn to interact selectively to avoid messages and information that might conflict with their established practices and

dispositions (Katz, 1982). Normally, supervisors can refer newcomers to the right people to approach for guidance and supervision (Boh, 2007).

Therefore, mentoring was preferred, as having responsibility to give direction and openness in exploring professional and personal concerns was seen to rest with advice rather than a personal approach, particularly, in the case where protégés select a mentor with the desired expertise (Ragins & Cotton, 1999). Members prefer to select partners they enjoy working with and often report a mutual attraction or chemistry that sparks the development of the relationship (Kram 1983, 1985a).

7.2.2 Managerial Tacit Knowledge

The result of factor analysis for TK was crucial in this study and differed from the original version. The findings reveal the measurement of acceptance and relevance for the local government managers in the context of Malaysia. As proposed by Wagner and Sternberg (1985a), there was a total of 91 items for TKIM, with three main subscales. In this study, the number of items was reduced to 25 (28%) after forcing loading onto the three subscales of tacit knowledge. The three subscales that remained confirmed to the theory of successful intelligence by Sternberg (2005), who found that in tacit knowledge studies, subscales tests of tacit knowledge consisting of managing self, managing others and managing tasks correlated significantly with each other. Although this represents a considerable reduction in items, it is still consistent with Mahmud (2006), who investigated respondents in a similar context, although at a different level of government. The process of eliminating items is also consistent with Edwards and Schleicher's (2004) study, which also employed exploratory factor analyses, where Kaisers's eigenvalue greater than 1 criterion revealed no particular patterns. They then forced TK items to the three-factor solution, as adopted in this present study.

One possible explanation for the considerable reduction in items in the context of the Malaysian public sector is the nature of the simulation of tacit knowledge. The original inventory for TKIM adopted in this study was designed to assess tacit knowledge acquired from situations commonly experienced in everyday American life (Cianciolo et al., 2006). The inventory collectively reflects individual differences in the ability to acquire and use practical knowledge because it presents situations likely to have been experienced by all of experts. As claimed by Cianciolo et al. (2006), assessment of tacit

knowledge acquired from common everyday experience may clarify at least to some degree, the role in intelligence behaviour of the relatively general ability to learn from everyday experience and to apply knowledge to practical problem solving. However, it is likely that the working style and nature of decision and policy making differ between West and East, although Lievens (2005) claims that performance on tacit knowledge is not strictly culturally-bound and supports the impression that the inventories capture a general construct. However, it should be noted that tacit knowledge is also subject to context-specific procedures, acquired on one's own with little support from others and instrumental in attaining personal goals (Sternberg et al., 2000). Therefore, there are possibilities that the context and working procedure from which managerial tacit knowledge derives are slightly different in Malaysian local government from those in the American working context.

Thus, the results of factor analysis in this study on managerial tacit knowledge emerged as differing from Wagner (1987) and Sternberg et al. (1995). Without further research it remains unknown whether this difference was due to the manner in which differential value was placed on the tacit knowledge of public sector managers or influenced by the link with the mentoring programme and knowledge sharing mechanism criteria, as it appears that this present study was the first attempt empirically to study cross sample stability on managerial tacit knowledge inventory in non western countries.

However, the most important study on tacit knowledge was limited to Malaysia and thus the findings from this factor analysis identified the relevant instruments in Malaysian public sector context. This argument were consistent with Edwards and Schleicher (2004), who explained that the primary goals of research were to (1) contribute to the TK literature; (2) identify ways to reduce the measure (and thereby reduce test taking time) while increasing (or at least maintaining) its predictive validity, and; (3) develop a construct of TK by empirically examining its factor structure and its convergent relationship with other theoretically relevant variables. These factor analytic results emerged on a different scale to that proposed by the scale authors. The absence of a robust number and content of the factors do not match the structure espoused by the scale authors, which, although TK is multidimensional, poses some concerns regarding the TK construct.

7.2.3 Personality Traits

Factor analysis was undertaken to identify the appropriate personality trait items representing traits among Malaysian public servant managers. From the total of 28 items, 21 remained and 7 items were excluded because of either loading in different factor or not reaching the cut-off points of appropriate items. These 21 items indicate that it was mainly openness and agreeableness items that remained, rather than conscientiousness items. This is probably because of the conventional priority among Malaysian public servants to favour personality traits of agreeableness. At the same time, young managers tend to be open to experiences in order to increase learning and ability in terms of work. This is consistent with Mastor's (2000) study of the Malay personality, in which he found that Malays tended towards openness to learning and finding new strategies to increase human productivity.

7.3 Difference Level of Accumulated Managerial Tacit Knowledge among Managers

This study also conducted analyses to identify the differences in LAMTK of three group managers in the organisations to represent managerial tacit knowledge belonging to each group. This study did not specifically set out to examine directly the different levels of managerial tacit knowledge between expert, novice and typical managers. However, it is essential for the study of managerial tacit knowledge to identify the mean score of expert managers and then subtract those of typical and novice managers to normalise the standard score of experts and non-experts, as the scores of the experts' group on managerial tacit knowledge can be assumed to be higher than those of the others.

The results of the present study confirmed that the level of managerial tacit knowledge among experts was higher than that of non-experts, which is consistent with Armstrong and Mahmud (2008), Hedlund et al. (2003) and Wagner (1987). As demonstrated in various studies of tacit knowledge, the experts group is normally very capable in terms of work, is always referred to as role models, and sometimes these experts become mentors. Their expertise in carrying out work, particularly in making the right decision, consulting others in a diplomatic way and having high self-motivation, indicates that experts have intrinsic knowledge and wisdom that allows them to capture and store appropriate solutions and activities. As one interviewee in this study said;

'Senior staffs influence decisions on policy or to be executed, but assisted by new staffs in the implementation. Ideas, decisions and rationale of a decision are made largely depending on senior staffs, as they see a thing that happens, the source and history of the matter, but the new staffs do not see the idea and history. Senior staff considerations are always right, more rational, accurate, in decision making, rather than junior staffs, who are monitored by the senior staffs' - Manager F

In addition, this study illustrates that experts are generally those who have been nominated and have received a service excellence award recently. To receive service excellent awards, managers must not only consistently receive a mark of 90 or above in performance appraisals in three years before the nomination year, but also show that their capabilities in performing work well are agreed upon by employees and employer in the department. This implies that experts are capable of managing their self, task and others simultaneously, enabling them to receive awards. These awards do not consider length of experience as determining rewards but how managers put their knowledge into practice in a productive manner is more important. Therefore, the typical group may have the same length of experience as an experts' group, but if they do not receive excellent marks for performance appraisal and the human resource committee members do not agree on their being nominated, they are not eligible be an expert group. Novice groups cannot receive a nomination if they have had less than one year's experience. One interviewee shared her experience as below;

'My President said we should rank their work appraisal yearly, and I believe the same thing. If you are one of those chosen as an excellent employee, it means that you are the best. My President always said that actually 30-40 % officers are entitled to be rewarded every year but because there is a quota limitation, only 8 % in government can be rewarded' - Manager D

In some circumstances, some novice or typical managers learn fast from their critical observation when they believe a successful strategy which is applicable to their job descriptions has been adopted by experts or senior managers. As an interviewee in Organization E said;

'I was interested in the way he worked, personally, not because he always called me. If we look at his work, it is easy to complete work such as solving problems. Like I said just now, although Tan Sri X has been retired for a long time, I still hold to the four management principles inspired by him. First, management by meeting, second, management by around, third, management by camera, fourth management by starting.

That's the basis for doing work, you as a leader, if you do not go down below, you do not learn well as a head. This is what is meant by 1 Malaysia's announced by the Prime Minister to ask public servants to go to the field. As a boss, you should not only stay in the office, as you will not know about the problems in the ground work' - Manager E

In particular, in the local government working environment where experts show how to perform managerial tasks, typical or novice managers find themselves in a similar situation. However, it is difficult to intimate exactly the strategy and wisdom required to increase self-motivation and ability to manage others. Nevertheless, less successful managers have to practise and learn to adopt successful techniques suitable for the nature of customers and the aims of their activities. In recent years, customers among local residents have made increasing demands for a better quality of facilities in alignment with the high council tax that they need to pay. At the same time, local government managers have to be highly productive to achieve work targets, as highlighted by the council committee. Therefore, managers in local government have to develop new knowledge and skills and rely on common sense to deliver quality services.

7.4 The Significance of Knowledge Sharing Practices, Tacit Knowledge and Individual Performance among Malaysian Public Servants

The first research question concerned the extent to which managers in Malaysian local governments use tacit knowledge and knowledge sharing practices. To answer this, managerial tacit knowledge was measured by identifying the association with KSP as well as the subscales of KSP and TK for detailed findings. The findings demonstrated that the local government managers shared their tacit knowledge according to the appropriate mechanism of knowledge sharing for them, and that their performance in this respect is apparently excellent, despite claims that tacit knowledge is often not shared unless managers think it is in their own best interests to do so (Davenport & Prusak, 1998; Hoof & De Rider, 2004; Liebeskind, 1996; Willem & Buelens, 2007). Although tacit knowledge may be hard to share, the present findings successfully demonstrate that in the Malaysian public sector, tacit knowledge sharing takes place in the context of managerial work.

Although the present study has different results from previous studies on the mechanisms of sharing knowledge, valid comparisons between these different

organisations can be made since there is a similarity between the studies on what mechanisms are relevant for sharing knowledge.

Sandhu et al. (2011) and Yao et al. (2007) confirmed that in the Malaysian and Asian public sectors, public service managers prefer to share their tacit knowledge. These two findings can be considered similar to the present study, as the target sample and nature of work in the public sector enable direct comparisons to be made. In this manner, it is safe to conclude that tacit knowledge is being shared among LGs managers of Malaysia. The findings of this study hence provide some evidence for the claims by Du et al. (2007) and Willems and Buelens (2007) that the tendency to share tacit and implicit knowledge with others leads to enhanced organisational performance. In this context, the findings of the present study can provide some assurance and confidence to the public sector generally that the preference for sharing tacit knowledge is at an acceptable level.

It is clear that managerial tacit knowledge is shared among public sector managers, although it is a complex process driven by knowledge sharing practices of the mentoring programme, individual codification, institutional codification and institutional personalization. This finding also elaborates preferences in sharing successful strategies of managing self, tasks and managing others, although these involve critical knowledge. The interrelationships between KSP and TK ultimately influence individual performance, as hypothesised in the framework of this study. The significance of KSP is to increase the resources of the organisation and reduce time wasted in trial and error (Lin, 2007a), as explained by an interviewee;

'We hope that newcomers don't make the same mistakes as the mentor did before. The mentor shares experiences not only in terms of work but also by explaining mistakes he or she made in the past and it's hoped that the newcomer will take this as a lesson and be careful not to make the same mistakes. So mentees are more advanced in doing work because they have guidelines for that' - Manager F

In view of this argument, the next section explains in detail the links between managerial success factors by demonstrating the results of the hypothesis testing.

7.5 The Results of Hypothesis Testing

7.5.1 Knowledge Sharing Practices and Managerial Tacit Knowledge

The results of testing hypothesis 1 showed that the interaction between knowledge sharing practices had a significant correlation with managerial tacit knowledge in public agencies. This result supports the relationship of the knowledge sharing mechanism and managerial tacit knowledge as factors that have an impact on individual performance. The experts had an average of 16 years' working experience in a managerial context, which enabled them to understand the rules and patterns of recognition, translating into the ability to transfer tacit knowledge from expert to novice (Swap et al., 2001). The findings are in alignment with the SECI model of Nonaka and Takeuchi (1995) and Nonaka (1994), which explain that tacit knowledge is accumulated and can be shared through externalization and socialization processes. Externalization is a process of embodying explicit knowledge into tacit knowledge that is closely related learning by doing, while socialization is a process of sharing experiences and thereby creating tacit knowledge, such as shared mental models and technical skills.

This model suggests employees prefer to learn in informal ways such as learning unintentionally during eating in cafeteria, chatting in halls, observing their colleagues' and supervisors' behaviour and the explicit experiences of others. Therefore, knowledge sharing occurs while asking, explaining, teaching and learning spontaneously. Experienced managers can help novices' management practices such as interpreting events, understanding technology and work processes and identifying values and norms in organisations. As explained by an interviewee;

'I learned many things not written down because in our government there are many events involving the big boss, so I studied protocol with the protocol officer, I learned town planning with city planner officers, engineering with engineers, medical issues with doctors. We have a lot of managers and places whereby we develop tacit knowledge from discussion and debate, and even at lunch time we talk about work and so on. Many things can be learned' - Manager A

Hence, these findings can explain how sharing managerial tacit knowledge in the government sector can help to manage human capital and that knowledge management

strategies have come to be in the best interests of government sector entities in Malaysia as one way of managing human capital in a sustainable manner.

7.5.2 The Mechanism of Sharing Tacit Knowledge

Mentoring programme and managerial tacit knowledge

The present study intended to test the relationship between a mentoring programme and total TK. Consistent with the hypotheses, it was found that mentoring was correlated with TK in the competence programme. Surprisingly, mentoring behaviour was not found to be correlated with TK. The results showed that within the preferred mechanism of knowledge sharing practices, competence programmes had a significant association with managerial tacit knowledge. In this study, what was relevance is the mechanism of knowledge sharing according to the perceptions of LGs managers was the mentoring programme (competence) rather than mentoring (behaviour).

The findings from the interviews with council managers working in the LG Star Rating System (SRS) confirmed the real situation of the tendency among managers to share their knowledge, particularly in the mentoring programme. In the context of knowledge-sharing mechanisms, 8 managers from both levels of local government indicated that KSP appears in similar activities, both formal and informal practices of the mentoring programme, as stated by a Head of the Department of Administration in one of the Malaysian LGs:

'We have just started a mentoring programme here. The target group of mentees are newcomers that have just been appointed or just transferred and the aim is to have mentors guide them so that they can adapt to the culture and working style here. We target mentors that can guide mentees in term of working and internal values such as time management, commitment to doing work, team work, and maybe working style if the style at the previous workplace in their village was not compatible with work and social culture here. So we arrange social activities to reduce gaps between senior and newcomers and avoid conflict between existing and new staff. If existing staff are dissatisfied with the newcomers' attitude to their work or with their creating a different culture within the existing culture, the mentor will guide them. The criteria for being a mentor are to have received a service excellence award, courtesy, respect for all people, top management and grassroots staff, meaning that all staff are happy with their work performance and personality. Another criterion for mentors is that they must come from the senior staff that have been working for a long time and have experience and work skills, so these work skills are shared with their mentees' - Manager F

This finding is inconsistent with Bryant and Terborg (2008), from which the instrument was adapted, as this showed that there was a significant relationship of mentoring competence and behaviour with knowledge creation and sharing. The contradiction of this finding with that of the current study may be due to the fact that the context of the present study specifically involves tacit knowledge, which typically focuses on competitiveness and success stories. Thus, in a mentoring programme that focuses on employees' competence, it is more important for the mentor to share expert guidance such as best practices or successful strategies for carrying out work. This is in contrast to Bryant and Terborg's (2008) study on knowledge sharing, which includes both the tacit and explicit knowledge that individuals possess about products, system, processes and codification in manuals, databases and information systems. Therefore, mentoring behaviour and competence are relevant to the sharing of both tacit and explicit knowledge. In addition, Bryant and Terborg's (2008) study was an initial empirical test of the relationship between peer mentoring and knowledge creation and sharing. According to Bryant and Terborg (2008), there is little research examining the relationship between peer mentoring and knowledge sharing. Therefore, the findings of the present study can support the premise that mentoring programmes encourage managers to turn tacit knowledge into stories of successful strategies in particular situations in the context of work.

This result is consistent with Eddy et al. (2005), Swap et al. (2002) and Crocitto et al. (2005), who argued that a mentoring relationship provides a means for firms to share knowledge, encourage learning and build intellectual capital. This means that a mentoring programme, by teaching and encouraging learning activities, involves participants in sharing the meaning and understanding of events. Mentoring is the best way to share tacit knowledge through helping and understanding projects in a team, particularly between managers and subordinates, in either formal or informal situations. This enables managers and subordinates to verbalise unconscious knowledge, particularly tacit knowledge, when they work together. According to Crocitto et al. (2005), relying on a mentor is an effective means of transferring both types of knowledge, particularly tacit knowledge, which employees develop by learning from one another and through experience. A mentor plays the role of informal teacher whether officially appointed or not, enabling knowledge to be transferred gradually (Swap et al., 2001).

To explain the relationship between a mentoring programme and tacit knowledge, this study found that the content of a mentoring programme of competence focuses more on the learning style, in sharing information, in the ability to assess co-workers' learning style and in communicating ideas. This indicates that in the mentoring programme, most mentors possess tacit knowledge that has been learned from personal experience and interaction with other employees and tend to communicate their tacit knowledge to others, most probably without being consciously aware of this, as mentoring programmes involve small groups of people, enabling the exchange of tacit knowledge while talking, exchanging ideas, writing on boards or showing others how to perform certain activities together. For instance, a mentoring programme involves activities such as demonstrating how to carry out a particular procedure or solve a particular programme through the socialization process (tacit to tacit knowledge) (Nonaka, 1994). It is a common occurrence that individuals who are protégés perform better and are promoted rapidly (Scandura, 1992), probably because they have learned and absorbed knowledge from their mentor (Swap et al., 2001). This assumption was shared by one of the interviewees who said that;

'So we arrange social activities to reduce gaps between senior and newcomers and avoid conflict between existing and new staff. If existing staff are dissatisfied with the newcomers' attitude to their work or creating a different culture in the existing culture, the mentor would guide them. The criteria of a mentor are the service excellence award, courtesy, respect for all people, top management and grassroots staff, meaning that all staff are happy with their work performance and personality. Another criterion for mentors is that they must come from the senior staff that have been working for a long time and have experience and work skills, so these working skills are shared with their mentees' - Manager F

The low correlation between the mentoring programme and TK is likely to be due to the issue that not all top managers are natural candidates for becoming mentors. Clearly, the public sector mentoring programme requires a personal commitment to share tacit knowledge. Personal commitment is also essential in term of willingness to invest time and energy.

However, this present study reveals that mentoring is important because mentors normally have broad and extensive experience, particularly those in the most important positions at executive level. The top management level is important to provide a basis

for exposing advisees to the range of activities that occur in the organisation. For instance, junior managers typically spend years developing skills and this process can be accelerated through a comprehensive training programme. However, the benefits of classroom training are enhanced when internal mentors are coached appropriately and are able to discuss the tools and techniques they have learned with someone who can add examples from their own personal experiences. For mentors, it is important that personal satisfaction be gained from assisting in the development of future managers through creating individual and personal learning. The mentees or advisees are expected to gain a great deal in the way of guidance and feedback from their mentors concerning immediate and long-term career planning. As this interviewee said;

'Formally, we don't have a mentoring programme but in every department either officers or chief clerk usually call staff. For example, I will call a group of staff for any official task or to announce results, but if I realize there is someone with potential, I will call them and tell them that they have abilities, and I can see their abilities, discipline and attitude. Those who are senior are better as mentors and at guidance because they have wide experience in working and explaining innovations and changes during their time, and how committed they were in the past without being given any extra payment and how they have survived this transformation from the typewriter age to the computer age, which was difficult and challenging for them' - Manager C

Further, it is important to keep in perspective the constraints that normally affect the degree of intensity and personal involvement in such relationships, as both mentor and advisee have a strong mutual investment in the relationship; the realities of work schedules, time pressures and changes in organisational structure are likely to serve as a continuing impediment to the relationship in the context of the public sector (Klauss, 1981). These constraints result in smaller number of senior managers being available to serve as a mentor (Allen et al., 1997a).

Knowledge Sharing Mechanisms and Managerial Tacit Knowledge

The results of the hypotheses testing showed that the group of variables of the knowledge sharing mechanism have a direct significant influence on managerial tacit knowledge. Knowledge sharing practices cannot rely solely on mentoring programmes effectively to share knowledge amongst managers. Hence, the organisation has provided a mechanism at institutionalised and individual levels of the knowledge sharing mechanisms to support this.

The significant finding is not consistent with all the variables of KSM in the original version. The findings of KSM contradict the expectation that individual personalization is also relevant for this study. The factor analysis for individual personalization yielded items loading on different factors, which led to the elimination of that particular variable. Thus, this study only considers individual codification, institutional codification and institutional personalization as KSM.

It should be noted that the instrument of KSM was adopted from the findings of empirical case study by Boh (2007) in project-based organisations that provided a knowledge sharing mechanism for different departments in the organisations. This set of knowledge sharing mechanism instruments were adopted because of the similarity with the target sample, which consisted of managers in local government involved in a project-based organisation. Secondly, to the researcher's knowledge, no study has investigated the interaction of the dimensions of individual codification, institutional codification and institutional personalization in a knowledge sharing context. This means that the study by Boh (2007), the initial research, distinguishes between individual and institutional and between personalization and codification as two distinct and independent dimensions for knowledge sharing. Therefore, the same instruments will give rise to the expression of different views when answered by a different set of respondents. This instrument was chosen because the nature of the work of the previous respondents in the original study was in project-based organisations that linked the expertise and experience of employees and was therefore considered to relate to tacit knowledge in this present study⁹.

The individual mechanism tends to be based on the random decisions of individuals and is unique to individuals or small groups. The individual mechanism is normally arranged at the individual level in an *ad hoc* and informal way, that is, it is unplanned and unstructured. In contrast, the institutional level mechanism supports knowledge sharing at a collective level by transferring learning and knowledge from individuals to large group of individuals by embedding knowledge sharing capabilities into the

⁹ Boh (2007:30), instead of using tacit-explicit knowledge like Spender (1996) and Lam (2000), used tacit-codified knowledge dimensions. The term 'codified knowledge' is frequently used synonymously with 'explicit knowledge' (e.g., Cowan et al., 2000; Nonaka, 1994) while tacit knowledge is defined as knowledge associated with experience and not codified in documents and databases (Spender, 1996).

structure and routine of organisations. The institutional mechanism is more formal and therefore needs an infrastructure to support its implementation.

Individual Personalization

The main reason for excluding individual personalization was that people prefer a personalization approach at the institutional level rather than individual. One explanation was that it is useful for managers to disseminate information and knowledge to people at institutional level, because the value of knowledge grows and multiplies when it is shared with various people (Cabrera & Cabrera, 2002). In the institutionalised mechanism this is more reasonable because an organisation can use collaboration between successful managers who, through their joint experience, can benefit many employees in various circumstances and not specifically certain individuals.

This situation can be seen from the interview findings which demonstrate that managers tend to talk about personalization at the institutional or management level, since there are limitations to individual personalization, as indicated below;

‘So what we do is we place a mentor who is an officer from a particular department to assist frontline staff to understand better. Certainly they go to workshops, but it is because they are fresh, either internal or external staff that don’t know the work procedure, so these are the people who teach them. Other departments organise a counselling group called AKRAM. It is a counselling group, functioning as trainers and gives guidance on how to do work, and on organisational culture. We requested an extension of the implementation of this group but because of time constraints, and from a cultural aspect, the head of department plays an important role in mentoring - Manager D

Other possible reasons for the individual personalization mechanism being limited are because employees tend to rely on the appropriate person to speak to about their problem and need to find the right time to do so. However, this leads to the problem that arises when an organisation restructures or a particular person moves to another department, as this makes it much more difficult to search for the required knowledge. At individual level, the mechanism for sharing knowledge was *ad hoc* and informal sessions, word-of-mouth from senior staff, and personal networking (Boh, 2007). However, these approaches may not always be the best ones for gaining tacit knowledge

because novice or junior managers lose contact with the particular person they always refer to, when the latter moves on or retires.

Individual Codification

This finding was consistent with Boh's (2007) concerning sharing tacit knowledge by individual codification through the use of documentation and technology. The findings could imply that the learner must share some context base of his/her present work situation and that the message will be assimilated based on personal experiences and memories (Schacter, 1996) in various ways. It depends on the individual to communicate with others who most admire the way in which they manage or who are most likely to agree with them. This mechanism places significant emphasis on the use of information technology (IT) to create electronic repositories for storing, searching and retrieving intellectual capital (IC).

For example, individuals may document know-how or procedural knowledge on certain topics by writing manuals but not disseminate the manual systematically and only pass it around to other individuals who know of its existence. Therefore, much of the intellectual capital that has been created in the process of completing projects is stored in the hard disks of individual team members or in the shared spaces that are accessible only to the team members who are working on the projects. This situation normally occurs in the process of completing projects, when individuals and groups convert their ideas, experience and learning into various artefacts including project proposals, and this specialist knowledge can become more widespread property if shared with other colleagues (Earl, 2001). This was confirmed by one interviewee, who mentioned that;

'Tacit and implicit knowledge is associated with knowledge management. Knowledge management involves a learning process and the k-worker, and we also practise knowledge management. Whatever it is, we start with unwritten or unspoken knowledge and after that experience and knowledge accumulate, so when knowledge and wisdom increase, eventually the person who creates something is asked to write down the output or the idea and they become written materials to be more explicit' - Manager A

Institutional Codification

This study found that institutional codification is a relevant mechanism for sharing managerial tacit knowledge. The finding was similar to that of Swap et al. (2001), although managerial tacit knowledge is difficult to share, if stories are powerful in their

verbal form, their effect can be enhanced through the use of multimedia. The elaboration effect of seeing and hearing the storyteller can add weight and detail to their story (Ibarra, 2000) as can visuals of the environment in which the story occurred.

For instance, the demonstration simulations of organisational life techniques by experts provide opportunities for learning by doing in artificial environments. Computer systems can help the experts teach the novice by providing access to repositories of knowledge that may have little meaning to the inexperienced, but can be interpreted by someone with more experience. Boh (2007) explained further that similarly, information technology is an indispensable tool for peer mentoring, as groups of physically dispersed individuals can come together virtually to share knowledge in communities of practice. As interviewee said that;

‘Sharing knowledge also happens by technology. In the website we publish the latest news about work; we don’t want to hide from staff anymore. Our target was to involve all staff in pyramid order in flexibility in order to share knowledge with others without hierarchy’- Manager C

Institutional Personalization

This study shows that the institutional personalization mechanism is relevant for sharing tacit knowledge. This mechanism comprises senior staff managing the staffing needs of the programme, and organisations also making use of cross-staffing in certain projects that have the same clients or that centre around a similar topic where staff work on the same projects, to ensure that similar policies are applied across projects. Senior staff can help to identify aspects of the project that appear less well-developed and then indicate the appropriate people for the project team to approach (Boh, 2007).

It was expected that personalization would become a medium for the communication of tacit knowledge. The finding was consistent with that of Argote (1999), who found that personalization was preferred for sharing knowledge because it involved humans as the mechanism for sharing, as people bring knowledge and information. This finding is also similar to that of Hansen et al. (1999) indicating that personalization was a mechanism of knowledge sharing that encouraged the transmission of tacit knowledge, by discussing and sharing interpretations that could lead to the development of new knowledge. As an interviewee said;

'Another way we share knowledge at management level is by organised talks where a speaker will give a speech, therefore managers are equipped with new knowledge. This programme I called 'Bicara Tokoh/ Executive Talk'. The first speaker we called was Dr Kang, Chief Director General of Complaint Biro, then we called a Dato' from the State Government Secretary Department. What we want to know is how you can achieve that standard and what we should do to be the best. We also called Dato Hassan Ali and tried to get Dato Tony Fernandes, and Tun Mahadhir Mohamad. We called them because they have brilliant ideas, so we identify these brilliant people to share the ideas that suit us. Another example is that we have a foster brother, organisation X, so we can share the same problems, such as people who do not pay taxes, put rubbish everywhere, and even the work pressure' - Manager D

The personalization mechanism can take place when senior staffs are aware of what other staff need and the organisation makes use of cross-staffing. It encourages managers when they have the ability to access the knowledge provider and the knowledge provider is willing to actively engage in knowledge sharing with the knowledge seeker (Borgatti & Cross, 2003). For example, in staff meetings, senior staff can learn about the projects that others at their level are directing and they can in turn disseminate this information to the junior staff. Such meetings may also provide key knowledge sharing opportunities. Through cross staffing, senior staff also learns about the strengths and expertise of junior staff members, some of whom they may not even have met before. One of the interviewee share experience like this;

'Here, since 2008, we have encouraged what we call multi-skilling and multi-tasking so when you are enriched with a multi-skilling and multi-tasking culture, every department is requested to know about their colleagues' jobs. This means that if someone goes outstation for 2-3 days or is attending a workshop, if we don't have a person who knows what is happening in that department then it is difficult, we need to call that particular person, but InsyaAllah here, we encourage understanding of others' work; that's become our culture' - Manager D

The findings also indicate that in institutionalising the personalization approach to support knowledge sharing amongst their staff, although the mechanism tends to rely heavily on senior staff, some activities were being set up by communities on a voluntary basis. For example, some individuals with similar interests are often invited to meetings, thus providing a forum for the discussion of substantive issues in a given topic area and for the dissemination of information.

7.5.3 Managing Self and Knowledge Sharing Practices

The current study hypothesised that managing self was positively associated with knowledge sharing practices. As expected, there is a highly significant positive correlation between managing self and KSP. This finding is consistent with Von Krogh (1998) and Matthew and Sternberg (2009), who found that managers tend to share personal knowledge or tacit knowledge based on self-reflection.

The finding obtained in the current study further validates the earlier studies on managerial work, such as Nonaka and Takeuchi (1995), who found that success in managing self among individuals leads to a greater wish to share personal beliefs to create new knowledge. Such validation of empirical findings is widely accepted and implemented in the workforce as aspects of deliberation of knowledge (Horvath et al., 1994). This finding also confirms the theory of Wagner and Sternberg (1985), who asserted that managing self consisted of self-motivational and self-organisational skills that are important in the management area. People tend to share strategies in managing self; for example, forcing yourself to spend at least 10 minutes on a task is a strategy that works for many, who find that once they have begun a task they will continue to work at it.

It is likely that this highly significant relationship emerged because of the nature of tacit knowledge contributing to the element of competitive advantage and individual performance of the ability to self-manage. Knowledge sharing activities depend on the individual wishing to share ideas and successful insights because they see it as a natural process of disseminating knowledge, rather than as something they are forced to do. Managers would expect it of each other and assume that sharing ideas is the right thing to do (McDermott & O'Dell 2001). Nonetheless, sharing tacit knowledge also depends on the context of acquiring the knowledge, and sharing knowledge depends on the moods, personality and characteristics of senior officers (Horvath et al., 1998). As mentioned by one interviewee;

'Before a speech or presentation, I practise by talking alone. With my officers, I told them many times, repeat it, then they can memorise it and it sticks in their minds and they will not forget. Actually, I am a trainer or part-time instructor. So, I have tacit knowledge, but I think I learned a lot to get tacit knowledge. For example, I have to deliver a topic related with the system of administration in Malaysia in induction courses. I have a lot of slides, about 25, but one slide takes me two hours, so I cannot go

with another 24 slides because I described and explained the story at the same time. I also learned with my officers. I told my officers, now we have learned and already know many things, now we want to train our brain interfacing. Interfacing is borrowed from computer language, in the middle of opening e-mail we go to the website, we go to Microsoft Word, and this is called interfacing’ - Manager A

‘Leadership by example, if my boss call me, I do not come with nothing in my hands, I must carry something - at least I get my diary or work to be carried. I go there fast; just imagine a speed of more than 130 km per hour. If my boss calls me I don’t go at 80 kilometres but 120 kilometres. That’s an analogy - 140 km per hour even’ - Manager A

7.5.4 Managing Others and Knowledge Sharing Practices

The findings of this study are consistent with Platts and Yeung (2000) and Cho et al. (2007) who found that managers most capable of managing others prefer to share their knowledge with others. The positive relationship found between these two variables suggests several possible interpretations. Being a successful manager requires high qualities in terms of both ideals and practicality in managing others, including employees under supervision, colleagues, employers and customers. The findings of this study can be compared to the suggestion of Wagner and Sternberg (1987) that managers should consider the task of maintaining morale in the face of changes that some employees will find threatening. Managers writing a memo to employees stating that they are expected to maintain a high morale is an idea that is practical in the sense of being easily accomplished, but one that is lacking in ideal quality.

This highly significant relationship between managing others and KSP may be due to successful managers knowing how to handle and consult different levels of people, such as peers, subordinates, top management, the wider community and consultants. Having an understanding of negotiation and diplomacy skills with different levels of people contributes to the confidence of successful managers. Therefore managers believe that any techniques to be more approachable in dealing with others will have a positive impact on relationships and will also create a better perception of the public sector. Sharing tacit knowledge with others is useful in situations of handling staff, serving different demands and complaints, dealing with council members and consultancy companies in order to obtain better ways of carrying out work and save resources. The approach of dealing with the wider society indicates that in Malaysia, local government managers believe that sharing their techniques and diplomacy or consultation contributes to their performance.

Sharing tacit knowledge emerged because people are generally respected for what they know, not who they know or what position they hold. When an individual shares knowledge, they build a brand-like identity of themselves. Having a good brand identity is important to create a good impression of the public servant him or herself and of local government in general. Therefore, participating in discussions and making good contributions to society are the keys to keeping an organisation's identity visible. As the local government's primary task is to serve the local community in term of facilities and infrastructure, it is therefore important to convince society that local government is in a position to offer quality services to people. Ultimately, the important point is that it is not what you know that gives you power; it is what you share about what you know that gives you power. As a result, Malaysian LGs have always had managers that offer help (McDermott & O'Dell 2001). One interviewee responded that;

'To ensure that projects succeed, the federal government sends experts or higher new staff to help us to plan and implement mega projects and they provide full guidance on implementing the project. So, we don't perform a job according to our views but we follow the federal guidelines because we are the third tier of government, so top of the list are federal and state and then us who are face with public demand. If our service is bad, the public have a bad judgement of the government. So we are in the third tier of government and have additional work to present a good delivery system instead of regular work that should be performed' - Manager H

7.5.5 Managing Tasks and Knowledge Sharing Practices

The current study hypothesised that managing tasks had a positive relationship with KSP. The result indicates that managing tasks was statistically significant in a positive direction with KSP. This is different from the other two subscales of managerial tacit knowledge, namely, managing self and managing others, which were highly significant with KSP, but in a negative direction. This combination of different directions in the results of subscales of managerial tacit knowledge can be explained by the specific techniques that have been adopted to get the different levels of managerial tacit knowledge among the respondents. This is an interesting finding, as it shows the uniqueness of the study of managerial tacit knowledge through the differences in the scores of novice and typical managers from that of experts, as the value of TKIM can appear in two circumstances, either positive or negative. However, in the real data analysis, the sign was meaningless and ignored because of the absolute value adopted, meaning that the negative or positive signs in tacit knowledge and subscales of tacit

knowledge do not indicate the direction of the variables, but rather, explain the position of the tacit knowledge scores relative to the expert group.

Managing tasks refers to the ability of managers to manage their tasks (Wagner 1987; Colonia-Willner, 1998). It is further supported by Von Krogh's (1998) argument that managing tasks is crucial for KSP performance, particularly for managerial success. In other words, the study found that managers with a higher level of managing task prefer to share their knowledge in KSP. The findings obtained in the current study further validate the earlier studies on public managers such as Taylor and Wright (2004), who found that managers who were successful in managing tasks tended to share their knowledge; for instance, on time-management or increasing productivity.

This relationship may be explained by the sharing of task-handling by managers in the public sector being an individual preference that needs individual competitiveness to aid in performing their job well. Successful job performance has been shown to be dependent on managers' ability to perform their work. It is always the case that the more expert demonstrate capabilities to perform work well, which do not rely solely on working experience. It is likely that in Malaysian local government, managers acquire tacit knowledge by handling work in different ways that are more effective for short-term service delivery if they disseminate their knowledge to others when necessary. Therefore, managing tasks is an important factor and should not be ignored, as individual performance can be enhanced by sharing with others.

One interviewee told a story about managing tasks;

'Most of the time I use tacit knowledge in doing work, especially to select employees and place them because I study human behaviour, and people in the Human Resource Management (HRM) have three big things that contribute to excellence. One is knowledge, then there are skills and support behaviour. According to the dictionary competency behaviour modelling and profiling, this kind of behaviour model is like an iceberg. You know how to do things, your skill is 1-12 in this model, there are ranks 1-5, 1 is the lowest and 5 the highest. Based on tacit knowledge, people with this behaviour not only have 1 but also -1, tacit knowledge use. I believe other friends also use tacit knowledge; we should know this is implicit, so that tacit knowledge can be explicit, then it can be inherited and shared' - Manager A

7.5.6 The Reasons for Weak Correlations

Overall, the findings for this study show there were correlations between KSP and TK and also interrelations with subscales of these two variables. The point was that public sector agencies, like private sector agencies, have indicators for their staff to produce quality work and excellent services. The public sector in particular emphasises the key performance indicators aligned with public sector reform; therefore the managerial aspects are always highlighted to improve individual or organisational performance. Therefore, to succeed in the managerial aspect of public sector organisations require managers continuously to enhance their capacity to learn from experience and adapt their modes of practice accordingly. In order to increase managers' capacity to learn and practise in the present managerial situation, knowledge sharing practices become a relevant mechanism for them to increase their performance and disseminate knowledge widely. As the results of this study indicate, KSP and TK are highly significant, although with a weak correlation.

There are various reasons for the weak correlation. One is that the nature of tacit knowledge itself is deeply rooted in action and context. It can be acquired without awareness and is typically not articulated or communicated; therefore it is hard to share with others. Based on the nature of tacit knowledge, expert managers may find it impossible to share their tacit knowledge completely. This study found that managers have tacit knowledge, as discussed in the subsections above, but in fact the level of managerial tacit knowledge differs between expert, novice and typical groups. However, it is not easy for experts who are been known to have expertise in their profession to delegate and simply impart all their tacit knowledge to subordinates, even with the same job description. This could also be related to other characteristics of tacit knowledge which are stickiness, unconsciousness and inability to be communicated in specific words.

Although managers are willing to share their knowledge, as claimed by Sandhu et al. (2011), not all managerial tacit knowledge can be described in specific words. This present study has shown that sharing tacit knowledge occurs, but at a lower level. However, it is still a positive sign in the government sector that managers practise sharing tacit knowledge, as discussed above, as tacit knowledge can be accumulated in the process of learning by doing. Thus, the findings in this study were not really

surprising, since other studies on managerial tacit knowledge, as stated in the Chapter 6, showed weak correlations. Therefore, these findings are useful for Malaysian local governments, specifically in terms of taking proactive action to build more efficient knowledge sharing practices, such as including the assessment of KSP in the routine performance appraisal (McDermott & O'Dell 2001).

Secondly, tacit knowledge is a product of experience-based learning or continuous learning (Nonaka, 1994; Sternberg, 1997). Hence, some scholars hold that experience-based learning can be developed and reconstructed by making tacit knowledge explicit (Argyris 1994; Sternberg 1998). This implies that tacit knowledge is not only absorbed from knowledge sharing practices, but that continuous learning and practices in the working context are far more important. For example, managers who excel in producing work beyond the employer's expectations normally continuously practice the strategies that suit context of their work, such as consulting customers, to create a winning situation. Thus, managers who possess knowledge and practice it create advantages and power for themselves and their organisations.

The discussion of the significance of the relationship between KSP and TK indicates that these knowledge sharing practices consisting of mentoring programmes and knowledge sharing mechanisms appear to be an effective way of sharing tacit knowledge in the context of Malaysian local governments.

7.6 The Differences in KSP, TK and IP in High and Low Performance LGs

The second research question involved a direct test of a new link in the different levels of organisational performance by assessing the implementation of knowledge sharing practices, managerial tacit knowledge and individual performance in high and low performance local governments. It should be noted that this study does not investigate or create the measurement of organisational performance, but rather tests three variables (KSP, TK and IP) in two levels of local government performance. The measurement of high and low performance organisations was established by the Ministry of Housing and Local Government in Malaysia, as discussed earlier in Chapter 2. This study hypothesised that KSP, TK and IP might be different at different levels of organisational performance. The following sections explain the findings and possible reasons for these findings.

7.6.1 Knowledge Sharing Practices in High and Low Performance LGs

Earlier studies showed that KSP have the potential to improve public sector performance (Willem & Buelens, 2007; Yao et al., 2007; Hsu, 2008), but did not examine them in different levels of local government based on the star rating system. The results of the present study do not support the proposed hypothesis on the differences of KSP programmes in high- and low-performance LGs. This study revealed no difference among KSP programmes within either high or low performing Malaysian local governments. However, this present study contrasted with Mannion et al. (2005), who found differences in management aspects including the dissemination of knowledge in high and low performance organisations based on the star rating system.

These contradictory findings may result from the present study having been conducted in local government, while Mannion et al.'s (2005) study was carried out in the National Health Service (NHS). These two types of organisation have different job requirements and behaviour; for example, the NHS indicates that facilitating and accountability to patients and the public is highly important, and they also serve as an important tool for concentrating management attention on key strategy priorities and national targets (Mannion et al., 2005). Therefore, the evaluation of the star rating system is geared more towards productivity in providing services in emergency or urgent situations, in contrast to the present study in local governments, which focus more on delivering service based on the priority of upgrading facilities for the community, which normally does not involve any risk or urgency.

The result for this hypothesis can be supported by Hartley and Allison (2002), who concluded that in the context of the public sector, in comparisons across organisations, it can be difficult to assess whether or not learning and knowledge transfer have taken place, as these are more abstract concepts than outputs from product innovation.

Overall, this study found that there might be no differences because the star rating system in Malaysian local government was a newly implemented system to evaluate organisational performance. According to the Malaysian Ministry of Local Government, this system was implemented in 2008 and this research was conducted in 2010; hence, the system was still in its early stage of development.

Particularly, because local governments are at the third level of government agencies that need to rely on and obey the federal government, they have to follow instructions or policies from federal level for any programme, including knowledge sharing practices. This means that all local governments, either high or low performing, have to implement KSP. All local governments have to make an effort to ensure that they have an element of KS such as knowledge sharing initiatives in their organisation and document this to show their support. Furthermore, Mohamed and Egbu (2010) showed that the Malaysian government has introduced and properly managed intellectual capital to implement government policies. The responsibility to monitor the implementation of knowledge management initiatives and the implementation of organisational databases which have served for a number of years in government agencies was given to the Malaysian Administrative and Modernization Planning Unit (MAMPU), to promote knowledge sharing and reuse within these agencies (Mohamed & Egbu, 2010). It is one indicator that all government agencies have to follow the instructions of the Federal Government through MAMPU to implement knowledge sharing programmes, no matter what the level of the organisation. One interviewee commented;

'Normally, what we do is we follow the rules, not just simply doing it, we refer to the circulation by Public Service Department (JPA), Treasury circular, instructions and any circulars from JPA, guidelines from the MAMPU. All this type of work such as planning is requested by the Standards and Industrial Research Institute of Malaysia (SIRIM). Of course, management work is increased instead of permanent jobs, but, I think the most important is the individual factor' - Manager H

It was further confirmed by Syed Ikhsan and Rowland (2004a) in a study on Malaysian public agencies that sharing knowledge/information between officers was not a great problem in the Ministry, where 45.1 percent of officials believed that it was either 'easy' or 'very easy' to make knowledge/information accessible to everyone, while identified knowledge/information internally (36.3 per cent). The findings of Syed Ikhsan and Rowland (2004) suggest that in Malaysian public agencies there is no difference in the implementation and perception of employees of knowledge sharing programme, similarly it is shown in this study that there is no difference in knowledge sharing in high and low performing LGs.

Possible differences between high and low performing LGs in some areas can be seen if the programme involves a very large budget, as low performing LGs are commonly found with district councils that limited financial autonomy. This differs from high performance LGs, who have strong financial support, such as city hall and municipal hall. However, KSP does not require a large budget to implement, so this does not make a difference between them. As one of interviewee said;

'The financial factor also contributes to the different star ratings of LG. Because some LG have the intention to provide more and better condition of facilities for public but if they don't have enough budget, they cannot comply. Another reason is staff constraint. They cannot hire more staff because they don't have enough budget' – Manager G

The examples above are indications that the policy for implementing knowledge management initiatives that should be practiced by all agencies including local government comes from federal government. Therefore, it can be concluded that managers working in different levels of LGs have similar practices in knowledge sharing.

7.6.2 Managerial Tacit Knowledge in High and Low Performance

In the present study it was hypothesised that managerial tacit knowledge differed among managers working in high and low performance organisations. However, it was found that there were no statistically significant differences in predicting the level of organisational performance. This is supported by Martin (2000), who found that a majority of the 140 respondents from local government (58%) in his study were engaged in knowledge management activities, and everybody was regarded as having a responsibility for knowledge management. The finding appears to indicate that managers in high and low performance local governments use their tacit knowledge in doing work; therefore they rely more on their practical 'know how' gained from working experience.

The findings of the current study indicates that another possible reason is that the way tacit knowledge is measured is based more on the individual him or herself rather than any difference in organisational level. Tacit knowledge is related to practical know-how rather than the level of organisational performance. Therefore, whether managers work in a high or low performance organisation is not a significant issue. Far more important

was how managers used their working experience practically in the context of their work and organisation. It is likely that the level of tacit knowledge among managers in high performance LGs is appropriate for managers to manage themselves, their work, and others in this organisation. A similar situation probably occurs in the low performance LGs where managers have enough tacit knowledge to handle their work to have impact on organisations. Syed Ikhsan and Rowland (2004b) found that the more respondents learn from work experience, the less knowledge and information they need from training and organisational databases. In this present study, successful managers with working experience of more than 16 years were seeking more knowledge to build their competence and make themselves more knowledgeable than were managers with less working experience. The interview findings demonstrated that the managers in high performing organisation (manager A) have tacit knowledge as do managers in low performing organisation (manager E) as indicated in their views below;

'Here, in City Hall employees use tacit knowledge, because not everything can be expressed such as emotional mutuality. One of the 12 behaviour competencies is called emotional competency, which is we can understand people from their body language. It is tacit; for example, my staff members have no need to say I have a problem today, as I can understand, so I have to know how to handle her today as she may have a problem with children having a fever or an angry husband' - Manager A

'Probably, I learn a lot from my boss, people I meet outside, reading books because I am enjoy reading books, sometimes I photocopy and read. Sometimes things like this I got when attend courses, government courses, invitation. When we go there, we can mix with other federal officers and learn from experience. So I ask them how they learn from their experience, we read or own experience' - Manager E

7.6.3 Individual Performance in High and Low Performance Local Governments

The finding of this analysis was surprising, as it indicated that individual performance in high and low performance LGs was not as hypothesized, and instead of showing a difference, the results showed no difference in terms of individual performance between high and low performance LGs. In other words, the study found that whether managers worked in high or low performance LGs did not affect their productivity. In recalling the literature on this issue, it can be seen that that the present finding further contributes to the mixed results obtained in previous empirical efforts. For example, studies by Mannion et al. (2005), Brewer and Selden (2000), and Xiaohua (2008) on job

performance among public servants found that individuals tend to work according to the present performance level within an organisation.

Therefore, the different result in this present study may be due to the success of Malay managers¹⁰ being measured not only by the acquisition of material gain or power but also taking into account relationships with other people. Malay employees are more likely to be motivated if they see benefits not only for the company but also for their own family, community and nation as a whole (Zawawi, 2008). This opinion was supported by Frank and Lewis (2004) who found that public servants worked hard to help others and be useful to society although they had lower pay, limited opportunities for promotion and greater job security.

Therefore it does not make any difference if managers work in organisations with different levels of productivity because they believe that their aim is to produce quality work regardless of the level of the organisation. Malays are said to be 'being-oriented' workers, meaning they view work as a necessity for life, not as a goal in itself, and their concern for output and performance depends on their individual needs (Ahmad, 2001), rather than being totally dependent on the present institutional performance. One interviewee explained that;

'I don't think that high performance officers always stay in high performance local government. It up to the individual, and to be fair I would said when individuals achieve high performance their situation, and circumstances must be considered. It may be an individual is high quality but their situation is not encouraging, but it may be there are changes in future, but it depends on the individual how well you deliver your service' - Manager C

Another possible explanation for such findings may lie in the methods of evaluation of individual performance in the context of Malaysian LGs, using similar criteria for the evaluation of high or low organisational performance. Based on the literature reviewed in Chapter 3, in Malaysia performance appraisal is measured annually in an individual productivity and competency assessment that is applicable to all public agencies regardless of performance level. Specifically, in the local government there are standard criteria for evaluating staff performance issued by the Malaysian Public Services

¹⁰ 80% of Malaysian public servants are Malays (Siddiquee & Mohamed, 2007). Non-Malays have little interest in working in the public service because the remuneration is low compare with the private sector although public sector are equally open to all Malaysians (Buang, 2010).

Department. Therefore, the criteria for the evaluation of performance appraisals at these two levels of local government are similar.

For this reason, it is not totally surprising that the three variables, KSP, TK and IP, did not differ in high and low performance LGs. This may simply have been too short a period of time to observe the effect of these variables in different organisational levels. Clearly, evaluation of the effect of the star rating system within two years of its introduction cannot offer a complete picture of the situation and the effectiveness of this system in terms of employees. However, this system is relevant to the study, since a previous study by Mannion et al. (2005) confirmed differences in individual behaviour and productivity among those working in different gradings of the SRS. Apart from this, differences could appear because this system is designed to evaluate organisational competitiveness, the main contributors to which are individual performance and programmes such as KSP.

7.7 The Moderation Factor of Personality Traits

Following the third research question, it was hypothesised that personality traits moderate the relationship of KSP and TK with individual performance. The purpose of a moderating factor is to identify the role of personality in the relationship of KSP and TK with IP. Although it was expected that personality could enhance the weak correlation between tested variables, after the analysis, the findings indicated that personality acts as a moderator but does not increase the variance of explained by the interaction with KSP. However, personality was increased the variance of relationship between TK and individual performance since TK was not significantly correlated with IP in the correlation analysis, but appeared as significant in the interaction relationship. Personality was shown to increase the variance of independent and dependent variables in relation with TK. However, it was found that personality was relevant as only a moderating factor in the interaction with KSP. This supports Chaplin (1991), who stated that personality had been established as a moderating factor in psychology studies. Prior research such as Sloan (2009) demonstrated that not all personality traits were willing to share their tacit knowledge.

The following sections explain the moderating effect of personality traits (agreeableness, conscientiousness and openness) on the relationship of KSP and TK with individual performance. Since personality traits were tested individually, every hypothesis will be discussed in terms of each of the tests conducted on the individual personality factors by examining the effect of the subscale of personality in order to assess the KSP subscales on individual performance.

7.7.1 Effects of the Interaction of Personality Traits and Knowledge Sharing Practices on Individual Performance

In the present study, it was hypothesised that personality traits moderate the relationship between KSP, such as mentoring programme 1 (competence), mentoring programme 2 (behaviour), individual codification, institutional codification and institutional personalization, and individual performance. As revealed in the findings, personality moderates in two interactions. Firstly, the interaction between agreeableness with mentoring 1 (competence) affects individual performance and, secondly, agreeableness with mentoring 2 (behaviour) affects individual performance more strongly than other interactions of KSP and personality. This indicates that agreeableness, conscientiousness and openness do not have a moderating effect on the relationship between individual codification, institutional codification and institutional personalization in assessing individual performance.

The present finding illustrates that agreeableness is a strongly significant predictor of to the interaction of mentoring programme (behaviour) and mentoring programme (competence) with individual performance. In other words, it is expected that under conditions of high mentoring programme and individual performance, managers were reporting high level of agreeableness. The findings obtained in the present study appear to be consistent with those of other scholars who found agreeableness to be having a relationship with knowledge sharing (Cho et al., 2007; Martzler et al., 2008; De Vries et al., 2006) that supports organisational performance (Van Scotter & Motowidlo, 1996). For example, Barrick and Mount (1991) found that agreeableness is significantly correlated with job performance. The above findings are consistent with the notion that an agreeable person is willing to share knowledge, as cited in the literature review chapter. The results of the present study show the significant interaction between agreeableness and mentoring programmes rather than interaction of others traits of

personality with other subscales of KSP probably influenced by both characteristics. Mentoring programmes and agreeableness share similar characters and so become significant predictors of individual performance. As explained by Witt et al. (2002), agreeableness is significant with mentoring because the characteristics of mentoring imply to collaboration rather than competitiveness and good relationship with colleagues and supervisors.

However, the finding of this study was slightly different from Niehoff's (2006), that openness to experience significantly moderates the relationship between experience as a mentor with mentor participation variables. This difference could be because his study focused more on participation as a mentor, where the lack of structure in mentoring brings opportunities to learn new perspectives and solve problems that attract people open to new experiences.

The interaction finding indicates that agreeableness was negatively related to mentoring 1 (competence) to individual performance; however agreeableness was positively related to mentoring 2 (behaviour). Negative signs indicate that interaction of agreeableness and mentoring competence in different direction influenced individual performance. Thus, managers with lower levels of agreeableness gain more competency skill that predicts better individual performance appraisal. It implies that individual performance was predicted to increase when less agreeable managers obtains more benefit from mentoring programmes (competence). This contrasts with the mentoring programme behaviour, which indicates that highly agreeable managers gain more benefit of mentoring for behaviour skills that influence individual performance.

Hence, the results of this study shed new light on agreeableness as a moderator factor that should be considered when managers want to increase their performance through a mentoring programme. Managers' agreeableness showed more success as a moderator in mentoring programmes to share knowledge that helps participants to enhance productivity. A mentoring programme is a mechanism for expert and novice managers to gain and learn the best practices in doing work and at the same time reduce trial and error for newcomers to improve their works. This mentoring programme has been created in organisations such as the public sector to develop excellent behaviour and encourage competitiveness of managers. Therefore, employers would consider

appointing an expert agreeable person to be involved in the mentoring programme, to share with and guide other employees. This is because organisations that have employees who are willing to share their own knowledge and skills can better evaluate the appropriate personality in order to maximize talent, potential and interest to help others. Recognizing the right personality in the mentoring programme would create changes and ultimately have a positive impact on individual productivity. Ultimately, organisations gain benefit from the mentoring programme through supporting an excellent mentoring programme and appointing the right personality managers that help and improve others' productivity. One interviewee gave an example of a situation where an agreeable person tended to share knowledge with others;

'Actually I think people probably interface with computers based on the human brain that can interface. For example, when we are talking about HRM, we can talk about project management. In a discussion of financial management, we can talk about legislation. So I said to my officers, we should train our staff to be smart people because smart people are those who can interface. For example, we talked about the legal issues such as by-laws. We use by-laws to facilitate our work and we may make by-laws based on the existing act. The Act provides us the power to make by-laws, and in creating by-laws we interface with the Federal Constitution to make sure that by-laws created do not contradict any other laws. When they conflict with the Federal Constitution or any law contrary to the constitution is abused, that is about the Federal Constitution. The concept that I wish to speak about is interfacing. Interfacing is important. So I said to other officers let's interface, to make the pension law, a secular pension when the reality is a bit heavy, so hands on is important because when we do it and suddenly there was a problem, then we have found something was wrong. We practised and got experience from that'- Manager A

This finding perhaps can answer the question posed by Whiterly et al. (1992) as to why some individuals receive more mentoring than others. This finding reveals that managers with specific personality traits have different functions that create advantages to other people as well. In the context of mentoring programmes, participants would receive more mentoring when the mentor has a willingness to share their knowledge and help others. As Witt et al. (2002) claim, an agreeable person naturally tends to help others.

The findings of moderating effect in this study indicate the moderators operate more or less independently on a trait by trait basis. Behaviour that is predicted by one trait might or might not be able to be predicted by the second trait, and vice versa.

Although the value of the interaction effect in these findings is low, it is sufficiently meaningful to indicate the capability of agreeableness as a moderator. The findings in present study support Chaplin's (1991) conclusion that in the field of personality, a moderator coefficient that has an upper bound of 0.10 was acceptable. Even these small effects can be theoretically interesting if they are used in the context of theory disconfirmation. However, moderator variables generally will not serve to transform weak relations among personality variables into strong ones. Instead, moderator investigators have generally been content simply to seek confirmation evidence that their moderator variables work.

Several alternative explanations for the relatively small effect sizes for mentoring can be discussed. First, individuals who do not have mentors will seek out more information from their co workers than individuals who do have mentors (Ostroff & Kozlowski, 1993). The advantage conveyed by mentors may be offset by the use of alternative information source by those who do not have mentors as resources. Second, it may be that the effect of mentoring on career success is moderated by others such as mentor gender and gender similarity (Scandura & Williams, 2001). Other possible moderating influences such as the ability and motivation of the protégé to implement whatever benefits the mentor give, may be operative. The last possibility seems especially worth examining because mentors prefer protégés they perceive to have greater willingness and ability to learn (Allen, 2004).

7.7.2 Personality as a Moderator in the Interrelationship between Tacit Knowledge and Individual Performance

As hypothesised in this study, personality traits moderate the relationship between managerial tacit knowledge and individual performance. Personality traits enhanced the variance of relationship between managing tasks, managing others and total TK with IP. The direct relationship between subscale and overall TK indicates no relationship with IP, except managing self. However, when personality traits interact with TK it was predicted that this would lead to a change of 11% in individual performance.

The finding in this study reveals that all three sub scales of TKIM significantly interact with the personality sub traits that influence individual performance. It was found that personality sub traits moderate the relationship between subscales of managerial tacit

knowledge and individual performance. Specifically, five interactions emerged, as follows; (1) agreeableness significantly interacted with managing self; (2) agreeableness significantly interacted with managing tasks; (3) conscientiousness significantly interacted with managing self, (4) conscientiousness significantly interacted with managing tasks, and (5) openness to experience significantly interact with managing others. The findings indicate that no interaction effect exists between agreeableness and managing others, conscientiousness and managing others, openness and managing self and openness with managing tasks in individual performance. Therefore, the present study concludes that, based on the nature of managerial tacit knowledge which requires managers to use professional judgement, agreeableness may be the least important for managing others, while traits such as being achievement-oriented, organised, careful and detail-oriented may not necessarily influence the managing self and managing tasks to perform well in their jobs.

The findings of this study support previous research, such as Tan and Libby (1997), Judge et al. (1999) and Siebert et al. (2001), who demonstrate the relationship between managerial success and sub traits of personality. In addition, Witt et al. (2002) found that conscientiousness and agreeableness interacted in the prediction of job performance and Lowery et al. (2004) found that the interaction between cognitive ability and personality influences performance.

This finding implies that personality traits of managers can encourage the accumulation of managerial tacit knowledge that influences individual performance. Firstly, the trait of agreeableness in managers' success in managing self and managing tasks influenced their performance. Agreeable managers are good natured, helpful, tolerant, and cooperative (Barrick & Mount, 1991) and are capable of managing themselves to maximize individual productivity. Capable managers increase their individual self-motivation and know-how to improve themselves by acquiring or gaining appropriate knowledge that can enhance individual thinking and emotions, indicating professionalism. One explanation that this study suggests is significant in the context of the public sector, which is that managing self capabilities are related to individual personality. For example, government sector employees are not paid a high salary to produce good-quality work; therefore it is highly dependent on the individual to enhance his/her motivation to be loyal and have the intention to produce good-quality

work for the benefit of citizens and society. This kind of personality is more effective in agreeable managers for their self-management, as they tend to help.

'The President not only asks to improve your knowledge base but your appearance because if officers are being called and you introduce yourself as an officers and are proud to be staff in this council then you should bring a good attitude and appearance'
- Manager D

'I think in terms of commitment. All of them are supportive, because we all work as a team even though in my department there are team leaders, who are heads of each division. Their commitment to that, I think, is quite good and high. That's what people say like me as example is easy, if every department can handle their report it means that they have good enough commitment. To compare some places, sometimes they don't have a monthly report. This report allows me to monitor how many complaints have not yet been dealt with because I can print out from the computer'- Manager E

This finding is consistent with those of both Ones and Visweran (1997) concerning agreeableness and Nestor-Baker and Hoy (2001) on tacit knowledge. Both variables revealed that managers should have positive interpersonal skills. In the study of the managerial self, the interpersonal skills of managers indicate that how they understand people's feelings and reactions is helpful in achieving particular goals of supervisors. For example, a person has to understand what makes him or her control his/her ego and the realisation that the organisation is healthier if the supervisors understand and acknowledge the ego needs of others (Nestor-Baker & Hoy, 2001). This kind of interpersonal skill helps managers work with the community in a healthier environment. Having personal performance capacities may involve extending individuals' knowledge and understanding through the use of personal and organisational tensions, whether those tension are positive or negative. Coded tacit knowledge items from this personal performance provide hints of organisational and personal tension and evaluate the effectiveness of those tensions (Nestor-Baker & Hoy, 2001).

Secondly, the findings of the present study also demonstrate that the trait of agreeableness enables managers to manage their work, which influences individual performance. Being agreeable means that managers have a personality that enables them to develop the ability to work successfully. Agreeable managers are likely to exchange their knowledge with others, influencing capabilities to manage work. Possession of this trait affects how well managers are perceived as suitable for a given role. Sharing personal experiences in handling work and best strategy can enhance individuals'

abilities to manage their work. Agreeable people are flexible and adaptable in doing work. Armstrong et al. (2002) suggested that when mentors and protégés share similar cognitive styles of doing work, this enables them to contribute to effectiveness and produce quality outcomes.

Thirdly, a further finding indicates that conscientiousness interacts with managing self and managing tasks to predict individual performance. Conscientiousness is an importance trait for managers (Dunn, et al., 1995) since this trait tends to include efficiency, organisational skills, reliability, thoroughness and long-term planning (Barrick & Mount, 1991). It is possible that these interactions emerged because conscientiousness traits can affect how much knowledge is sought out and accumulated from work experience (Gottfredson, 2003). The explanation can be drawn from the perspective that managers who seek to increase their performance should be capable of high self-motivation and have considerable personal knowledge learnt from experience. To consistently learn from experience needs managers to be organised and thorough in doing work. Wagner and Sternberg (1987) recommended that managers should selectively filter relevant from irrelevant information to maximise their self-learning process. In order effectively to select relevant information, managers need to have conscientiousness characteristics. As a consequence, this can help build the level of competence among managers within an organisation as managers are in a critical position given the strategic importance of their work. Therefore, managers should perform well in the knowledge of their jobs to produce quality work.

Fourth, this study also found that conscientiousness was an important predictor of the relationship between managerial tasks and individual performance because managers' behaviour affects their work. Conscientiousness and managing tasks can possibly affect individual performance indirectly through task management because conscientiousness is related to skill. It is possible that conscientiousness reflects a motivation, tendency or desire to be organised, through planning, efficiency, responsibility, reliability and dependability (John & Srivastava, 1999). Therefore, these characteristics can bring about new strategies that apply to individual interactions. These findings are consistent with Caligiuri (2000), who asserted that conscientiousness affected individual performance ratings based on employees' work performance, requiring a considerable

level of thoroughness, responsibilities and persistence. Two interviewees mentioned how staff conscientiousness influenced tasks management as below;

'So these people we groom as future leaders like this officer, Fazian. For instance, I lead a department with six sections under me, so in this situation it is impossible for me to focus on details in work, so we groom each one. At the end of the day, sometimes they know better than us because they know new things immediately, rather than me, who only knows them superficially. At policy level, we assist them to make sure their work can be complete. Definitely, we can pinpoint the good officers here, in fact if there is a brain storming session, we call these people. Occasionally, these good people are always taken away by others, maybe for political reasons' - Manager D

'However, the junior staffs are more aggressive, build up new skills, gain additional knowledge like getting professional certificates for technical skills. Some of them are organised in doing work. Some of them have schedules for completing work. Junior staff can do their work quickly, but have less experience - Manager G

Fifth, openness to experience significantly interacts with managing others to affect individual performance. Mixed explanations were found concerning the effects of openness to experience on managing others and job performance. The results for this present hypothesis support Miller (2009) on the moderating role of the personality factor in the relationship between stigma and help-seeking. However, the finding is inconsistent with Barrick and Mount (1991), who found a negative relationship between openness to experience and job performance. The prediction of the present study is that managers who succeed in managing others are more open to experience and are therefore able to improve individual performance. It predicts that possessing traits such as intellectually curiosity, behavioural flexibility and lack of rigidity in attitude and values may be considered as essential in the conduct of managing others. Therefore, it was found that in any situation of managing others, a high level of openness to experience had a positive influence on the relationship between managing others and individual performance.

It is likely that this can be explained in the context of Malaysian management, where managers believe that openness in using their tacit knowledge, particularly concerning the management of others, stems from an effort to understand people. Managers are always open to understanding a subordinate's values and feelings towards work issues and challenges, rather than only focusing on the task. Some managers may encourage others to behave appropriately by setting an example through their behaviour. If they

want employees to work harder, then they themselves should come to work earlier and go home later than their employees. Apart from this, managers must also maintain employees' dignity and never put them down in any way, especially in front of others (Ahmad, 2001). This agrees with Wagner and Sternberg, (1985), who argued that when managing others, managers should display knowledge such as how to assign tasks to match individual strengths, how to minimise the effects of individual weaknesses and on how to get along with others. This situation occurred in the Malaysian local governments as mentioned by the interviewee quoted below;

'In fact, those officers at managerial level, when they do their work, it is based on previous knowledge and experience and continuous improvement, and that's the good thing in this organisation. Officers here are not only encouraging improvement or innovative ideas from their staff either in managerial level to head department; they have open-minded bosses, particularly the President. This has been our President's style from the first, second, third and fourth Presidents, that has become our culture. That is a very good culture in terms of soft knowledge such as knowledge management, quality management and so on'- Manager D

Overall, the findings show that not all personality trait constructs are applicable to all individuals. Although every personality has a set of trait dimensions, the specific set of dimensions differs for each individual. The implications of these findings are that moderating variables should operate more or less independently on a trait by trait basis. A person who is predictable on one trait may or may not be predictable on the second trait and vice versa. The specific traits of leaders are often taken into consideration when managers are involved in managing self, tasks and others.

In the context of this research, it is suggested that managers who possess traits of agreeableness, conscientiousness and openness traits would be perceived as better performers in a variety of interactions such as managing self, managing tasks, and managing others, that all contribute to individual performance.

7.8 Additional Findings

The current study also conducted some additional analyses to explore concerns about the differences between respondents. This study focuses on the difference in levels of knowledge among respondents composed of expert, typical and novice¹¹ groups.

¹¹ As explained in Chapter 5, experts are a highly successful group recently nominated by organisations through service excellence awards, have received high performance appraisal marks and have generally

Therefore, it is fruitful to explore how experts, who are claimed to be successful managers, are different in KSP, personality and personal background, from others. First, differences on the knowledge sharing practices subscale were examined and second, the differences of respondents in terms of their personality traits were investigated, while thirdly, comparisons of managers' backgrounds were made and lastly, respondents' profiles were correlated. These additional results do not affect the major findings of the study, they are more to demonstrate the nature of KSP, personality and background among different categories of managers.

7.8.1 The Differences in Knowledge Sharing Practices among Respondents

KSP consist of mentoring programme 1 (competence), mentoring programme 2 (behaviour), individual codification, institutional codification and institutional personalization. The results indicate that overall KSP differ between respondents, in that experts have a greater tendency to share their knowledge than typical and novice managers, who have different levels of sharing knowledge, while there are no differences in individual codification and mentoring programme 1 (competence) among respondents. Individual codification showed no difference, probably because competency in using technological devices must be gained by all employees, regardless of their different job positions and groups. It is a job requirement for everyone to be capable of using technology, and this includes for the purposes of sharing knowledge.

Respondents also are not different in terms of mentoring competence; this might be influenced by the nature of the mentoring programme. Every manager is expected to have a high level of work competency and to share their knowledge with others. Although experts usually pass their knowledge to typical and novice managers as a matter of course, all the managers involved in the competency mentoring programme already have valuable knowledge and work competency. In an organisation, employees normally begin as apprentices or novices and must gain competence before attaining the status of experts. Therefore, in the process of becoming an expert, every manager increases his/her level of competency according to the maturity of their career development (Bozionelos, 2004; Fagenson, 1989). In the mentoring programme which

worked for over 23 years, while typical managers have been working for between 2 to 32 years, but have not received service excellence awards recently, and those in the novice group of have one year of working experience.

focuses on competency, it is expected that every manager involved will have a level of competency that corresponds to the maturity of their career development.

Interestingly, the findings illustrate that the expert, typical and novice groups differ in the mentoring programme (behaviour), institutional codification and institutional personalization. The level of difference in mentoring (behaviour) between expert, typical and novice groups is clearly because novice cannot be expected to become experts in a short time. Managers develop expertise through years of learning and practice before mastering their work. The behaviour of experts is different because most of them are in the position to teach and be role models in organisations, even if they do not really desire to teach through mentoring. Experts or successful professionals always become role models to others, indicating that they act or behave in a manner that will be followed by subordinate or junior managers. Mentoring programme behaviour includes, for example organising their thoughts before meeting with co-workers, presenting the relevant information to co-workers to enable them to be productive, actively assessing whether co-workers understand what is presented, helping a co-worker enhance learning, improving communication skills, helping others to tell stories about their careers and how to succeed in work. Mentors also may use stories from their past experience to show the behaviour crucial to success in a managerial system according to the norms and values common to many organisations.

Knowledge-sharing through the behavioural approach enabled novice and typical managers to learn more rapidly the behaviour and characteristics of managers that tend to share their knowledge; behaviour that is preferred by others and the vital characteristics for career development. Thus, this finding shows that experts differ in their knowledge sharing practices, specifically in mentoring programme behaviour, to a greater extent than do typical and novice managers. This agrees with Ahmad (2001), who stated that in Malaysia, managers need to project themselves as role models that embody and convey to their workforce desirable attitudes, values and beliefs, in actions as well as words.

Moreover, institutional codification and institutional personalization also differ between expert, typical and novice managers, illustrating that experts have a greater preference for sharing their knowledge at organisational level. It implies that those in the expert

group are more likely to disseminate their knowledge widely to others in either an organisational approach or through personal contact. In both approaches, codification using databases, templates, broadcasts, e-mail, and expertise directories was employed more by experts rather than those in the typical and novice groups. This is similar to the case of personalization approaches, which consist of meetings among high level staff, project reviews and coordinating projects or project directors, which experts are more likely to use than are typical and novice managers.

The differences are likely to be due to experts being in the position of successful managers rather than the typical and novice groups. To be nominated as successful managers they should possess certain characteristics and capabilities of doing work, including the capabilities to handle work-related technology and personal communication skills. The advantages of experts over novices when performing in specific domains have been attributed mainly to higher levels of knowledge and more integrated knowledge. This finding is consistent with previous research such as Armstrong and Mahmud (2008), Grigorenko et al. (2000) and Wagner et al. (1999), who found that knowledge acquired and practiced by experts appears to be different from that of typical and novice managers, due to the long-term process of knowledge accumulation.

This finding supports that of Boh (2007), who found that using experts was more effective than using other employees for help and advice when problems were encountered. The advantage of using experts is that they can provide customised advice for each problem regarding which they are approached. Second, experts' years of experience have given them a wide network of contacts to draw on. Hence, experts can link individuals with problems to other consultants with potential solutions. Third, the experts themselves can benefit from accumulating experience in repeatedly searching for information from their contacts, resulting in them building up an extensive mental model of who knows what, as well as a large set of archives developed from previous interaction with their own clients and consultants.

7.8.2 The Differences in Personality Traits among Respondents

The interesting findings from the test of personality traits among respondents indicate that those in the expert group were more highly concerned with personality compared

with those in the typical and novice groups. More specifically, the personality traits of conscientiousness and openness differed most among the respondents, while there were no differences in terms of agreeableness. The experts were shown to score highly on the conscientiousness and openness to experience traits, while typical and novice managers did not differ in terms of these two traits. This finding is consistent with Zaccaro et al. (1991) who concluded that on the main qualities separating successful leaders from non-leaders is social intelligence consisting of social perceptiveness and behavioural flexibility.

Specifically, the personality of managers, particularly leader's willingness to pursue novel and ambiguous problems, made it easier for them to identify solutions to problems in an uncertain environment. In particular, in the organisational context, social intelligence attributes are improved by practical intelligence competencies related more directly to problem-solving, including information-gathering and encoding, planning and implementation, solution monitoring, and administrative skills. Each of these individual attributes and problem-solving skills is a necessary addition to social intelligence in predicting effective organisational leadership (Zaccaro et al., 1991).

The traits of conscientiousness and openness to experience were relevant to the characteristics of the expert group. The characteristic of conscientiousness was related to competence, reliability, responsibility, and the capacity to work hard which were possessed to the greatest extent by the expert group, followed by the typical and novice groups. Zaccaro et al. (1991) demonstrated that effective leaders possess well-organised, domain specific knowledge structures that allow them to respond flexibly to a range of situations.

It was also indicated that the openness trait was higher in the expert group than in the typical and novice groups, reflecting that managers are imaginative, and have greater intellectual curiosity and originality in carrying out work. This supported Zaccaro et al. (1991), who found that personality determinants of social intelligence are ego resiliency, openness, and self-awareness.

At the same time, agreeableness was not different, probably because most of the managers were helpful and followed the regulations in their organisations. Whether

expert, typical or novice managers, agreeable ones tend to help others and they also strive to produce work according to the present policies and regulations, which makes them no different.

Thus, knowledge, as a manifestation of intelligence and experience, may serve as a more relevant factor in understanding leadership effectiveness (Hedlund et al., 2003).

7.8.3 The Differences in Respondents' Backgrounds

The results reveal different numbers of respondents, that reflect the differences in the background of respondents. The experts group was the smallest group, with 32 respondents, while there were 38 respondents in the novice group and 238 in the typical group. The small number in the group of experts was attributable to the fact that they are the successful group, compared with the typical and novice groups. Experts nominated by organisation had an average age of 48, an average of 23 years' experience in the public sector and 16 years in managerial work, while the average age of those in the typical group was 37, and they had an average of 12 years' working experience and 8 years' managerial work. The average age of novices was 32, with 7 years' working experience, and 1 year of managerial work.

In terms of individual performance, the experts group receive of excellent marks, while the typical and novice groups had good marks. All respondents had undergraduate qualifications and earned a salary of more than RM 5000 for experts, RM 3400 for typical managers and RM 2700 for novices. The findings indicate that experts had a higher profile background than those in the typical and novice group, which is not unexpected.

7.8.4 The Relationship of Respondents' Profile Variables

The research findings illustrate that salary is highly significant when related to working experience, length of time in management work, employees under supervision, individual performance, age and level of education. Salary was highly related to working experience in the public sector, length of time managerial work and managers' age. This finding implies that for managers working in the public sector, the increment in their salaries was aligned with the length of managerial experience and also their seniority in terms of age.

The results also illustrated the highly significant but low relationship between salary and employees under supervision, individual performance and level of education. The finding implies that the increment of managers' salaries increases with the slow increment in employees under supervision, individual performance and level of education. In other words, in the public sector, the managers' salaries increased according to the working seniority of managers rather than individual performance.

7.9 Summary

In Chapter 3, it was shown that several gaps exist in the knowledge management literature concerning the relationship between knowledge sharing practices, managerial tacit knowledge, personality and individual performance in high and low performance organisations. Previous studies in this area such as Boh (2007), Brewer and Selden (2000), Bryant (2005), John et al., (2008) and Wagner and Sternberg (1987) not address the following issues in their research; (1) the significance of knowledge sharing practices, tacit knowledge and individual performance in public sector; (2) differences between KSP, TK and IP in high and low performance organisations, and; (3) the possible moderator of sub-traits of personality on the relationship between mentoring programmes and the subscale of managerial tacit knowledge with individual performance. The present study has contributed to the body of knowledge by examining mentoring programmes, knowledge sharing mechanisms, managerial tacit knowledge and sub-traits of personality, which has a role as moderator. As such, the present study has attempted to fill the gap that existed in the individual performance literatures.

The next chapter will draw a conclusion from the findings according to the research objectives, followed by theoretical and managerial implications, suggestions for future research, and limitation of the present study.

Chapter 8

Conclusion and Implications

8.1 Introduction

At this phase of the research process, the question is what will arise from it. The purpose of this chapter is to answer the research questions by clarifying the academic and practical implications of this study. For this purpose, an overview of the main findings is presented in relation to the three research objectives. At the end of this chapter, the limitations of the study and suggestions for future research are provided.

8.2 Overview of the Main Findings

8.2.1 The First Research Objective

As stated earlier in the thesis, it was found that literature on knowledge sharing practices and managerial tacit knowledge in the Malaysian public sector was limited. Therefore, the first research objective was to explore the specific practices of knowledge sharing in the context of Malaysian local government by testing hypotheses. Local government public servants' perceptions of the mechanism of knowledge sharing for managerial tacit knowledge were analysed in order to identify the relationship between these two independent variables.

Exploring Malaysian local government managers' perceptions of knowledge sharing practices and identifying the relevant practices for sharing managerial tacit knowledge fulfilled this objective. Generally, the pattern of the relationship between these two variables indicates that mentoring competence, individual codification, institutional codification and institutional personalization are related to managerial tacit knowledge. The only exception was mentoring behaviour, which was found not to be related to managerial tacit knowledge. Further, the overall KSP and TK were also investigated and a positive relationship between them was indicated. In interviews, managers in local government agreed that they tended to share their managerial tacit knowledge.

Subscales of KSP and TK were also examined and it was shown that managing self, managing tasks and managing others formed part of KSP. The results of this study suggest there are interrelationships between knowledge sharing practices and managerial tacit knowledge subscales. Specifically, the interrelations were indicated in

the meaningful associations between mentoring (competence), individual codification, institutional codification and institutional personalization with tacit knowledge. An interesting association was also found between managing self and managing tasks and knowledge sharing practices. The current study helps to bridge understanding and support previous theories that some tacit knowledge can be shared through different mechanisms of knowledge sharing in the context of public servants working in local governments.

From a theoretical perspective, organisational knowledge creation theory, known as the SECI Model, suggests that a person's behaviour and interactions, particularly in the socialization process, could be expected to lead to sharing tacit knowledge. It is consistent with this study's findings that in personalization and codification, managers also tended to share their managerial tacit knowledge, based on previous practical intelligence.

Although the results of this study do not show a strong relationship between the variables, having adequate procedures to retain the knowledge and know-how of managers who leave is very important in sharing managerial tacit knowledge in an organisation. Organisations will lose an individual's tacit knowledge unless it can be shared with others through a variety of mechanisms.

8.2.2 The Second Research Objective

In view of the limited prior research on sharing managerial tacit knowledge in Malaysia, particularly on the SRS of evaluation in local government, the second research objective was to compare the implementation of knowledge sharing practices, managerial tacit knowledge and individual performance between high and low performing LGs.

One of the most interesting findings of this study concerns in the difference in the KSP, TK and IP variables in local government organisations. According to the suggestion in the previous studies, employees' behaviour and performance vary according to the current working environment. In the context of this study, organisational performance differences were evaluated based on the SRS. Thus, this study hypothesised that there would be differences in how managers perceive and implement KSP, TK and IP at different levels of organisational performance. As explained in the chapter 7, no

differences in KSP, TK and IP were found, which was probably influenced by the requirements of the standard policies and programmes that should be implemented by all government agencies, regardless of their level of performance. However, the finding also showed that IP did not differ according to the different levels of performance in the organisations where managers were working. From a theoretical perspective, it was suggested that individuals would increase their productivity in alignment with organisational performance. In contrast with other studies, this research shows that individual performance did not differ according to the different levels of performance in the organisations where employees worked. Therefore, the suitability of SRS for evaluation within two years of the implementation period is limited in the findings of this study.

The purpose of SRS is mainly to assess service delivery in government agencies and also to create competition among agencies to maintain and improve their achievement. However, this study expected that the tendency of managers to share managerial tacit knowledge would also differ according to their level of organisational performance. It could be expected that the higher the performance of the organisation, the more the managers would tend to share knowledge of different practices. This study reported, however that whether managers worked in high or low performing organisations, they still implemented KSP, TK and IP in the standards of the organisation.

8.2.3 The Third Research Objective

The third research objective was to investigate the moderating roles of subtraits of personality on the relationship between the independent variables and dependent variables. Generally, the results of this study are similar to those reported in other studies that have assessed moderating influences on individual performance. In this study, subscales of managerial tacit knowledge were found to influence individual performance when interacting with subtraits of personality.

The results showed that personality traits do have a moderating role in the relationship between knowledge sharing practices, managerial tacit knowledge and individual performance. Specifically, agreeableness influenced stability between mentoring programmes (behaviour and competence) and individual performance. Other subscales of KSP such as individual codification, institutional codification and institutional

personalization do not appear to interact significantly with conscientiousness and openness to experience to predict individual performance. For managers working in local government, those with agreeableness traits were most likely to share their knowledge in mentoring programme behaviour and competence with, an effect on individual performance.

Further, the combination of agreeableness, openness, and conscientiousness facilitates the ability of managing self, managing tasks and managing others, to have an impact on individual performance. The results of this study indicate that agreeableness interacts with managing self and managing tasks to predict individual performance. Conscientiousness also interacts with managing self and managing tasks to influence individual performance. Only the interaction between openness and managing others affected individual performance, while no interaction was found between openness and managing self and managing tasks.

The findings of this research contribute to extending the link between knowledge management, represented by knowledge sharing and managerial tacit knowledge and the held of psychology was reflected in personality traits.

The ability to share knowledge across organisations and employees has been found to contribute to individual performance and is of potential benefit to Malaysian local governments in carrying out their roles, particularly in the context of increased individual performance.

8.3 Contribution of this Study to Knowledge

This study contributes in several ways to the knowledge in the field of sharing managerial tacit knowledge and individual performance. These contributions can be divided into academic and practical implications.

8.3.1 Academic Implications

The results of this study have several academic implications. These academic implications were based on the discussion of the findings and represent the contribution of this study to the relevant literature. The academic implications that constitute a part

of this study's contribution to knowledge can be categorised into three groups, namely, theoretical aspects, supporting previous findings and the emergence of new findings.

Theoretical Contribution

The key findings of this study add to the theory on knowledge management in the public sector. In particular, the knowledge sharing mechanism construct explains the nature of managerial tacit knowledge that those working in management teams that operate in complex working situations should share with each other through human or technological mechanisms. In this respect, a framework of the findings was proposed in order to assist in anticipating how knowledge sharing can influence sharing managerial tacit knowledge.

Second, as regards the theoretical aspects of knowledge, this study also proposes a mechanism for sharing managerial tacit knowledge in the context of the public sector. These mechanisms enable a comparison of the uses of this method in the public and private sectors, in terms of mentoring programmes, knowledge sharing mechanisms, and personality traits, in particular by classifying the possible interactions between variables for employees.

Thirdly, since there is limited research on KS in the public sector in developing and emerging nations such as Malaysia *per se*, this empirical contribution enhances the theoretical knowledge on KS in the public sector from the perspective of developing countries (Sandhu et al., 2011). This area requires considerable attention, since it was found in this study that managers prefer to share their managerial tacit knowledge through different mechanisms, such as the mentoring, personalization and codification mechanisms. The benefit of this research, compared to the previous literature (e.g. Boh, 2007; Bryant, 2005) is in contributing to fill the gaps in research on sharing tacit knowledge and individual performance. The proposed approach could be used in any government agency and it is believed that the findings could provide great competitive advantage to public sector managers who are trying to improve their individual performance.

Fourth, this is one of the few studies that examine the views on mechanisms of knowledge sharing and managerial tacit knowledge at different levels in the public

sector, as the accumulated managerial tacit knowledge of experts differs from that of typical and novice managers. This study confirmed that the expert group had a higher level of managerial tacit knowledge than the typical and novice groups. All three groups have their own tacit knowledge, but at different levels, depending on their practical intelligence.

Finally, the combination of the proposal for a mechanism for sharing managerial tacit knowledge in the context of public sector, knowledge sharing in a developing country, and the mechanisms for sharing tacit knowledge and knowledge management at different levels of organisational performance influencing individual performance constitutes an approach to investigating employees' perceptions of personality in respect of its role as a moderating factor.

Supporting Existing Literature

In respect of providing support to previous findings, several contributions were made from the results of the factor analysis. These results supported the two main mechanisms of knowledge sharing, namely, mentoring programmes and knowledge sharing mechanisms. The factor analysis confirmed that mentoring programmes are divided into two types, namely, mentoring behaviour and mentoring competence. The factor analysis of knowledge sharing mechanisms demonstrated that individual personalization was excluded and the remaining factors were individual codification, institutional codification and institutional personalization.

Second, this study supports the argument that knowledge can be shared through codification or personalization. Consequently, the outcome of this study shows that sharing tacit knowledge enhances individual performance. This dimensionality was also supported by each subscale of knowledge sharing practices having a different correlation with subscales of managerial tacit knowledge. This finding supports the theory of organisational creation (SECI model) by Nonaka (1994), who demonstrated that tacit knowledge can be share in the socialization process.

Third, the triple dimensionality of managerial tacit knowledge was confirmed by the results of the factor analysis. These three factors of managerial tacit knowledge are relevant when the factor analysis was forced into three factors rather than left without

unstructured or unforced to the specified variables. This finding confirms those of previous literature that managerial tacit knowledge can be measured in these three main categories of tacit knowledge known as managing self, managing tasks and managing others. Specifically, this study contributes to the TK literature by identifying a shortened version of the instrument of managerial tacit knowledge that is relevant for managers in local governments. These factor analysis results for TK emerged in the items of the shortened version.

Fourth, the moderating roles of personality subtraits support the proposed interaction of personality on knowledge sharing practices and individual performance. This support is manifested in the new findings regarding the moderating effect of agreeableness on the mentoring programmes and on individual performance.

Fifth, the finding that moderating roles of subtraits of personality interact with subscales of managerial tacit knowledge affect individual performance contribute to the literature on personality as a moderating factor in knowledge management. Personality traits such as agreeableness support the managing self and managing tasks model on individual performance. Conscientiousness moderates managing self and managing tasks, influencing individual performance.

New Findings

In respect of new findings, this study appears to be the first research investigating the implementation of knowledge sharing practices, managerial tacit knowledge and personality traits in organisations with different ratings in Malaysia. In this study, the characteristics of the star rating system were evaluated from different levels of organisational performance, high and low. Specifically, this study found that no differences existed in knowledge sharing practices, managerial tacit knowledge and individual performance in those working in organisations with different levels of performance. These new findings in the present study in terms of the aspect of knowledge management in local government in the context of Malaysia offer indications for the implementation of the star rating system.

Second, this study considers the effect of several factors related to knowledge sharing practices and individual performance. This study addresses the emergence of new

dimensions of mentoring programmes, namely mentoring behaviour and mentoring competence. This new finding illustrates that mentoring programmes can be organised into two different focuses by emphasising managers' behaviour and competency. This study also found a positive relationship between overall KSP and overall TK. Further, a positive relationship can be seen between mentoring programmes, individual codification, institutional codification and institutional personalization with managerial tacit knowledge. The relationship also applied to the interaction between knowledge sharing practices and managing self, managing tasks and managing others. This interaction was more significant in the role of personality as a moderating factor. This study found that agreeableness was moderately related in the interaction between mentoring and individual performance.

Third, this study found positive effects of both personalization and codification for sharing managerial tacit knowledge. Consequently, greater emphasis should be placed on this mechanism for knowledge sharing when sharing managerial tacit knowledge.

Fourth, the discussion and basis of this study emerge from the SECI Model. This Theory of Organisation Creation was employed to confirm that managerial tacit knowledge can be shared through codification and personalization mechanisms. This theory was proved by the correlation between KSP and managerial tacit knowledge. This relationship was extended by identifying the roles of personality traits in interaction with subscales of KSP in affecting individual performance.

Fifth, this study found that the effect of the personality subtrait known as agreeableness moderated the effect of knowledge sharing practices on individual performance. It provides empirical evidence for the potential effect of personality traits on mentoring programmes and hence on individual performance. Moreover, agreeableness, conscientiousness and openness moderated the managerial tacit knowledge effect on individual performance in Malaysian local government.

Finally, the moderating role of personality traits in terms of the interaction and the effect of knowledge sharing practices and managerial tacit knowledge may indicate that managerial tacit knowledge should be shared in relation to successful managers' characteristics.

8.3.2 Practical Implications

The results of this study can be used to make practical proposals in public agencies. Knowledge sharing mechanisms can help management to share managerial tacit knowledge before staff retire or move to other departments. Moreover, using the mechanisms of knowledge sharing enables managers to control the process of disseminating knowledge and identifying programmes that enable managers to become involved in knowledge sharing before they move away. As the use of a mechanism for knowledge sharing is necessary for managerial tacit knowledge, it is suggested that top management set procedures and rules related to these mechanisms. These findings also offer managers ideas about the mechanisms that are appropriate for managers in the government sector. By identifying the relevant mechanisms in the public sector, policy makers can emphasise the mechanisms that improve knowledge sharing activities in their organisations.

The research findings also have management implications in revealing the personality traits of managers in local authorities that can facilitate knowledge sharing practices and managerial tacit knowledge. The implication of the key finding for management is that the management know the particular types of personality that tend to share knowledge in a specific programme. Furthermore, revealing the particular personality enables managers to identify the related personalities involved in managerial tacit knowledge and in different subscales of managerial tacit knowledge, as tacit knowledge plays an important role in managerial success. In particular, the findings suggest that greater consideration be given to the personality traits of management teams and the types of personality that encourage sharing tacit knowledge.

In addition, in respect of management training and development, the findings of this study give an indication for managers that staff should be trained in the techniques of intimation and continuously practice successful strategies in organisations. The findings of this study illustrate that managerial tacit knowledge that is practiced and used in daily managerial work is related with managerial success. Managerial tacit knowledge is often difficult to share through procedures and contextual situations, but practically applied techniques could enable knowledge to be shared unconsciously. Thus management training could create a platform to learn strategy for managerial success.

Another procedural aspect that was found to be helpful for using managerial tacit knowledge is the provision of information about the criteria of successful managers. This managerial tacit knowledge enables recognition of experts and talented employees who have valuable knowledge to be shared with others. This study could enable managers to develop criteria and identify successful groups among managers.

A further practical implication is the need for the public sector to strengthen skills development programmes such as mentoring programmes in order to increase skills and reduce trial and error. Previous experiences of senior managers that can be shared with newcomers are helpful in developing competent managers to meet organisation and customers' needs. This aspect of the study is critical and valuable from the viewpoint of Malaysian local government managers because mentoring has currently emerged in local government either in formal or informal ways, and has had a significant impact on individual performance.

8.4 Limitations and Recommendations for Future Research

8.4.1 Limitations of Study

Similar to other research, this study also has some limitations. The present study has several limitations which constrain the findings reported here and should be acknowledged. The most important relates to the variables of individual performance and managerial tacit knowledge. Individual performance is complex and subjective in the public sector. Even when measures are identified the ultimate evaluation comes from the head of department. In the literature, it is measurable, reliable and well established, but there are various factors that are held to affect individual performance. However in order to have more a 'holistic' understanding and more reliable measurement, this study operationalized individual performance in terms of performance appraisal marks. Since there are previous studies referring to the marks in the annual performance appraisal as a measurement of individual performance of public servants, this present study employed the same techniques to measure individual performance.

This study also refers to the tacit knowledge in the aspect of management practices. Therefore, study of tacit knowledge was more focused on managerial activities rather than tacit knowledge as general concept. The discussion and findings refer to managers'

tacit knowledge in managing self, managing tasks and managing others. This study only examined the interrelationship between managerial tacit knowledge and individual performance. Further, this study only addressed personality as a moderating factor taking it into account in the interaction between knowledge sharing practices and managerial tacit knowledge with individual performance.

The focus of this study on the public sector, specific Malaysian local governments, reduces the generalisability of the findings to private agencies. The present results are represent the public sector context and probably the working environments are different in private agencies, since the aims of local government are to provide service to the public and they are not profit-driven, like the private sector. It would be unlikely, therefore, to assume that the situation of KSP, TK and PT in local government as a public agency is similar to that in private agencies.

Further, because the data were collected at one point in time, the findings of this study only rely on the perception of managers in terms of their responses to the questionnaires and interviews used at that particular time.

These limitations provide good opportunities for further development of the subject in future studies.

8.4.2 Recommendations for Future Research

For this research, a new scale emerged from the factor analysis for measurement mentoring programmes and knowledge sharing mechanisms. From the factor analysis, it emerged that there were two types of mentoring programme - mentoring programme behaviour and mentoring programme competence. Apart from this, individual codification, institutional codification and institutional personalization also emerged from the factor analysis. Therefore, further research is needed to assess the reliability and construct validity of the measure for different samples in other organisational settings.

The present study focused on the mechanisms of sharing managerial tacit knowledge and its effects on individual performance by considering personality traits. It is

suggested that future research address other variables of cognitive style related with sharing managerial tacit knowledge.

Further, it is suggested that TK research can benefit from more studies conducted in management outside the Malaysian public agencies to build an understanding of work in a broader context.

8.5 Summary

In summary, this study found that sharing managerial tacit knowledge such as through mentoring and knowledge sharing mechanism had an effect on individual performance. Further, the results of this study add to existing evidence suggesting that the mechanism of KSP is important for TK. To illustrate the specific traits of managers that tend to share their managerial tacit knowledge, personality sub-traits appear to be a moderating factor that contributes to the interaction of KSP and TK and its effect on individual performance. Given the benefits of KSP demonstrated by the recent study, it is urged that further study should focus on the mentoring construct and knowledge sharing mechanism to strengthen these constructs in future research.

This study also demonstrated that these variables make a significant contribution to academic and management practices, indicating the novelty of this study. Although there are some limitations that should be acknowledged in this research, it is of greater importance that this study achieved the research objectives and brought new findings to the knowledge management and psychology literature, as well as offering practical suggestions that can be used in management work.

References

- Abdul Hamid, A. S. (1996), *The Civil Service: Towards a New Era*, Kuala Lumpur, Malaysia: Pelanduk Publications.
- Abdul Hamid, A. S. (1999), *World Class Public Service*, Kuala Lumpur, Malaysia: Pelanduk Publications.
- Abdul Manaf, H., Armstrong, S.J. & Lawton, A. (2011), "Knowledge Sharing Practices, Managerial Tacit Knowledge, and Individual Performance: Their Interrelationships and the Moderating Role of Employee Personality" *European Conference on Knowledge Management*, Passau, Germany.
- Abdul Manaf, H., Armstrong, S.J. & Lawton, A. (2012) (under review), "Knowledge Sharing Practices, Managerial Tacit Knowledge, and Individual Performance in the Public Sector: Their Interrelationships and the Moderating Role of Employee Personality" *Journal of Public Administration Research and Theory*.
- Abdullah, A. B. (2005), Speech at the International Conference on Knowledge Management, Putra World Trade Centre, In Kuala Lumpur, Malaysia.
- Abdullah & Date, H. (2009), "Public Sector Knowledge Management: A Generic Framework" *Public Sector ICT Management Review*, Vol. 3, No.1: pp. 1-14.
- Abdullah, H. S., (1992), *Pentadbiran Kewangan Kerajaan Tempatan di Semenanjung Malaysia*, Kuala Lumpur: Percetakan Watan Sdn. Bhd.
- Abraham, S. J. (1999), "National Identity and Ethnicity: Malaysia Perspectives" *Paper Presented at the International Malaysia Studies Conference*, University Malaya, Kuala Lumpur.
- Abrams, L. C. & Cross, R. (2003), "Nurturing Interpersonal Trust in Knowledge Sharing Networks" *Academy of Management Executives*, Vol. 17, No.4: pp. 64-77.
- Abu Bakar, N. B. & Ismail, S. (2011), "Financial Management Accounting Index (FMAI) in Malaysian Public Sector: A Way Forward" *International Review of Administrative Sciences*, Vol. 77, No.1: pp. 159-190.
- Adam, I. (2010), "Excelling in Public Service Delivery." in Shariff, O. H. & Katan, R. (Eds.) *At Your Service: Jottings & Musings from the Public Service*, Kuala Lumpur, Malaysia, Information Department of Malaysia.
- Ahmad, K. (2001), "Corporate Leadership and Workforce Motivation in Malaysia" *International Journal of Commerce and Management*, Vol. 11, No.1: pp. 82-101.
- Ahmad, R. & Ali, N. A. (2004), "Performance Appraisals Decision in Malaysian Public Service." *The International Journal of Public Sector Management*, Vol. 17, No.1: pp. 48-64.

- Ahmad, R. & Spicer, D. P. (2000), "Practice of Performance Appraisals in the Malaysian Public Service: Proposal for Research Exploring the Cognitive Processing Model," *Paper presented at the First Symposium on Graduate Management Research*, at Universiti Utara Malaysia, Kedah.
- Aiken, L. S. & West, S. G. (1993), *Multiple Regression: Testing And Interpreting Interactions*, Newbury Park, CA: SAGE Publications.
- Alavi, M. & Leidner, D. E. (2001), "Review; Knowledge Management and Knowledge Management System: Conceptual Foundations and Research Issues" *MIS Quarterly*, Vol. 25, No.1: pp. 107-136.
- Ali, H. & Davies, D. R. (2003), "The Effect of Age, Sex and Tenure on the Job Performance of Rubber Tapers" *Journal of Occupational and Organisational Psychology*, Vol. 76, No. 3: pp. 381-391.
- Ali, H. M. & Ahmad, N. H. (2006), "Knowledge Management in Malaysian Banks: A New Paradigm" *Journal of Knowledge Management Practices*, Vol. 7, No.3 available at <http://www.tlinc.com/artic1120.htm>.
- Allen, T. D. (2004), "Protege Selection by Mentors: Contributing Individual and Organizational Factors" *Journal of Vocational Behavior*, Vol. 65: pp.469-483.
- Allen, T. J. (1977), *Managing the Flow of Technology: Technology Transfer and the Dissemination of Technological Information within the R&D Organization*, Cambridge, MA: MIT Press.
- Allen, T. D., Russell, J. E. A. & Maetzke, S. B. (1997a), "Formal Peer Mentoring: Factors Related to Proteges Satisfaction and Willingness to Mentor Others" *Group and Organizational Management*, Vol. 22, No.4: pp. 488-507.
- Allen, T. D., Poteet, M. L. & Burroughs, S. M. (1997b), "The Mentor's Perspective: A Qualitative Inquiry and Future Research Agenda" *Journal of Vocational Behavior*, Vol. 51: pp.70-89.
- Allinson, C. W., Armstrong, S. J. & Hayes, J. (2001), "The Effects of Cognitive Style on Leader-Member Exchange: A Study of Manager-subordinate Dyads" *Journal of Occupational and Organizational Psychology*, Vol. 74, No.2: pp. 201-220.
- Al-Mashari, M. & Zairi, M. (2000), "Revisiting BPR: A Holistic Review of Practice and Development" *Business Process Management Journal*, Vol. 6, No.1: pp. 10-42.
- Almeida, C. B. (1994), *The Acquisition of Tacit Knowledge Through Cooperative Education* PhD Thesis, US: Boston College.
- Alvensson, M. (1993), "Organizations as Rhetoric: Knowledge-Intensive Firms and the Struggle with Ambiguity" *Journal of Management Studies*, Vol. 30, No.6: pp. 997-1015.

- Alwis, R. S. D. & Hartmann, E. (2008), "The Use of Tacit Knowledge within Innovative Companies: Knowledge Management in Innovative Enterprises" *Journal of Knowledge Management*, Vol. 12, No.1: pp. 133-147.
- Anderson, N. & Cunningham-Snell, N. (2000), "Personnel Selection" in Chmiel, N. (Ed.) *Introduction to Work and Organizational Psychology: A European Perspective*, Malden, MA: Blackwell Publishing.
- Andrews, R. (2004), "Analysing Deprivation and Local Authority Performance: The Implications for CPA" *Public Money & Management*, January.
- Andrews, R., Boyne, G. A., Law, J. & C., W. R. (2005), "External Constraints on Local Service Standard: The Case of Comprehensive Performance Assessment in English Local Government" *Public Administration*, Vol. 83, No.3: pp. 639-656.
- Arawati, A., Baker, S. & Kandampully, J. (2007), "An Exploratory Study of Service Quality in the Malaysian Public Service Sector" *International Journal of Quality & Reliability Management*, Vol. 24, No.2: pp. 177-190.
- Ardichvili, A., Page, V. & Wentling, T. (2003), "Motivation and Barriers to Participation in Virtual Knowledge-sharing Communities of Practice" *Journal of Knowledge Management*, Vol. 7, No.1: pp. 64-77.
- Argote, L. (1999), *Organizational Learning: Creating Retaining and Transferring Knowledge*, Norwell, MA: Kluwer.
- Argote, L. & Ingram, P. (2000), "Knowledge Transfer: A Basis for Competitive Advantage in Firms" *Organizational Behaviour and Human Decision Process*, Vol. 82, No.1: pp. 150-169.
- Argote, L., McEvily, B. & Reagan, R. (2003), "Introduction to the Special Issue On Managing Knowledge In Organization: Creating, Retaining And Transferring Knowledge" *Management Sciences*, Vol. 49, No.4: pp. 5-8.
- Argyris, C. (1976), "Theories of Action that Inhibit Individual Learning" *American Psychologist*, Vol. 31, No.9: pp. 638-65.
- Argyris, C. (1994), "Good Communication that Block Learning" *Harvard Business Review*, No.July/August: pp. 77-85.
- Argyris, C. (1999), "Tacit Knowledge and Management" in Sternberg, R. J. & Horvath, J. A. (Eds.), *Tacit Knowledge in Professional Practice*, New York: Routledge.
- Armstrong, M. & Baron, A. (1998), *Performance Management: The New Realistic*, London: Institute of Personnel and Development.
- Armstrong, S. J., Allinson, C. W. & Hayes, J. (2002), "Formal Mentoring System: An Examination of the Effects of Mentor/Protégé Cognitive Styles on The Mentoring Process" *Journal of Managerial Studies*, Vol. 39, No.8: pp. 1111-1137.

- Armstrong, S. J. & Fukami, C. V. (2009), *The Sage Handbook of Management Learning, Educational and Development*, London: SAGE Publications.
- Armstrong, S. J. & Mahmud, A. (2008), "Experiential Learning and the Acquisition of Managerial Tacit Knowledge" *Academy of Management Learning & Education*, Vol. 7, No.2: pp. 189-208.
- Arnold H. J. (1982), "Moderator Variables: A Clarification of Conceptual, Analytic and Psychometric Issues" *Organizational Behavior and Human Performance*, Vol. 29, No. 2: pp.143-174.
- Arthur, W. & Bennett, W. (1995), "The International Assignee: The Relative Importance of Factors Perceived to Contribute To Success" *Personnel Psychology*, Vol. 8: pp.99-114.
- Aryee, S., Chay, Y. W. & Chew, J. (1996), "The Motivation to Mentor among Managerial Employees: An Interactionist Approach" *Group & Organizational Studies*, Vol. 21, No.3: pp. 261-277.
- Ashton, M. C. & Lee, K. (2001), "A Theoretical Basis for the Major Dimensions of Personality" *European Journal of Personality*, Vol. 15: pp.327-353.
- Avolio, B. J., Waldman, D. A. & McDaniel, M. A. (1990), "Age and Work Performance in Non Managerial Jobs: The Effects of Experience and Occupational Type" *Academy of Management Journal*, Vol. 33, No.2: pp. 407-422.
- Ayub, A. (1978), "*Cara Pemerintahan Tanah Melayu (1957-1963)*," Kuala Lumpur: Dewan Bahasa dan Pustaka.
- Baba, V. V., Tourigny, L., Wang, X. & Liu, W. (2009), "Proactive Personality And Work Performance In China: The Moderating Effects Of Emotional Exhaustion And Perceived Safety Climate" *Canadian Journal of Administrative Sciences*, Vol. 26, No.1: pp. 23-37.
- Babbie, E. (1993), *The Practice of Social Research (7th ed.)* Belmont, California: Wardsworth Publishing Company.
- Baharim, S. (2008), "*The Influence of Knowledge Sharing on Motivation to Transfer Training: A Malaysia Public Sector Context*" PhD Thesis, Australia: Victoria University Melbourne.
- Bailey, C. & Clarke, M. (2000), "How Do Managers Use Knowledge about Knowledge Management" *Journal of Knowledge Management Practices*, Vol. 4, No.3: pp. 235-243.
- Bakar, Z. A. (2001), "Success Factors to Systems Integration Implementation: More Technically Oriented than Human Related" *Malaysian Journal of Computer Science*, Vol. 14, No.2: pp. 64-69.

- Bakar, N. B. A., Saleh, Z. & Mohamad, M. H. S. (2011), "Enhancing Malaysian Public Sector Transparency and Accountability: Lesson and Issues" *European Journal of Economic, Finance and Administrative Sciences*, No.31: pp. 133-145.
- Baldacchino, K. J. (2002), "Understanding Management Research" *The Journal of Management Development*, Vol. 21, No.3/4: pp. 315-324.
- Ballesteros, R. F. (2003), *Encyclopaedia of Psychological Assessment*, London: SAGE Publications.
- Barney, C., E., & Elias, S., M., (2010), "Flex-time as a Moderator of the Job Stress-work Motivation Relationship: A Three Nation Investigation" *Personnel Review*, Vol.39, No.4: pp. 487-502.
- Baron, R. M. & Kenny, D. A. (1986), "The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations" *Journal of Personality and Social Psychology*, Vol. 51, No.6: pp. 1173-1182.
- Barrick, M. R. & Mount, M. K. (1991), "The Big Five Personality Dimensions and Job Performance: A Meta Analysis" *Personnel Psychology*, Vol. 44, No.1: pp. 1-26.
- Barrick, M. R. & Mount, M. K. (1993), "Autonomy as a Moderator of the Relationship between the Big Five Personality Dimensions and Job Performance" *Journal of Applied Psychology*, Vol. 78, No.1: pp. 111-118.
- Barrick, M. R., Parks, L. & Mount, M. K. (2005), "Self-Monitoring as a Moderator of the Relationship between Personality Traits and Performance" *Personnel Psychology*, Vol. 58, No. 3: pp.745-767.
- Barrick, M. R., Stewart, G. L., Neubert, M. J. & Mount, M. K. (1998), "Relating Member Ability And Personality To Work Team Processes And Team Effectiveness" *Journal of Applied Psychology*, Vol. 83, No.3: pp. 377-391.
- Barrick, M. R., Mount, M. K. & Judge, T. A. (2001), "Personality and Performance at the Beginning of the New Millennium: What Do We Know and Where Do We Go Next?" *Personality and Performance*, Vol. 9, No.1/2: pp. 9-30.
- Bartlett, J. E., Kotrlik, J. W. & Higgins, C. C. (2001), "Organizational Research: Determining Appropriate Sample Size in Survey Research" *Information Technology, Learning, and Performance Journal*, Vol. 19, No.1: pp. 43-50.
- Bartol, K. & Locke, E. (2000), *Incentives and Motivation in Rynes, S. & Gerhart, B. (Eds) Organization Compensation*, San Francisco, CA: Jossey-Bass.
- Barton, K., M. & Srivastava, A. (2002), "Encouraging Knowledge Sharing: The Roles of Organizational Reward System" *Journal of Leadership and Organizational Studies*, Vol. 9, No.1: pp. 64-77.

- Bate, P. (1997), "Whatever Happened to Organizational Ethnography? A Review of the Field of Organizational Ethnography and Anthropological Studies" *Human Relations*, Vol. 50, No.9: pp.1147–1175.
- Beaglehole, J. H. (1974), "Local Government Reorganization in West Malaysia" *Public Administration (Sydney)*, Vol. xxxiii, No.4: pp. 371-373.
- Behn, R. D. (2003), "Why Measure Performance? Different Purposes Require Different Measures" *Public Administrative Review*, Vol. 65, No.3: pp. 586-606.
- Bem, D. J. & Allen, A. (1974), "On Predicting Some of The People Some of The Time: The Search for Cross Situational Consistencies in Behaviour" *Psychological Review*, Vol. 81: pp.506-520.
- Benabou, C., & Benabou, R. (1999), "Establishing a Formal Mentoring Program for Organization Success" *National Productivity Review*, Vol. 18, No.2: pp. 7-14.
- Benet-Martinez, V. & John, O. P. (1998), "Los Cinco Grandes Across Cultures and Ethnic Groups: Multitrait Multimethod Analyses of the Big Five in Spanish and English" *Journal of Personality and Social Psychology*, Vol. 75, No.3: pp. 729-750.
- Benjafield, J. G. (1992), *Cognition*, New Jersey: Prentice Hall.
- Bennet, D. & Bennet, A. (2008), "Engaging Tacit Knowledge in Support of Organizational Learning" *The Journal of Information and Knowledge Management System*, Vol. 38, No.1: pp. 72-94.
- Berends, H. (2005), "Exploring Knowledge Sharing: Moves, Problem Solving and Justification" *Knowledge Management Research and Practices*, Vol. 3: pp.97-105.
- Bergeman, C. S., Chipuer, H. M., Plomin, R., Pedersen, N. L., McClearn, G. E. & Nesselroade, J. R. (1993), "Genetic and Environmental Effects On Openness To Experience, Agreeableness And Conscientiousness: An Adoption/Twin Study" *Journal of Personality*, Vol. 61: pp.159-179.
- Berman, S. L., Down, J. & Hill, C. W. L. (2002), "Tacit Knowledge As A Source Of Competitive Advantage in the National Basketball Association" *Academy of Management Journal*, Vol. 45, No.1: pp. 13-31.
- BERNAMA (2005), "Government Reintroduces 'Star Rating' Performance Indicators", *The Malaysian National News Agency*.
- Berry, D. C. (1987), "The Problem of Implicit Knowledge" *Expert System*, Vol. 4, No.3: pp. 144-151.
- Bettin, P. J. & Kennedy, J., J. K. (1990), "Leadership Experience and Leader Performance, Some Empirical Support at Last" *Leadership Quarterly*, Vol. 1, No.4: pp. 219-228.

- Biersdorff, K. K. & Radkle, S. A. (1991), "Human Rights Legislation: Will Intelligence Become A Bona Fide Occupational Requirement?" *Canadian Journal of Rehabilitation*, Vol. 4, No.4: pp. 203-211.
- Boh, W. F. (2007), "Mechanisms for Sharing Knowledge in Project-Based Organizations" *Information and Organization*, Vol. 17: pp.27-58.
- Bontis, N. & Serenko, A. (2007), "The Moderating Role of Human Capital Management Practices on Employee Capabilities" *Journal of Knowledge Management*, Vol. 11, No.3: pp. 31-51.
- Borgatta, E. F. (1964), "The Structure of Personality Characteristics" *Behaviour Sciences*, Vol. 12: pp.8-17.
- Borgatti, S. P. & Cross, R. (2003), "A Relational View of Information Seeking and Learning in Social Networks" *Management Science*, Vol. 49, No.4: pp. 432-445.
- Boschken, H. L. (1994), "Organizational Performance and Multiple Constituencies" *Public Administration Review*, Vol. 54, No.3: pp. 308-312.
- Bosua, R. & Scheepers, R. (2007), "Towards a Model to Explain Knowledge Sharing In Complex Organizational Environments" *Knowledge Management Research and Practices*, Vol. 5: pp.93-109.
- Bowling, N. A., Beehr, T. A. & Swaderb, W. M. (2005), "Giving and Receiving Social Support at Work: The Roles of Personality and Reciprocity" *Journal of Vocational Behaviour*, Vol. 67, No.3: pp. 476-489.
- Boyne, G. (2002), "Concepts and Indicators of Local Authority Performance: An Evaluation of the Statutory Frameworks in England and Wales" *Public Money and Management*, Vol. 22, pp.17-24.
- Boyne, G. A. & Enticott, G. (2002), "Concepts and Indicators of Local Authority Performance: An Evaluation of the Statutory Frameworks in England and Wales" *Public Money and Management*, April-June.
- Boyne, G. A. & Enticott, G. (2004), "Are the 'Poor' Different? The Internal Characteristics of Local Authorities in the Five Comprehensive Performance Assessment Groups" *Public Money & Management*, January.
- Bozeman, B. & Feeney, M. K. (2009), "Public Management Mentoring: What Affects Outcomes?" *Journal of Public Administration Research and Theory*, Vol. 19, No.2: pp. 427-452.
- Bozionelos, N. (2004), "Mentoring Provided: Relation to Mentor's Career Success, Personality and Mentoring Received" *Journal of Vocational Behavior*, Vol. 64: pp.24-46.
- Brannen, J. (1992), *Mixing Methods: Qualitative and Quantitative Research*, Aldershop: Ashgate Publishing Limited.

- Bratton, J. & Gold, J. (1999), *Human Resource Management: Theory and Practices* London: Macmillan.
- Brewer, G. A. & Selden, S. C. (2000), "Why Elephants Gallop: Assessing And Predicting Organizational Performance In Federal Agencies" *Journal of Public Administration Research and Theory*, Vol. 10, No.4: pp. 685-712.
- Brewer, G. A., Selden, S. C. & Facer, L. R. (2000), "Individual Conceptions of Public Service Motivation" *Public Administration Review*, Vol. 60, No.3: pp. 254-264.
- Brockmann, E. N. & Anthony, W. P. (1998), "The Influence of Tacit Knowledge and Collective Mind on Strategic Planning" *Journal of Managerial Issues*, Vol. X, No.2: pp. 204-222.
- Brody, N. (2003), "What Sternberg Should Have Concluded" *Intelligence*, Vol. 31: pp.339-342.
- Brown, T. A. (2006), *Confirmatory Factor Analysis for Applied Research*, New York: The Guilford Publications.
- Bryant, S. E. (2005), "The Impact of Peer Mentoring on Organizational Knowledge Creating and Sharing: An Empirical Study in a Software Firm" *Group & Organization Management*, Vol. 30, No.3: pp. 319-338.
- Bryant, S. E. & Terborg, J. R. (2008), "Impact of Peer Mentor Training On Creating And Sharing Organizational Knowledge" *Journal of Managerial Issues*, Vol. 20, No.1: pp. 11- 20.
- Bryman, A. (1984), "The Debate about Quantitative and Qualitative Research: A Question of Method of Epistemology" *The British Journal of Sociology*, Vol. 35, No.1: pp. 75-92.
- Bryman, A. & Bell, E. (2007), *Business Research Methods*, London: Oxford University Press.
- Bryson, A. & Curry, A. (2001), "Service Improvement in Public Services Using SERVQUAL" *Managing Service Quality*, Vol. 11, No.6: pp. 389-401.
- Buang, A. (2010), "Value for Money in Public Spending" in Sharif, O. H. & Katan, R. (Eds.) *At Your Service: Jottings & Musings from the Public Service*. Kuala Lumpur: Information Department of Malaysia
- Burke, R. J. (1984), "Mentors in Organizations" *Group & Organization Studies*, Vol. 9: pp.353-372.
- Burrell, G. & Morgan, G. (1979), *Sociological Paradigms and Organisational Analysis: Elements of the Sociology of Corporate Life*, London: Heinemann.

- Busch, P. (2006), "Organisation Design and Tacit Knowledge Transferral: An Examination Of Three IT Firms" *Journal of Knowledge Management Practice*, Vol. 7, No.2. available at <http://www.tlinc.com/articl111.htm>
- Cabrera, A. & Cabrera, E. F. (2002), "Knowledge Sharing Dilemma" *Organizational Studies*, Vol. 23, No.5: pp. 687-710.
- Cabrera, A., Collins, W. C. & Salgado, J. F. (2006), "Determinants of Individual Engagement in Knowledge Sharing" *International Journal of Human Resources Management*, Vol. 17, No.2: pp. 245-264.
- Calantone, R. J., Cavusgil, S. T. & Zhao, Y. (2002), "Learning Orientation, Firm Innovation Capability and Firm Performance" *Industrial Marketing Management*, Vol. 31: pp.515-524.
- Calfee, R. (1993), "Paper, Pencil, Potential, and Performance" *Current Directions in Psychological Science*, Vol. 2: pp.6-7.
- Caligiuri, P. M. (2000), "The Big Five Personality Characteristics as Predictors of Expatriate's Desire to Terminate The Assignment and Supervisor-Rated Performance" *Personnel Psychology*, Vol. 53: pp.67-88.
- Chai, K. H., Gregory, M. J. & Shi, Y. (2003), "Bridging Island of Knowledge: A Framework Of Knowledge Sharing Mechanisms" *International Journal of Technology Management*, Vol. 25, No.8: pp. 703-727.
- Chang, E., (1999), "Career Commitment as a Complex Moderator of Organizational Commitment and Turnover Intention" *Human Relation*, Vol. 52, No. 10: pp.1257-1277.
- Chao, G. T. (1997), "Mentoring Phases and Outcomes" *Journal of Vocational Behavior*, Vol. 51, No.1: pp. 15-28.
- Chao, G. T., Walz, P. M. & Gardner, P. D. (1992), "Formal and Informal Mentorships: A Comparison on Mentoring Functions and Contrast with Nonmentored Counterparts" *Personnel Psychology*, Vol. 45: pp.619-636.
- Chaplin, W. F. (1991), "The Next Generation in Moderation Research in Personality Psychology" *Journal of Psychology*, Vol. 59, No.2: pp. 143-178.
- Cheema, G., S., & Hussein, S. A., (1978), Local Government Reform in Malaysia, *Asian Survey*, Vol.18, No.6: pp.577-591.
- Chiem, P. X. (2001), In the Public Interest: Government Employees Also Need Incentives To Share What They Know, *KM Magazine*.
- Chien, D. J. (1984), "Ethnicity and Development: The Baba Ali Approach" *Asian Journal of Public Administration*, Vol. 6, No.1: pp. 30-45.

- Cho, N., Z., Li, G. & Su, C. (2007), "An Empirical Study on the Effect of Individual Factors On Knowledge Sharing By Knowledge Type" *Journal of Global Business and Technology*, Vol. 3, No.2: pp. 1-15.
- Choi, B. & Lee, H. (2003), "An Empirical Investigation of KM Styles and Their Effect on Corporate Performance" *Information and Management*, Vol. 40, No.5: pp. 403-417.
- Christopher, J., S., Oliver, P., J., Samuel, D. G. & Jef, F. P. (2008), " The Developmental Psychometrics of Big Five Self-Reports: Acquiescence, Factor Structure, Coherence, and Differentiation from Ages 10 to 20" *Journal of Personality and Social Psychology*, Vol. 94, No.4: pp. 718-737.
- Chua, A. (2002), "Taxonomy of Organizational Knowledge" *Singapore Management Review*, Vol. 24, No.2: pp. 69-76.
- Chun, Y. H. & Rainey, H. G. (2005), "Goal Ambiguity and Organizational Performance in U.S. Federal Agencies" *Journal of Public Administration Research and Theory*, Vol. 15, No.15: pp. 529-557.
- Cialdini, R. B., Trost, M. R. & Newson, J. T. (1995), "Preference for Consistency: The Development of a Valid Measure and the Discovery of Surprising Behavioral Implications" *Journal of Personality and Social Psychology*, Vol. 69: pp.318-328.
- Cianciolo, A. T., Grigorenko, E. L., Jarvin, L., Gil, G., Drebot, M. E. & Sternberg, R. J. (2006), "Practical Intelligence and Tacit Knowledge: Advancement in the Measurement of Developing Expertise" *Learning and Individual Differences*, Vol. 16, No.3: pp. 235-253.
- Clark, L. A. (1992), *Schedule for Normal and Abnormal Personality (SNAP)*, Minneapolis: University of Minnesota Press.
- Clark, V. L. P. & Creswell, J. W. (2008), *The Mixed Methods Reader*, Thousand Oaks, CA: SAGE Publications.
- Claycomb, C., Droge, C. & Germain, R. (2002), "Applied Product Quality Knowledge and Performance" *International Journal of Quality & Reliability Management*, Vol. 19, No.6: pp. 649-671.
- Coakes, S. J. & Steed, L. G. (2003), *SPSS Analysis without Anguish*, Singapore: John Wiley.
- Cohen, D. & Prusak., L. (2000), *In Good Company: How Social Capital Makes Organizations Work*, Boston, MA: Harvard Business School Press.
- Cohen, J. (1968), "Multiple Regression as a General Data Analytic System" *Psychological Bulletin*, Vol. 70: pp.426-443.
- Cohen, J. & Cohen, P. (1975), *Applied Multiple Regression/Correlation Analysis for The Behavioral Sciences*, New York: Wiley.

- Cohen, J. & Cohen, P. (1983), *Applied Multiple Regression/Correlation Analysis for The Behavioral Sciences (2nd ed.)*, Hillsdale, NJ: Erlbaum.
- Colin, G. D., Lena, C. Q. & Jordan, B. P. (2007), "Between Facets and Domains: 10 Aspects of the Big Five" *Journal of Personality and Social Psychology*, Vol. 93, No.5: pp. 880-896.
- Collins, H. M. (2001), "Tacit Knowledge, Trust and the Q of Sapphire" *Social Studies of Science*, Vol. 31, No.1: pp. 71-85.
- Collis, J. & Hussey, R. (Eds.) (2009) *Business Research: A Practical Guide for Undergraduate And Postgraduate Students, (3rd ed.)*, England: Palgrave Macmillan.
- Colonia-Willner, R. (1998), "Practical Intelligence at Work: Relationship between Aging and Cognitive Efficiency Among Managers in a Bank Environment" *Psychological and Aging*, Vol. 13, No.1: pp. 45-57.
- Common, R. (2001), *Public Management and Policy Transfer in Southeast Asia*, England: Ashgate Publishing Limited.
- Common, R. (2004a), "Administrative Change in the Asia Pacific: Applying the Political Nexus Triad" *International Public Management Journal*, Vol. 7, No.3: pp. 347-364.
- Common, R. (2004b), "Organisational Learning in a Political Environment", *Policy Studies Journal*, Vol. 25, No. 1: pp.35-49.
- Common, R. (2011), "International Trends in HRM in the Public Sector: Reform Attempts in the Republic of Georgia" *International Journal of Public Sector Management*, Vol. 24, No.5: pp. 421-434.
- Comrey, I. A. & Lee, H. B. (1992), *A First Course in Factor Analysis*, Hillsdale, NJ: Erlbaum.
- Comrey, I. A. & Montag, I. (1982), "Comparison of Factor Analytic Results with Two Choice and Seven Choice Personality Item Formats" *Applied Psychology Measurement*, Vol. 6, No.3: pp. 285-289.
- Cong, X., Li-Hua, R. & Stonehouse, G. (2007), "Knowledge Management in The Chinese Public Sector: Empirical Investigation" *Journal of Technology Management in China*, Vol. 2, No.3: pp. 250-263.
- Cong, X. M. & Pandya, K. (2003), "Issues of Knowledge Management In The Public Sector" *Electronic Journal of Knowledge Management*, Vol. 1 No.2: pp. 25-33.
- Connelly, E. C. & Kelloway, E. K. (2003), "Predictors of Employees' Perceptions of Knowledge Sharing Cultures" *Leadership & Organization Development Journal*, Vol. 24, No.5: pp. 294-301.

- Connelly, C. E., Zweig, D., Webster, J. & Trougakos, J. P. (2012), "Knowledge Hiding in Organizations" *Journal of Organizational Behavior*, Vol. 33, No.1: pp. 64-88.
- Connor, M., Bynoe, A., Redfern, N., Pokora, J. & J., C. (2000), "Developing Senior Doctors as Mentors: A Form of Continuing Professional Development. Report of an Initiative to Develop a Network of Senior Doctors as Mentors: 1994-1999" *Medical Education*, Vol. 34, No.9: pp. 747-753.
- Constant, D., Sproull, L. & Keisler, S. (1996), "The Kindness of Strangers: The Usefulness of Electronic Weak Ties for Technical Advice" *Organizational Sciences*, Vol. 7, No.2: pp. 119-135.
- Cook, S. D. & Brown, J. S. (1999), "Bridging Epistemologies: The Generative Dance between Organizational Knowledge and Organizational Knowing" *Organizational Sciences*, Vol. 10, No.4: pp. 381-400.
- Cooper, D. R. & Schindler, P. S. (2003), *Business Research Methods (8 ed.)*, Boston, MA: McGraw Hill.
- Costa, J. R. & McCrae, R. R. (1989), *NEO PI-R Professional Manual*, Odessa, FL: Psychological Assessment Resources, Inc.
- Costa, T. J. & McCrae, R. R. (1992), *Revised NEO Personality Inventory and NEO Five Factor Inventory Professional Manual*, Odessa, FL: Psychological Assessment Resources, Inc.
- Covaleski, M. A., Dirsmith, M. W., Heian, J. B. & S., S. (1998), "The Calculated and the Avowed: Technique of Discipline and Struggle over Identity in Big Six Public Accounting Firms" *Administrative Science Quarterly*, Vol. 43, No.2: pp. 293-328.
- Cowan, R., David, P. & Foray, D. (2000), "The Explicit Economics of Knowledge Codification and Tacitness" *Industrial and Corporate Change*, Vol. 9, No.2: pp. 211-253.
- Creswell, J. W. (1994), *Research Design: Qualitative & Quantitative Approaches*, Thousand Oaks, CA: SAGE publications.
- Creswell, J. W. (2003), *Research Design: Qualitative, Quantitative and Mixed Methods Approaches, (2nd ed.)*, United State: SAGE publications.
- Crocitto, M. M., Sullivan, S. E. & Carraher, S. M. (2005), "Global Mentoring as a Means of Career Development and Knowledge Creation: A Learning based Framework and Agenda for Future Research" *Career Development International*, Vol. 10, No.6/7: pp. 522-535.
- Cronbach, L. J. & Gleser, G. C. (1953), "Assessing Similarity between Profiles" *Psychological Bulletin*, Vol. 50, No.6: pp. 456-473.

- Cross, R., Parker, A., Prusak, L. & Borgatti, S. (2001), "Knowing What We Know: Supporting Knowledge Creation and Sharing in Social Networks" *Organisational Dynamics*, Vol. 30, No.2: pp. 100-120.
- Cruywagen, M., Swart, J. & Gevers, W. (2008), "One Size Does Not Fit All Towards a Typology Knowledge Centric Organisations" *The Electronic Journal of Knowledge Management*, Vol. 6, No.2: pp. 101-110.
- Curristine, T. (2005), "Government Performance: Lessons and Challenge, OECD" *Journal of Budgeting*, Vol. 5, No.1: pp. 127-151.
- Currie, G. & Kerrin M., (2004), "The Limits of a Technological Fix to Knowledge Management: Epistemological, Political and Cultural Issues in the Case of Intranet Implementation", *Management Learning*, Vol.35, No.1:pp.9–29.
- Currie, G. & Suhomlinova O., (2006), "The Impact of Institutional Forces upon Knowledge Sharing in the UK NHS: The Triumph of Professional Power and the Inconsistency of Policy", *Public Administration*, Vol. 84, No.1: pp.643–663.
- Currie, G., Waring, J. & Finn, R., (2008), "The Limits of Knowledge Management for UK Public Services Modernization: The Case of Patient Safety and Service Quality", *Public Administration*, Vol. 86, No. 2: pp.363-385.
- Davenport, T. H., De Long, D. W. & Beers, M. C. (1998), "Successful Knowledge Management Project" *Sloan Management Review*, Vol. 39, No.2: pp. 43-57.
- Davenport, T. H. & Prusak, L. (1998), *Working Knowledge: How Organization Manage What They Know*, Boston: Harvard Business School Press.
- Davenport, T. H. & Prusak, L. (2000), *Working Knowledge: How Organization Manage What They Know (2nd ed.)*, Boston: Harvard Business School Press.
- Davidson, G., Lepeak, S. & Newman, E. (2007), *The Impact of the Aging Workforce on Public Sector Organizations and Mission*, Ohio: International Public Management Association for Human Resources.
- Day, D. V. & Kilduff, M. (2003), "Self Monitoring Personality and Work Relationship: Individual Differences in Social Network" in Barrick MR, R. A. (Eds.) *Personality and Work: Reconsidering the Roles of Personality In Organization*. San Francisco: Jossey-Bass.
- De-Long, D. W. & Fahey, L. (2000), "Diagnosing Cultural Barriers to Knowledge Management" *Academy of Management Executive*, Vol. 14 No.4: pp. 113-127.
- Denzin, N. K. (1978), *The Research Act: A Theoretical Introduction to Sociological Methods*, New York: McGraw-Hill.
- Department of Statistics Malaysia (2011), Malaysia at a Glance, Department of Statistics: Malaysia Official Website, available at http://www.statistics.gov.my/portal/index.php?option=com_content&view=article&id=472&Itemid=156&lang=en

- Dess, G. G., Lumpkin, G. T. & Covin, J. G. (1997), "Entrepreneurial Strategy Making and Firm Performance: Tests of Contingency and Configurational Models" *Strategic Management Journal*, Vol. 18, No.9: pp. 677-695.
- De Vaus, D. A. (1996), *Surveys in Social Research (4th ed.)*, London: UCL Press Limited.
- De Vries, R. E., Den Hooff, B. V. & De Ridder, J. A. (2006), "Explaining Knowledge Sharing: The Role Of Team Communication Styles, Job Satisfaction And Performance Beliefs" *Communication Research*, Vol. 33, No.2 : pp. 115-135.
- Dewey, J. (1910), *How We Think*, Boston, MA: D.C. Heath and Company.
- DeYoung, C. G., Quilty, L. C. & Peterson, J. B. (2007), "Between Domains and Facets: 10 Aspects of The Big Five" *Journal of Personality and Social Psychology*, Vol. 93: pp.880-896.
- Dhanaraj, C., Lyles, M. A., Steensma, H. K. & Tihanyi, L. (2004), "Managing Tacit and Explicit Knowledge Transfer in IJVs: The Role of Relational Embeddedness and the Impact on Performance" *Journal of International Business Studies*, Vol. 35: pp.428-442.
- Dingman, J. M. (1990), "Personality Structure: Emergence of The Five-Factor Model" *Annual Review of Psychology*, Vol. 41: pp.417-440.
- Dixon, N. M. (2000), *Common Knowledge: How Company Thrive By Sharing What They Know*, Boston: Harvard Business School Press.
- Douglas, C. A. (1997), *Formal Mentoring Programs in Organizations: An Annotated Bibliography*, Greensboro, NC: Centre for Creative Leadership.
- Drucker, P. (1993), *Post Capitalist Society*, Oxford: Butterworth-Heinemann.
- Drucker, P. F. (1969), *The Age of Discontinuity: Guidelines to Our Changing Society*, New York: Harper and Row.
- Du, R., Ai, S. & Ren, Y. (2007), "Relationship between Knowledge Sharing and Performance: A Survey in Xi'an, China" *Expert System with Applications*, Vol. 32: pp.38-46.
- Dunn, W. S., Mount, M. K., Barrick, M. R. & Ones, D. S. (1995), "Relative Importance Of Personality And General Mental Ability In Mangers' Judgments Of Applicant Qualifications" *Journal of Applied Psychology*, Vol. 80: pp.500-509.
- Earl, M. (2001), "Knowledge Management Strategies: Toward a Taxonomy" *Journal of Management Information Systems*, Vol. 18, No.1: pp. 215-133.

- Easterby-Smith, M., Burgoyne, J. & Araujo, L. (1999), *Organizational Learning and the Learning Organization: Development in Theory and Practices*, London: SAGE Publication.
- Easterby-Smith, M., Thorpe, R. & Jackson, P. R. (2008), *Management Research (3rd ed.)*, London: SAGE Publications.
- Easterby-Smith, M., Thorpe, R. & Lowe, A. (2002), *Management Research: An Introduction (2nd ed.)*, London: SAGE Publications.
- Eby, L. T. (1997), "Alternative Forms of Mentoring in Changing Organizational Environments: A Conceptual Extension of the Mentoring Literature" *Journal of Vocational Behaviour*, Vol. 51, No.1: pp. 125-144.
- Echambadi, R., & Hess, J., D., (2007), "Mean-Centering Does Not Alleviate Collinearity Problems in Moderated Multiple Regression Models" *Marketing Science*, Vol. 26, No. 3:pp.438-445.
- Economic Master Plan (2002), Economic Master Plan, Putrajaya, Malaysia: Economic Planning Unit.
- Eddy, E. R., Tannenbaum, S. I., Lorenzet, S. J. & Smith-Jentsch, K. A. (2005), "The Influences Of A Continuous Learning Environment On Peer Mentoring Behaviors" *Journal of Managerial Issues*, Vol. 17, No.3: pp. 383-395.
- Edwards, W. R. & Schleicher, D. J. (2004), "On Selecting Psychology Graduate Students: Validity Evidence for a Test of Tacit Knowledge" *Journal of Education Psychology*, Vol. 96, No.3: pp. 592-602.
- Ellstrom, P. E. (1997), "The Many Meanings of Occupational Competence and Qualification" *Journal of European Industrial Training*, Vol. 21, No.6: pp. 226-273.
- Engstrom, T. E. J. (2003), "Sharing Knowledge through Mentoring" *Performance Improvement*, Vol. 42, No.8: pp. 36-42.
- Epstein, R. M. (1999), "Mindful Practice" *The Journal of the American Association*, Vol. 282, No.9: pp. 833-839.
- Ericsson, K. A. (1996), *The Acquisition of Expert Performance: An Introduction to Some of the Issues*. In Ericsson K. A. (Eds.) *the Road to Excellence*, Mahwah, NJ: Lawrence Erlbaum.
- Evans, L. & Hardy, L. (2002), "Injury Rehabilitation: A Qualitative Follow up Study" *Research Quarterly for Exercise and Sport*, Vol. 73, No.3: pp. 320-329.
- Eysenck, H. J. (1970), *The Structure of Human Personality (3rd ed.)*, London: Methuen.
- Eysenck, H. J. & Eysenck, M. W. (1985), *Personality and Individual Differences: A Natural Science Approach*, New York: Plenum.

- Fabrigar, I. R., Wegener, D. T., MacCallum, R. C. & Strahan, E. J. (1999), "Evaluating The Use of Exploratory Factor Analysis in Psychological Research" *Psychological Methods*, Vol. 4, No.3: pp. 272-299.
- Fagenson, E. A. (1989), "The Mentor Advantage: Perceived Career/Job Experiences of Protégés Versus Non-Protégés" *Journal of Organizational Behavior*, Vol. 10: pp.309-320.
- Fagenson-Eland, E. A., Marks, M. K. & Amendola, K. L. (1997), "Perceptions of Mentoring Relationships" *Journal of Vocational Behavior*, Vol. 51, No.1: pp. 29-42.
- Field, A. (2009), *Discovering Statistics Using SPSS (3rd ed.)*, England: SAGE Publications.
- Fisher, C. & Downes, B. (2008), "Performance Measurement and Manipulation" *Financial Management*.
- Fiske, S. T., Kinder D. R. & Larter, W. M. (1983), "The Novice And The Expert: Knowledge-Based Strategies In Political Cognition" *Journal of Experimental Social Psychology*, Vol. 19: pp.381 - 400.
- Floyd, F. J. & Widaman, K. F. (1995), "Factor Analysis in the Development and Refinement of Clinical Assessment Instruments" *Psychological Assessment*, Vol. 7, No.3: pp. 286-299.
- Flury, B. & Riedwyl, H. (1988), *Multivariate Statistic: A Practical Approach*, London: Chapman & Hall.
- Forsythe, G., Hedlund, J., Snook, S., Horvath, J., Williams, W., Bullis, R., Dennis, M. & Sternberg, R. (1998), Construct Validation of Tacit Knowledge for Military Leadership. *Paper presented at the Annual Meeting of the American Educational Research Association*. San Diego, California.
- Foucault, M. (1980), *Power/knowledge: Selected Interviews and Other Writings by Michael Foucault, 1972-1977*, Brighton: Harvester Wheatsheaf.
- Fox, R. L. & Schuhmann, R. A. (2001), "Mentoring Experiences of Women City Managers-Are Women Disadvantaged?" *American Review of Public Administration*, Vol. 31, No.4: pp. 381-392.
- Frank, S. A. & Lewis, G. B. (2004), "Government Employees: Working Hard or Hardly Working?" *American Review of Public Administration*, Vol. 34, No.1: pp. 36-51.
- Frazier, P. A., Tix, A. P. & Barron, K. E. (2004), "Testing Moderator and Mediating Effects in Counselling Psychology" *Journal of Counselling Psychology*, Vol. 51: pp.115-134.
- French, J. R. P. & Raven, B. (1959), "The Bases of Social Power", In Cartwright, D. (Ed.), *Studies in Social Power*, Ann Arbor, MI: Institute for Social Research.

- Fuller, J., B., Hester, K., & Cox, S., S., (2010), "Proactive Personality and Job Performance: Exploring Job Autonomy as a Moderator" *Journal of Managerial Issues*, Vol. 22, No. 1:pp. 35-51.
- Fuller, S. (2001), *Knowledge Management Foundations*, London:Butterworth-Heinemann.
- Funder, D. C. (2001), *The Personality Puzzle (2nd ed.)*, New York: Norton.
- Galagan, P. (1997), "Smart Companies (Knowledge Management)" *Training and Development*, Vol. 51, No.12: pp. 20-25.
- Game, C. (2006), "Comprehensive Performance Assessment in English Local Government" *International Journal of Productivity and Performance Management*, Vol. 55, No.6: pp. 466-479.
- Gao, F., Li, M. & Clarke, S. (2008), "Knowledge, Management And Knowledge Management In Business Operations" *Journal of Knowledge Management*, Vol. 12, No.2: pp. 3-17.
- Garengo, P., Biazzo, S. & Bititci, U. S. (2005), "Performance Measurement Systems in SMEs: A Review for A Research Agenda" *International Journal of Management Reviews*, Vol. 7, No.1: pp. 25-47.
- Geiger, A. H. (1992), "Measures for Mentors" *Training and Development*, Vol. 46, No.2: pp. 65-67.
- Gellatly, R. I. (1996), "Conscientiousness and Task Performance: Test of Cognitive Process Model" *Journal of Applied Psychology*, Vol. 81, No.5: pp. 474-482.
- Ghuri, P. & Gronhaug, K. (2002), *Research Methods in Business Studies: A Practical Guide (2nd Ed)*, England: Pearson Education.
- Ghiselli, E. E. (1973), "The Validity of Aptitude Tests in Personnel Selection" *Personnel Psychology*, Vol. 26, No.4: pp. 461-477.
- Gill, J. & Johnson, P. (1991), *Research Methods for Managers*, London: Paul Chapman Publishing Limited.
- Gill, S. P. (2000), "The Tacit Dimension of Dialogue for Knowledge Transfer" *Paper presented in Conference on Knowledge and Innovation*, at Helsinki School of Economics and Business Administration.
- Gillham, B. (2000), *The Research Interview*, London: Continuum.
- Girard, J. P. & McIntyre, S. (2010), "Knowledge Management Modeling in Public Sector Organizations: A Case Study" *International Journal of Public Sector Management*, Vol. 23, No.1: pp. 71-77.

- Godshalk, V. M. & Sosik, J. J. (2003), "Aiming for Career Success: The Role of Learning Goal Orientation in Mentoring Relationships" *Journal of Vocational Behavior*, Vol. 63, No.3: pp. 417.
- Goldberg, L. R. (1990), "An Alternative Description of Personality-The Big Five Factor Structure" *Journal of Personality and Social Psychology*, Vol. 59, No.6: pp. 1216-1229.
- Goldberg, L. R. (1993), "The Structure of Phenotypic Personality Traits" *American Psychologist*, Vol. 48: pp.26-34.
- Gordon, M. E. & Fitzgibbons, W. J. (1982), "Empirical Test Of The Validity Of Seniority As A Factor In Staffing Decisions" *Journal of Applied Psychology*, Vol. 67: pp.311-319.
- Gorelick, C. & Monsou, B. T. (2005), "For Performance through Learning, Knowledge Management Is the Critical Practice" *The Learning Organization*, Vol. 12, No.2: pp. 125-139.
- Gottfredson, L. S. (2003), "On Sternberg's 'Reply to Gottfredson'" *Intelligence* Vol. 31: pp.415-424.
- Gourlay, S. (2006), "Conceptualization Knowledge Creation: A Critique of Nonaka's Theory" *Journal of Management Studies*, Vol. 43, No.7: pp. 1415-1436.
- Government of Malaysia (2008), Mid-term Review of the Ninth Malaysia Plan 2006-2010. In The Economic Planning Unit (Eds.) Putrajaya, Malaysia, Prime Minister's Department.
- Government of Malaysia (2009), Service Circular Number 2: Strengthening Management System Performance Evaluation of Public Service Officers. Putrajaya, Malaysia, Department of Public Service.
- Government of Malaysia (2010), Tenth Malaysian Plan 2011-2015. In The Economic Planning Unit (Ed.) Putrajaya, Malaysia, Prime Minister's Department.
- Graneheim, U. H. & Lundman, B. (2004), "Qualitative Content Analysis In Nursing Research: Concepts, Procedures And Measures To Achieve Trustworthiness" *Nurse Education Today*, Vol. 24: pp.105-112.
- Grant, I., Erksen, H. R., Marquis, P., Orre, I., J., Palinkas, L. A. & Suedfeld, P. (2007), "Psychological Selection of Antarctic Personnel: the "SOAP" Instrument" *Aviation Space and Environment Medicine*, Vol. 78, No.8: pp. 793-800.
- Grant, R. M. (1996), "Towards a Knowledge-Based Theory of the Firm" *Strategic Management Journal*, Vol. 17: pp.109-122.
- Gray, P. H. (2000), "The Effects of Knowledge Management System on Emergent Teams: Towards a Research Model" *Journal of Strategic Information System*, Vol. 9, No.2/3: pp. 175-191.

- Grayson, J. & O'Dell, C. (1998), "If Only We Knew What We Know: Identification and Transfer of Internal Best Practices" *California Management Review*, Vol. 40, No.3: pp. 154-165.
- Greene, J. C., Caracelli, V. J. & Graham, W. F. (1989), "Toward a Conceptual Framework for Mixed-Method Evaluation Design" *Educational Evaluation and Policy Analysis*, Vol. 11, No.3: pp. 255-274.
- Grigorenko, E. L., Gil, G., Jarvin, L. & Sternberg, R. J. (2000), Toward a Validation of Aspects of the Theory of Successful Intelligence, *Published Manuscript*.
- Gross, J. J. & John, O. P. (1995), "Facets of Emotional Expressivity: Three Self-Report Factors And Their Correlates" *Personality Individual Differences*, Vol. 19, No.4: pp. 555-968.
- Guba, E. G. & Lincoln, Y., S., (1994), *Competing Paradigms in Qualitative Research in N. K. Denzin & Y. S. Lincoln (Eds), Handbook of Qualitative Research*, Thousand Oak, CA: SAGE Publications.
- Guba, E. G. & Lincoln, Y. S. (1982), "Epistemological and Methodological Bases of Naturalistic Inquiry" *Educational Communication and Technology Journal*, Vol. 30, No. 4: pp. 233-252.
- Guion, R. M. & Gottier, R. F. (1965), "Validity of Personality Measures in Personnel Selection" *Personnel Psychology*, Vol. 18: pp.135-164.
- Gupta, A. K. & Govindarajan, V. (2000), "Knowledge Management's Social Dimension: Lessons from Nucor Steel" *Sloan Management Review*, Vol. 42, No.1: pp. 71-80.
- Hackman, R. (1987), *The Design of Work Team, Handbook of Organizational Behaviour*, New Jersey: Prentice-Hall.
- Hailesilassie, G. (2009), "Determinants of Public Employees' Performance: Evidence from Ethiopian Public Organizations" *International Journal of Productivity and Performance Management*, Vol. 58, No.3 : pp. 238-253.
- Hair, J. F., Anderson, R. E., Tathan, R. L. & Black, W. C. (1998), *Multivariate Data Analysis (5th ed.)*, Upper Saddle River, NJ: Prentice Hall.
- Hair, J. F., Black, W. C., J., Babin, B. & Anderson, R. E. (2010), *"Multivariate Data Analysis: A Global Perspective, (7th ed.)"* New Jersey: Pearson Education Inc.
- Hall, J. L. (2007), "Implication of Success and Persistence for Public Sector Performance" *Public Organization Review*, Vol. 7: pp.281-297.
- Halligan, J. E. (2008), *Performance Management in Government: Holy Grail or Achievable Quest?*, Canada: KPMG and CAPAM.
- Halverson, C. A. (2004), The Value of Persistence: A Study of The Creation, Ordering And Use of Conversation Archives by A Knowledge Worker. *Paper presented*

at the 37th annual Hawaii international conference on system sciences (HICSS'04), Big Island, Hawaii.

- Hansen, M. T. (1999), "The Search-Transfer Problem: The Role of Weak Ties in Sharing Knowledge across Organization Subunits" *Administrative Science Quarterly*, Vol. 44, No.1: pp. 82-111.
- Hansen, M. T., Nohria, N. & Tierney, T. (1999), "What's Your Strategy for Managing Knowledge" *Harvard Business Review*, Vol. 77, No.2: pp. 106-116.
- Haque, M. S. (2003), "The Role of the State in Managing Ethnic Tensions in Malaysia: A Critical Discourse" *American Behavioral Scientist*, Vol. 47, No.3: pp. 240-266.
- Harel, G. H. & Tzafrir, S. S. (2001), "HRM Practices In the Public and Private Sectors: Differences and Similarities" *Public Administration Quarterly*, Vol. 25, No.3: pp. 316-355.
- Hargadon, A. & Sutton, R. I. (1997), "Technology Brokering and Innovation in A Product Development Firm" *Administrative Science Quarterly*, Vol. 42, No.4: pp. 716-749.
- Hartley, J. & Allison, M. (2002), "Good, Better, Best? Inter-organizational Learning in A Network Of Local Authorities" *Public Management Review*, Vol. 4, No.1: pp. 101-118.
- Hartley, J & Benington, J., (2001), "Managing to Govern: Knowledge Creation and Transfer in an Inter-organizational Network" *Academy of Management Conference*, Washington DC: August.
- Hasan, H. & Al-Hawari, M. (2003), "Management Styles and Performance: A Knowledge Space Framework" *Journal of Knowledge Management*, Vol. 7, No.4: pp. 15 - 28.
- Hashim, T. S. M. S. (1972), *An Introduction of The Constitution of Malaysia*, Malaysia Government: Kuala Lumpur.
- Hassan, M. S. (2010), "Following in the Footsteps of Aristides" in Shariff, O. H. & Katan, R. (Eds.) *At Your Service: Jottings & Musings from the Public Service*, Kuala Lumpur: Information Department of Malaysia
- Havill, V. L., Besevegis, E. & Mouroussaki, S. (1998), "Agreeableness as a Diachronic Personality Trait." in Kohnstamm, G. A. & Halverson, C., F., Jr. (Eds.) *Parental Descriptions of Child Personality: Development Antecedents of the Big 5. The LEA Series in Personality and Child Psychology*, Mahwah, NJ: Lawrence Earlbaum.
- Hayek, F. A. (1945), "The Use of Knowledge in Society" *American Economic Review*, Vol. 25, No.4: pp. 519-530.
- Healy, P. (2001), "Training and Public Sector Reform: An Integrated Approach" *Public Administration & Development*, Vol. 21, No.4: pp. 309-319.

- Hedlund, J., Forsythe, G. B., Horvath, J. A., Williams, W. M., Snook, S. & Sternberg, R. J. (2003), "Identifying and Assessing Tacit Knowledge: Understanding The Practical Intelligence Of Military Leaders" *The Leadership Quarterly*, Vol. 14, No.2: pp. 117-140
- Hedlund, J., Horvath, J. A., Forsythe, G. B., Snook, S., Williams, W. M., Bullis, R. C., Dennis, M. & Sternberg, R. J. (1998), "Tacit Knowledge in Military Leadership: Evidence of Construct Validity" Alexandria, VA, U. S.: Army Research Institute for the Behaviour and Social Sciences.
- Hendriks, P. (1999), "Why Share Knowledge? The Influence of ICT on the Motivation for Knowledge Sharing" *Knowledge and Process Management*, Vol. 6, No.2: pp. 91-100.
- Henson, R. K. & Roberts, J. K. (2006), "Use of Exploratory Factor Analysis in Published Research: Common Errors and Some Comment on Improved Practice" *Educational and Psychological Measurement*, Vol. 66, No.3: pp. 393-416.
- Herbig, B., Bussing, A. & Ewert, T. (2001), "The Role of Tacit Knowledge in the Work Context of Nursing" *Journal of Advanced Nursing*, Vol. 34, No.5: pp. 687-695.
- Hermelin, E. & Robertson, I. T. (2001), "A Critique and Standardization of Meta Analytic Validity Coefficient in Personal Selection" *Journal of Occupation and Organizational Psychology*, Vol. 74: pp.253-277.
- Higgins, M. C. & Kram, K. E. (2001), "Reconceptualizing Mentoring At Work: A Development Network Perspective" *Academy of Management Review*, Vol. 26, No.2: pp. 264-288.
- Hill, D., M. (1974), *Democratic Theory and Local Government*, London: George Allens, Unwin Ltd.
- Hill, R. W., Douglas, J., Gordon, A., Pighin, F. & Van Velsen, M. (2003), "Guided Conversation about Leadership: Mentoring With Movies and Interactive Characters", *Paper presented at the Fifteenth Innovative Applications of Artificial Intelligence Conference (IAAI-03)*. Acapulco.
- Hinkle, D. E., Wiersma, W. & Jurs, S. G. (1994), *Applied Statistics for The Behavioural Sciences*, Boston: Houghton Mifflin Company.
- Hinds, P. J., Patterson, M. & Pfeffer, J. (2001), "Bothered by Abstraction: The Effect of Expertise on Knowledge Transfer and Subsequent Novice Performance" *Journal of Applied Psychology*, Vol. 86: pp.1232-1243.
- Hirschheim, R. (1992), *Information Systems Epistemology: An Historical Perspective. Information Systems Research: Issues, Methods and Practical Guidelines*, Oxford: Blackwell Scientific Publications.

- Hoe, S. L. (2006), "Tacit Knowledge, Nonaka and Takeuchi SECI Model and Informal knowledge processes" *International Journal of Organizational Theory and Behaviour*, Vol. 9, No.4: pp. 490-502.
- Hollenbeck, J., R., & Whitener, E., M. (1988), "Reclaiming Personality Traits For Personnel Selection: Self Esteem As An Illustrative Case" *Journal of Management*, Vol. 14: pp.81-91.
- Holmbeck, G. N. (1997), "Towards Terminological, Conceptual and Statistical Clarity in the Study of Mediators and Moderators: Examples from the Child-Clinical and Pediatric Psychology Literatures" *Journal of Consulting and Clinical psychology*, Vol. 65, No.4: pp. 599-610.
- Holtshouse, D. (1998), "Knowledge Research Issues, In Special Issues on Knowledge And The Firm" *California Management Review*, Vol. 40, No.3: pp. 277-280.
- Hooff, B. V. & De Ridder, J. A. (2004), "KS in Context: The Influence of Organization Commitment, Communication Climate and CMC Use on Knowledge Sharing" *Journal of Knowledge Management*, Vol. 8, No.6: pp. 117-130.
- Horvath, J. A., Forsythe, G. B., Bullis, R. C., Sweeney, P. J., Williams, W. M., McNally, J. A., Wattendorf, J. M. & Sternberg, R. J. (1999), "Experience, Knowledge and Military Leadership" in Sternberg, R. J. & Horvath, J. A. (Eds.) *Tacit Knowledge in Professional Practice*, New York:Routledge.
- Horvath, J. A., Hedlund, J., Snook, S., Forsythe, G., B. & Sternberg, R., J., (1998), *Tacit Knowledge in Military Leadership: Some Research Products and Their Applications to Leadership Development*, New Haven: United States Army Research Institute for the Behaviour and Social Sciences.
- Hsu, I.-C. (2006), "Enhancing employee Tendencies to Share Knowledge: Case Studies Of Nine Companies in Taiwan" *International Journal of Information Management*, Vol. 26, No.4: pp. 326-338.
- Hsu, I.-C. (2008), "Knowledge Sharing Practices As A Facilitating Factor For Improving Organizational Performance Through Human Capital: A Preliminary Test" *Expert Systems with Applications: An International Journal*, Vol. 35, No.3: pp. 1316-1326.
- Hu, M. M., Horng, J. S. & Sun, Y. C. (2009), "Hospitality Teams: Knowledge Sharing and Service Innovation Performance" *Tourism Management*, Vol. 30, No.1: pp. 41-50.
- Hunter, J. E. & Hunter, R. F. (1984), "Validity and Utility of Alternative Predictors of Job Performance" *Psychological Bulletin*, Vol. 96: pp.73-98.
- Hunton, J. E., Stone, D. N. & Wier, B. (2005), "Does Graduate Business Education Contribute To Professional Accounting Success?" *Accounting Horizons*, Vol. 19, No.2: pp. 99-114.

- Huque, A. S. & Vyas, L. (2008), "Expectations and Performance: Assessment of Public Service Training in Hong Kong" *The International Journal of Human Resource Management*, Vol. 19, No.1: pp. 188-204.
- Hurley, A. E., Scandura, T. A., Schriesheim, C. A., Brannick, M. T., Seers, A., Vandenberg, R. J. & Williams, L. J. (1997), "Exploratory and Confirmatory Factor Analysis: Guidelines, Issues And Alternatives" *Journal of Organizational Behaviour*, Vol. 18: pp.667-683.
- Hurtz, G. M. & Donovan, J. J. (2000), "Personality and Job Performance: The Big Five Revisited" *Journal of Applied Psychology*, Vol. 85: pp.869-879.
- Hussain, A. A. (2002), *Kerajaan Tempatan: Teori dan Peranan di Malaysia*, Kuala Lumpur: Dewan Bahasa dan Pustaka.
- Hussain, A. A. & Brahim, M. (2006), "Administrative Modernization in the Malaysian Local Government: A Study in Promoting Efficiency, Effectiveness and Productivity" *Pertanika Journal Social Science & Human*, Vol. 14, No.1: pp. 51-62.
- Husted, K. & Michailova, S. (2002), "Diagnosing and Fighting Knowledge Sharing Hostility" *Organizational Dynamic*, Vol. 31, No.1: pp. 60-73.
- Iaffaldano, M. T. & Muchinsky, P. M. (1985), "Job Satisfaction and Job Performance: A Meta Analysis" *Psychological Bulletin*, Vol. 97, No.2: pp. 251-273.
- Ibrarra, H. (2000), "Making Partner: A Mentor's Guide to the Psychological Journey" *Harvard Business Review*, Vol. 78, No.2: pp. 146-122.
- Ineh, A. K. (1975), Penyusunan Semula Penguasa-penguasa Tempatan di Semenanjung Malaysia, *Seminar Kebangsaan Kerajaan Tempatan, 30 Jun-4Julai*, Kuala Lumpur.
- Insch, G. I., McIntyre, N. & Dawley, D. (2008), "Tacit Knowledge: A Refinement and Empirical Test of the Academic Tacit Knowledge Scale" *The Journal of Psychology: Interdisciplinary and Applied*, Vol. 142, No.6: pp. 561-580.
- Institute of Education Sciences (1997), Findings from Education and The Economy: An Indicators Report, National Centre for Education Statistics.
- Ipe, M. (2003), "Knowledge Sharing In Organization: A Conceptual Framework" *Human Resources Development Review*, Vol. 2, No.4: pp. 337-359.
- Isaacs, W. (1999), *Dialog and The Art of Thinking Together*, New York: Currency/Doubleday.
- Ismail, M. B. & Yusof, Z. W. (2009), Demographic Factors and Knowledge Sharing Quality among Malaysian Government Officers. *Communication of the International Business Information Management Association (IBIMA)*, 9, 1-7.

- Jaccard, J., Turrisi, R. & Wan, C., K., (1990), *Interaction Effects In Multiple Regression* (72), Beverly Hills, CA: SAGE Publications.
- Jackson, S. E., Chuang, C.-H., Harden, E. E., Jiang, Y. & Joseph, J. M. (2006), "Toward Developing Human Resource Management Systems for Knowledge-intensive Teamwork, in J.M. Joseph *Research in Personnel and Human Resources Management*, Vol. 25: pp. 27-70.
- Jensen-Campbell, L. A. & Graziano, W. G. (2001), "Agreeableness as a Moderator of Interpersonal Conflict" *Journal of Personality*, Vol. 69, No.2: pp. 323-362.
- Jick, T. D. (1979), "Mixing Qualitative and Quantitative Methods: Triangulation in Action" *Administrative Science Quarterly*, Vol. 24, No.4: pp. 602-611.
- John, O. P., Donahue, E. M. & Kentle, R. L. (1991), *The Big Five Inventory - version 4a and 54*, Berkeley: University of California, Institute of Personality and Social Research.
- John, O. P., Naumann, L. P. & Soto, C. J. (2008), *Paradigm Shift to the Integrative Big Five Trait Taxonomy: History, Measurement, and Conceptual Issues. In John O.P., Robins R.W. and Pervin L.A., (Eds), Handbook of Personality: Theory and Research* (3rd ed.), New York, NY: Guilford Press.
- John, O. P. & Srivastasa, S. (1999), "*The Big Five Trait Taxonomy: History, Measurement and Theoretical Perspective*, in L. A., Pervin and John, O. P., (eds), *Handbook of Personality: Theory And Research*" New York: Guilford Press.
- Johnson, M. (1989), "Embodied Knowledge" *Curriculum Inquiry*, Vol. 19, No.4: pp. 361-377.
- Johnson, P. & Duberley, J. (2000), *Understanding Management Research*, London: SAGE Publications.
- Johnson, R. B. & Onwuegbuzie, A. J. (2004), "Mixed Methods Research: A research Paradigm Whose Time Has Come" *Educational Researcher*, Vol. 33, No.7: pp. 14-26.
- Johnson, S. & Wolfe, R. (1995), "Personality as a Predictor of College Performance" *Educational and Psychological Measurement*, Vol. 55: pp.177-185.
- Joreskog, K. G. (1969), "A General Approach To Confirmatory Maximum Likelihood Factor Analysis" *Psychometrika*, Vol. 34: pp.183-202.
- Judge, T. & Bono, J. E. (2000), "Relationship of Core Self-Evaluation with Job Satisfaction and Job Performance: A Meta-Analysis" *Journal of Applied Psychology*, Vol. 86, No.1: pp. 80-92.
- Judge, T. & Ilies, R. (2002), "Relationship of Personality to Performance Motivation: A Meta-Analytic Review" *Journal of Applied Psychology*, Vol. 87, No.4: pp. 797-807.

- Judge, T. A., Bono, J. E., Ilies, R. & Gerhardt, M. W. (2002), "Personality and Leadership: A Qualitative and Quantitative Review" *Journal of Applied Psychology*, Vol. 87: pp.765-780.
- Judge, T. A., Higgins, C. A., Thoresan, C. J. & Barrick, M. R. (1999), "The Big Five Personality Traits, General Mental Ability and Career Success Across The Life Span" *Personnel Psychology*, Vol. 52: pp.621-651.
- Kahn, J. H. (2006), "Factor Analysis in Counselling Psychology Research, Training and Practice: Principles, Advance and Application" *The Counselling Psychologist*, Vol. 34, No.5: pp. 684-718.
- Kaifeng, Y. & Marc, H. (2006), "The Performance-Trust Link: Implications for Performance Measurement" *Public Administration Review*, Vol. 66, No.1: pp. 114-126.
- Kammeyer-Mueller, J. D. & Judge, T. A. (2008), "A Quantitative Review of Mentoring Research: Test of a Model" *Journal of Vocational Behaviour*, Vol. 72: pp.269-283.
- Kang, Y., Kim, S. & Chang, G. (2008), "The Impact Of Knowledge Sharing On Work Performance: An Empirical Analysis Of The Public Employees' Perceptions in South Korea" *International Journal of Public Administration*, Vol. 31: pp.1548-1568.
- Kanter, R. M. (1989), *When Giants Learn To Dance*, New York: Simon & Schunter.
- Kaser, P. A. W. & Miles, R. E. (2002), "Understanding Knowledge Activists' Successes and Failure" *Long Range Planning*, Vol. 35, No. 1: pp. 9-28.
- Kasim, R. S. R. (2008), "The Relationship of Knowledge Management Practices, Competencies and the Organizational Performance of Government Departments in Malaysia," *Proceedings of World Academy of Science, Engineering and Technology*, at Kuala Lumpur, Malaysia.
- Katz, R. (1982), "The Effects of Group Longevity on Project Communication and Performance" *Administrative Science Quarterly*, Vol. 27: pp.81-104.
- Kermally, S. (2002), *Effective Knowledge Management: A Best Practice Blueprint*, England: John Wiley & Sons.
- Kerr, M. R. (1991), *An Analysis and Application of Tacit Knowledge to Managerial Selection*, PhD Thesis, Canada: University of Waterloo.
- Kerr, M. R. (1995), "Tacit Knowledge as a Predictor of Managerial Success: A Field Study" *Canadian Journal of Behavioural Science*, Vol. 27, No.1: pp. 36-51.

- Keskin, H. (2005), "The Relationship between Explicit and Tacit Oriented KM Strategy and Firm Performance" *The Journal of American Academy of Business, Cambridge*, Vol. 7, No.1: pp. 169-175.
- Kieffer, K. M. (1999), "An Introductory Primer on the Appropriate Use of Exploratory and Confirmatory Factor Analysis" *Research in the School*, Vol. 6: pp.75-92.
- Kim, G. (2002), "The effects on KM styles and Performance in Local Government: Research on Local Public Servants' Behaviour and Consciousness" *Journal of Korean Association for Local Government Studies*, Vol. 38, No.1: pp. 45-68.
- Kim, S. (2003), "Research Paradigms in Organizational Learning and Performance: Competing Modes of Inquiry" *Learning and Performance Journal*, Vol. 21, No.1: pp. 9-18.
- Kim, S. (2005), "Individual Level Factors and Organizational Performance In Government Organizations" *Journal of Public Administration Research and Theory*, Vol. 15, No.2: pp. 245-261.
- Kim, S. & Kim, Y. W. (2000), "An Empirical Study on the Key Success Factors Of Knowledge Management" *Korean Management Review*, Vol. 29, No.4: pp. 585-615.
- Kim, W. C. & Mauborgne, R. (1998), "Procedural Justice, Strategic Decision Making, and the Knowledge Economy" *Strategic Management Journal*, Vol. 19, No.4: pp. 323-338.
- King in Klein, J. H. (2008), "Some Directions for Research in Knowledge Sharing" *Knowledge Management Research and Practice*, Vol. 6: pp.41-46.
- Klauss, R. (1981), "Formalized Mentor Relationships for Management and Executive Development Programs in the Federal Government" *Public Administration Review*, Vol. 41, No.4: pp. 489-496.
- Knapp, T. R. (1978), "Canocial Correlation Analysis: A General Parametric Significant Testing System" *Psychological Bulletin*, Vol. 85: pp.410-416.
- Kolb, D. A. (1984), *Experiential Learning: Experience as the Source of Learning and Development*, New Jersey: Prentice-Hall.
- Kolbe, R. H. & Burnett, M. S. (1991), "Content-Analysis Research: An Examination of Applications with Directives for Improving Research Reliability and Objectivity" *The Journal of Consumer Research*, Vol. 18, No.2: pp. 243-250.
- KPGM (2003), Insights from KPMG's European Knowledge Management Survey 2002/2003, *KPMG Knowledge Advisory Services*.
- Krackhardt, D. (1992), "The Strength of Strong Ties: The Importance of Philos in Organizations," in Nohria N. and Eccles R. G. (eds.), *Networks and Organizations*, " Boston, MA: Harvard Business School Press.

- Kram, K. E. (1983), "Phases of the Mentor Relationship" *Academy of Management Journal*, Vol. 26: pp.608-625.
- Kram, K. E. (1985a), *Mentoring at Work: Developmental Relationship in Organization Life*, Glenview, IL: Scott, Foresman and Co.
- Kram, K. E. (1985b), *Mentoring at Work*, New York, NY: University Press of America.
- Krippendorff, K. (2004), *Content Analysis: An Introduction to its Methodology (2nd ed.)* US: SAGE Publications.
- Kumar, R. (2011), *Research Methodology: A Step by Step Guide for Beginners*, London: SAGE Publications.
- Lam, A. (1997), "Embedded Firms, Embedded Knowledge: Problems of Collaboration and Knowledge Transfer In Global Cooperatives Ventures" *Organizational Studies*, Vol. 18: pp.973-996.
- Lam, A. (2000), "Tacit Knowledge, Organizational Learning and Societal Institutions: An Integrated Framework" *Organization Studies*, Vol. 21, No.3: pp. 487-513.
- Lankau, M. J. & Scandura, T. A. (2002), "An Investigation Of Personal Learning In Mentoring Relationship: Content, Antecedents And Consequences" *Academy of Management Journal*, Vol. 45, No.4: pp. 779-790.
- Lee, C. & Yang, J. (2000), "Knowledge Value Chain" *The Journal of Management Development*, Vol. 19, No.9: pp. 783-794.
- Lee, G. B. (2005), *The Demise of Local Government Elections and Urban Politics in Election and Democracy in Malaysia*, in Puthuchery, M. and Othman, N. (Eds), Bangi: Universiti Kebangsaan Malaysia.
- Legree, P. J., Heffner, T. S., Psocka, J., Martin, D. E. & Medsker, G. J. (2003), "Traffic Crash Involvement: Experiential Driving Knowledge And Stressful Contextual Antecedents" *Journal of Applied Psychology*, Vol. 88, No.1: pp. 15-26.
- Leithwood, K. & Steinbach, R. (1995), *Expert Problem Solving: Evidence from School and District Leaders*, Albany, NY: Suny Press.
- Leonard, D. & Sensiper, S. (1998), "The Role of Tacit Knowledge in Group Innovation" *California Management Review*, Vol. 40, No.3: pp. 112-132.
- Levinson, D. J., Darrow, C. M., Klein, E. G., Levinson, M. H. & McKee, B. (1978), *The Seasons of A Man's Life*, New York: Knopf.
- Lewin, K. (1951), *Field Theory in Social Sciences*, New York: Harper & Row.
- Liebesskind, J. P. (1996), "Knowledge, Strategy And The Theory Of The Firm" *Strategic Management Journal*, Vol. 17: pp.93-107.

- Liebowitz, J. & Chen, Y. (2001), "Developing Knowledge Sharing Proficiencies: Building A Supportive Structure For Knowledge Sharing" *Knowledge Management Review*, Vol. 3, No.6: pp. 12-15.
- Liebowitz, J. & Chen, Y. (2003), *Knowledge Sharing Proficiencies: The Key To Knowledge Management, in Hosapple, C.W. (Eds.), Handbook on Knowledge Management 1: Knowledge Matter*, Berlin: Springer-Verlag.
- Lievens, F. (2005), International Situational Judgment Tests in Weekley, J. A. & Ployhart, R. E. (Eds.) *Situational Judgment Tests: Theory, Measurement, and Application*, Mahwah, NJ: Lawrence Erlbaum Associates
- Lijffijt, M., Caci, H. & Kenmans, J. L. (2005), "Validation of the Dutch translation of the I η Questionnaire" *Personality and Individual Differences*, Vol. 38: pp.1123-1133
- Lin, C. (2007a), "The Share or not To Share: Modelling Knowledge Sharing Using Exchange Ideology as a Moderator" *Personnel Review*, Vol. 36, No.3: pp. 457-475.
- Lin, H.-F. (2007b), "Effects of Extrinsic and Intrinsic Motivation on Employee Knowledge Sharing Intentions" *Journal of Information Science*, Vol. 33, No.2: pp. 135-149.
- Lin, H. & Lee, G. (2004), "Perceptions of Senior Managers toward Knowledge-Sharing Behaviour" *Management Decision*, Vol. 42, No.1: pp. 108-125.
- Lincoln, Y., S., & Guba, E. G. (1985), *Naturalistic Inquiry*, London: SAGE Publications.
- Local Government Department (2011), Local Authority Name List, Kuala Lumpur, Malaysia: Ministry of Housing and Local Government Department.
- Longenecker, C. O. & Nykodym, N. (1996), "Public Sector Performance Appraisal Effectiveness, A Case Study" *Public Personnel Management*, Vol. 25, No.2: pp. 151-164.
- Lowery, C. M., Beadles, N. A. & Krilowicz, T. J. (2004), "Using Personality And Cognitive Ability To Predict Job Performance: An Empirical Study" *International Journal of Management*, Vol. 21, No.3: pp. 300-306.
- Lundvall, B. A. & Johnson, B. (1994), "The Learning Economy" *Journal of Industries Studies*, Vol. 1, No.2: pp. 23-42.
- Lyons, B. D. & Oppler, E. S. (2004), "The Effects of Structural Attributes and Demographic Characteristics on Protege Satisfaction in Mentoring Programs" *Journal of Career Development*, Vol. 30, No.3: pp. 215-229.
- Lyons, S. T., Duxbury, L. E. & Higgins, C. A. (2006), "A Comparison of the Value and Commitment of Private Sector, Public Sector and Parapublic Sector Employees" *Public Administration Review*, July/August: pp.605-617.

- Macaulay, M. & Lawton, A. (2006), "From Virtue to Competence: Changing the Principles of Public Service" *Public Administrative Review*, September/October: pp.702-710.
- MacCallum, R. C. & Widaman, K. F. (1999), "Sample Size in Factor Analysis" *Psychological Methods*, Vol. 4, No.1: pp. 84-99.
- Maccoby, M. (2009), "To Win The Respect Of Followers, Leaders Need Personality Intelligence" *Ivey Business Journal Online*, Jan/Feb.
- MacDonald, K. (1998), "Evaluation, Cultural and the Five Factor Model" *Journal of Cross Cultural Psychology*, Vol. 29: pp.119-149.
- Macneil, C. (2001), "The Supervisor As A Facilitator Of Informal Learning In Work Teams" *Journal of Workplace Learning*, Vol. 13, No.6: pp. 246-253.
- Mahmud, A. (2006), "An Empirical Investigation of The Nature of Management Development with Particular Emphasis on the Influence of Learning Styles on the Levels of Accumulated Managerial Tacit Knowledge in the Malaysian Public Service," PhD Thesis, United Kingdom: University of Hull.
- Mahbob, S. (2010), "Intellectual Capital As Source of Wealth: We Need To Be More Creative and Innovative." in Shariff, O. H. & Katan, R. (Eds.) *At Your Service: Jottings & Musings from the Public Service*. Kuala Lumpur: Information Department of Malaysia.
- Malakar, S. N. & Senapati, C. (2010), Ethnicity, Religion and Culture based Discrimination: A Study of Malaysia, *Working Paper Series*. New Delhi, Indian Institute of Dalit Studies.
- MAMPU (Malaysian Administrative Modernisation and Management Planning Unit) (2010), Star Rating for Public Sector Agencies, In MAMPU (Eds.) Putrajaya, Malaysia, MAMPU.
- Malaysian Local Government Department (2008), Report of Inspection in Local Authorities' Star Rating System 2008. In Ministry of Housing and Local Government (Ed.), Kuala Lumpur: Government of Malaysia.
- Malaysian Public Service Departments (2002), Implementation of Remuneration of Malaysia Members of The Federal Public Service. In Malaysian Public Service Departments (Ed.), Government of Malaysia: Kuala Lumpur.
- Manley, G. G. & Benavidez, J. (2008), "Using g Alternatives To Reduce Subgroup Differences When Predicting US Public Sector Performance" *Equal Opportunities International*, Vol. 27, No.4: pp. 337-354.
- Mannion, R., Davies, H. & Ma, M. (2005), "Impact of Star Performance Ratings in English Acute Hospital Trusts" *Journal Health Service Research policy*, Vol. 10, No.1: pp. 18-24.

- Manolopoulos, D. (2008), "An Evaluation of Employee Motivation in the Extended Public Sector in Greece" *Employee Relations*, Vol. 30, No.1: pp. 63-85.
- Marchant, G. & Robinson, J. (1999), "Is Knowing The Tax Code All It Takes To Be A Tax Expert? On the development of legal expertise" In Sternberg, R., J., & Horvath, J., A., (Eds), *Tacit Knowledge in Professional Practice* (pp.155-182), Mahwah, NJ, Lawrence Erlbaum.
- Martin, B. (2000), "Knowledge Based Organizations: Emerging Trends in Local Government in Australia" *Journal of Knowledge Management Practice*, October.
- Martzler, K., Renzi, B., Muller, J., Herting, S. & Mooradian, T. A. (2008), "Personality Traits And Knowledge Sharing" *Journal of Economic Psychology*, Vol. 29, No.3: pp. 301-313.
- Mason, J. (1996), *Qualitative Researching*, London: SAGE Publications.
- Massey, A. P. & Montoya-Weiss, M. M. (2006), "Unraveling the Temporal Fabric Of Knowledge Conversion: A Model Of Media Selection And Use" *MIS Quarterly* Vol. 30, No.1: pp. 99-114.
- Mastor, K., A., Jin, P. & Cooper, M. (2000), "Malay Culture and Personality: A Big Five Perspective." *The American Behaviour Scientist*, Vol. 44, No.1: pp. 95-111.
- Matthew, C. T. & Sternberg, R. J. (2009), "Developing Experience-based (Tacit) Knowledge Through Reflection" *Learning and Individual Differences*, Vol. 19: pp.530-540.
- McAdam, R. & Reid, R. (2000), "A Comparison Of Public And Private Sector Perception And Use Of Knowledge Management" *Journal of European Industrial Training*, Vol. 24: pp.317-329.
- McAdam, R. & McCreedy, S. (2000), "A Critique of Knowledge Management: Using a Social Constructionist Model" *New Technology, Work and Employment*, Vol. 15, No.2: pp.155-168.
- McCauley, C. D. & Young, D. P. (1993), "Creating Developmental Relationships: Roles and Strategies" *Human Resource Management Review*, Vol. 3: pp.210-230.
- McClelland, D. C. (1973), "Testing for Competence Rather Than for "Intelligence"" *American Psychologist*, January: pp.1-14.
- McCrae, R. R. (2004), "Human Nature And Culture: A Trait Perspective" *Journal of Research in Personality*, Vol. 38: pp.3-14.
- McCrae, R. R. & Costa, P. T. (1987), "Validation of Five-Factor Model Of Personality Across Instruments And Observers" *Journal of Personality and Social Psychology*, Vol. 82, No.1: pp. 112-127.

- McCrae, R. R. & Costa, P. T. J. (1997), "Personality Trait Structure As A Human Universal" *American Psychologist*, Vol. 52: pp.509-516.
- McCrae, R. R. & Costa, P. T. J. (1999), "A Five-Factor Theory of personality", In Pervin L.A. and John O.P. (Eds.): *Handbook of Personality Psychology*, New York: Guilford.
- McDermott, R. (1999), "Why Information Technology Inspired but Cannot Deliver: Knowledge Management" *California Management Review*, Vol. 41, No.4: pp. 103-117.
- McDermott, R. & O'Dell, C. (2001), "Overcoming cultural Barriers To Sharing Knowledge" *Journal of Knowledge Management*, Vol. 5, No.1: pp. 76-85.
- McDougall, W. (1932), "One of The Words Character and Personality" *Character Personality*, Vol. 1: pp.3-16.
- McGrath, J. E., Kulka, R. A. & Martin, J. (1982), *Judgement Calls in Research*, Beverly Hills, California: SAGE Publications.
- Menkes, J. (2002), "What Do Structured Interviews Actually Measure? A Construct Validity Study," PhD Thesis, Claremont, California, US: Claremont Graduate University.
- Meier, K. J., in Sue, A. F. & Lewis, G. B. (2004), "Government Employees: Working Hard or Hardly Working?" *American Review of Public Administration*, Vol. 34, No.1: pp. 36-51.
- Menon, T. & Pfeffer, J. (2003), "Valuing Internal vs. External Knowledge: Explaining the Preference for Outsiders" *Management Science* Vol. 49, No.4: pp. 497-513.
- Meyers, L. S., Gamst, G. & Guarino, A. J. (2006), *Applied Multivariate Research: Design and Interpretation*, UK: SAGE Publications.
- Miles, M. B. & Huberman, A. M. (1994), *Qualitative Data Analysis*, (2nd ed.), London: SAGE Publications
- Miller, P. J. (2009), "Personality as a Potential Moderator Of The Relationship Between Stigma And Help-Seeking", PhD Thesis, Iowa State University.
- Miller, W. L. & Morris, L. (1999), *Fourth Generation R&D: Managing Knowledge, Technology and Innovation*, Hoboken, New Jersey: Wiley.
- Millward, N., Bryson, A. & Forth, J. (2000), *All Change At Work?* London: Routledge.
- Minbashian, A., Bright, J. E. H. & Bird, K. D. (2009), "Complexity In The Relationships Among The Subdimensions Of Extraversion And Job Performance In Managerial Occupations" *Journal of Occupation and Organizational Psychology*, Vol. 82: pp.537-549.

- Mohamad, M. (2003), "Motion To Table The Mid-Term Review Of The Eighth Malaysia Plan", Speech by Prime Minister and Minister of Finance At Parliament on 30 October, Kuala Lumpur: Malaysia.
- Mohamed, O. & Egbu, C. (2010), "Measuring the Impact Of Knowledge Sharing On The Planning Permission Process In Malaysian Local Authorities" *26th Annual ARCOM Conference*, Leeds, UK.
- Monavvarian, A. (2007), "A KM Model For Public Administration: The Case of The Labour Ministry" *Journal of Information and Knowledge Management System*, Vol. 37, No.3: pp. 348-367.
- Mooradian, T., Renzl, B. & Matzler, K. (2006), "Who Trust? Personality, Trust And Knowledge Sharing" *Management Learning*, Vol. 37, No.4: pp. 523-540.
- Moorman, C. & Miner, A. S. (1998), "Organizational Improvisation And Organizational Memory" *Academy Management Review*, Vol. 23, No.4: pp. 698-723.
- Moran-Ellis, J., Alexander, V. D., Cronin, A., Dickinson, M., Fielding, J., Sleney, J. & Thomas, H. (2006), "Triangulation and Integration: Process, Claims and Implications" *Qualitative Research*, Vol. 6, No.45: pp. 45-59.
- Moreland, R. L. & Myaskovsky, L. (2000), "Exploring the Performance Benefits Of Group Training: Transactive Memory Or Improved Communication?" *Organizational Behavior & Human Decision Processes*, Vol. 82: pp.117-133.
- Morgan, D. L. (1998), "Practical Strategies for Combining Qualitative and Quantitative Methods: Applications to Health Research" *Qualitative Health Research* Vol. 8, No.3: pp. 362-376.
- Morrison, E. W. (1993), "Newcomer Information Seeking: Exploring Types, Modes, Sources and Outcomes" *Academy of Management Journal*, Vol. 36: pp.557-589.
- Morrison, W. (1994), Spatial Planning Procedures in Malaysia, Final Draft prepared for the Meeting of the Steering Committee for the National Spatial Planning Project, Kuala Lumpur.
- Mount, M. K., Barrick, M. R. & Stewart, G. L. (1998), "Five-factor Model of Personality and Performance in Jobs Involving Interpersonal Interactions" *Human Performance*, Vol. 11: pp.145-166.
- Muchinsky, P. M. (2000), *Psychology Applied to Work*, Belmont, CA: Wadsworth.
- Mullen, E. J. (1994), "Framing the Mentoring Relationship As An Information Exchange" *Human Resource Management Review*, Vol. 4: pp.257-281.
- Murdock, H. (2006), "The Many Benefits of Mentoring Programs" *Internal Auditing*, Vol. 21, No.6: pp. 18-23.

- Musil, C. M., Jones, S. L. & Warner, C. D. (1998), "Structural Equation Modelling and Its Relationship to Multiple Regression and Factor Analysis" *Research in Nursing & Health*, Vol. 21: pp.271-281.
- Nafukho, F. M. & Hinton, B. E. (2003), "Determining the Relationship between Driver's Level of Education, Training, Working Conditions and Job Performance in Kenya" *Human Resource Development Quarterly*, Vol. 14, No.3: pp. 265-283.
- Najib, A. R. (2009), Introducing the Supply Bill (2010) in Dewan Rakyat, In The 2010 Budget Speech, Kuala Lumpur: Malaysia.
- Nahapiet, J. & Ghoshal, S. (1998), "Social Capital, Intellectual Capital and the Organizational Advantage" *Academy of Management Review*, Vol. 23, No.2: pp. 242-266.
- Neisser, U. (1976), *Cognition and Reality*, San Francisco: Freeman.
- Nelson, R. & Winter, S. G. (1982), *An Evolutionary Theory of Economic Change*, Cambridge MA: Harvard University Press.
- Neston-Baker, N. S. & Hoy, W. K. (2001), "Tacit Knowledge of School Superintendents: Its Nature, Meaning and Content" *Education Administration Quarterly*, Vol. 37, No.1: pp. 86-129.
- Neuberg, S. L. & Newsom, J. T. (1993), "Personal Need for Structure: Individual Differences In The Desire For Simple Structure" *Journal of Personality and Social Psychology*, Vol. 65: pp.113-131.
- Newman, G. A., Wagner, S. H. & Christiansen, N. D. (1999), "The Relationship Between Work Team Personality Composition And The Job Performance Of Teams" *Group & Organizational Management*, Vol. 24: pp.28-45.
- Niehoff, B. P. (2006), "Personality Predictors of Participation as a Mentor" *Career Development International*, Vol. 11, No.4: pp. 321-333.
- Noe, R. (1988a), "An Investigation of The Determinants of Successful Assigned Mentoring Relationships" *Personnel Psychology*, Vol. 41: pp.457-479.
- Noe, R. A. (1988b), "Women and Mentoring: A Review and Research and Research Agenda" *Academy of Management Journal*, Vol. 13, No.1: pp. 63-73.
- Nonaka, I. (1991), "The Knowledge-creating Company" *Harvard Business Review*, Nov-Dec.
- Nonaka, I. (1994), "A Dynamic Theory of Organizational Knowledge Creation" *Organization Science*, Vol. 5, No.1: pp. 14-37.
- Nonaka, I. & Konno, N. (1998), "The Concept of 'Ba': Building a Foundation for Knowledge Creation" *California Management Review*, Vol. 40, No.3: pp. 40-54.

- Nonaka, I. & Takeuchi, H. (1995), *The Knowledge Creating Company*, New York: Oxford University Press.
- Nonaka, I. & Teece, D. (2001), *Managing Industrial Knowledge: Creation, Transfer And Utilization*, London: SAGE Publications.
- Nonaka, I. & Toyama, R. (2003), "The Knowledge-creating Theory Revisited: Knowledge Creation as a Synthesizing Process" *Knowledge Management Research and Practice*, Vol. 1: pp.2-10.
- Nonaka, I., Toyama, R. & Nagata, A. (2000), "A Firm as a Knowledge-creating Entity: A New Perspective on the Theory of the Firm" *Industrial and Corporate Change*, Vol. 9, No.1: pp. 1-20.
- Nooi, P. S. (2008), "Decentralisation or Recentralisation? Trends in Local Government in Malaysia" *Commonwealth Journal of Local Governance*, No.1: pp. 126-132.
- Nooi, P. S. & See, B. L., (2006), "Pursuing Public-Private Partnerships and Moving Beyond: Malaysia's Experience with Malaysian Airline System (MAS) " in *TINJAUN: Policy and Management Review*, (2004-05), No. 6. pp.44-61.
- Nooi, P. S. (1997), *Financing Local Government in Malaysia*, University of Malaya Press: Kuala Lumpur.
- Nooi, P. S. (1989), *Sistem Kerajaan Tempatan di Malaysia*, Dewan Bahasa Pustaka: Kuala Lumpur.
- Norris, M. W. (1980), *Local Government in Peninsular Malaysia*, England: Gower Publishing.
- Norusis, M. J. (1999), *SPSS Regression Models 10.0* Chicago: SPSS Inc.
- Nunnally, J. C. (1978), *Psychometric Theory (2nd ed.)*, New York: McGraw-Hill Book Company.
- OECD (Organization for Economic Co-operation and Development) (2003), "The Learning Government: Introduction and Draft Results of The Survey of Knowledge Management Practices in Ministries/Departments/Agencies of Central Government", In *Public Governance and Territorial Development* Directorat. (Ed.).
- Ones, D. S., Mount, M. K., Barrick, M. R. & Hunter, J. E. (1994), "Personality and Job Performance: A Critique of the Tett, Jackson and Rothstein (1991) Meta Analysis" *Personnel Psychology*, Vol. 47: pp.147-156.
- Ones, D. S. & Viswesvaran, C. (Eds.) (1997) *Personality Determinants in the Prediction of Aspects of Expatriate Job Success*, Greenwich, CT: JAI Press.
- Onu, G. (1988), "Accountability and Efficiency: Formal Controls and Performance Management in Nigeria Local Government System" *International Social Science Journal*, March.

- O'Neill, B. S. & Adya, M. (2007), "Knowledge Sharing and the Psychological Contract: Manging Knowledge Workers across Different Stages of Employment" *Journal of Managerial Psychology*, Vol. 22, No.4: pp. 411-436.
- Oppenheim, A. N. (1992), *Questionnaire Design, Interviewing And Attitude Measurement*, London: Pinter.
- Organ, D. W. & Ryan, M. (1995), "A Meta-Analytic Review of Attitudinal and Dispositional Predictors of Organizational Citizenship Behaviour" *Personnel Psychology*, Vol. 48: pp.775-802.
- Orlikowski, W. J. & Baroudi, J. J. (1991), "Studying Information Technology in Organization: Research Approach and Assumptions" *Information System Research*, Vol. 2, No.1: pp. 1-14.
- Ostroff, C. & Kozlowski, S. W. (1993), "The Role of Mentoring in the Information Gathering Processes of Newcomers during Early Organizational Socialization" *Journal of Vocational Behaviour*, Vol. 42: pp.170-183.
- Othman, R. (2005), *Accountability and Levers of Management Control in a Contingency Framework: A Path Analytic Study of Local Governments in Malaysia* Kuala Lumpur, Malaysia, International Islamic University of Malaysia.
- Pallant, J. (2007), *SPSS: Survival Manual, A Step by Step Guide to Data Analysis Using SPSS for Windows (3rd ed.)*, England: Open University Press.
- Parasuraman, A., Zeithaml, V. A. & Berry, L. L. (1988), "SERVQUAL: A Multiple-Item Scale For Measuring Consumer Perceptions of Service Quality" *Journal of Retailing*, Vol. 64, No.1: pp. 12-40.
- Park, H. S. & Im, B. C. (2001), "Test of Causal Model For The Efficient of The Servants Knowledge In The Local Administration" *Korean Policy Studies Review*, Vol. 10, No.1: pp. 111-135.
- Pascarella, P. (1997), "Harnessing Knowledge" *Management Review*, Vol. 86, No. 9: pp. 4-6.
- Pascale, R. T. (1982), *The Art of Japanese Management*, London: Penguin Books.
- Patel, V. L., Groen, G. J. & Norman, G. R. (1991), "Reasoning and Instruction in Medical Curricula" *Cognition and Instruction*, Vol. 10: pp.335-378.
- Patton, M. Q. (1990), *Qualitative Evaluation and Research Methods*, Newbury Park, CA: SAGE Publications.
- Pawi, S., Juanil, D. M., Yusoff, W. Z. W. & Shafie, F. (2011), Property Tax Performance of Local Authorities in Malaysia. *2011 International Conference on Management and Artificial Intelligence, IPEDR 2011* Bali, Indonesia, IACSIT Press.

- Peng, L. Y. (2009), "Helping Hand for Weak Councils: Ministry Promises Not To Punish Those Rated Poorly in Performance Review", *The Star*, Kuala Lumpur, Malaysia: The Star Publishing.
- Perry, J. & Wise, L. (1990), "The Motivational Bases of Public Service" *Public Administration Review*, Vol. 50: pp.367-373.
- Peyrot, M. (1996), "Causal Analysis: Theory and Application" *Journal of Pediatric Psychology*, Vol. 21: pp.3-24.
- Pfleeger, S. & Mertz, N. (1995), "Executive Mentoring: What Makes it Work?" *Communications of the American Academy of Management*, Vol. 38, No.1: pp. 63-73.
- Plaskoff, J. (2003), "Intersubjectivity and Community Building, Learning To Learn Organizationally", in Easterby Smith, M., and Lyles, M., A (Eds), *The Blackwell Handbook of Organizational Learning and Knowledge Management*, Oxford: Blackwell Publishing.
- Platts, M. J. & Yeung, M. B. (2000), "Managing Learning and Tacit Knowledge" *Strategic Change*, Vol. 9, No.6: pp. 347-355.
- Polanyi, M. (1950), "Scientific Beliefs" *Ethics*, Vol. 61, No.1: pp. 27-37.
- Polanyi, M. (1958), *Personal Knowledge: Towards A Post-Critical Philosophy*, Chicago: University of Chicago Press.
- Polanyi, M. (1962), *Personal Knowledge: Toward A Post-Critical Philosophy (Rev. Eds)*, New York: Harper Torchbooks.
- Polanyi, M. (1966), *The Tacit Dimension*, New York: Doubleday.
- Politis, J. D. (2005), "The Influence of Managerial Power and Credibility on Knowledge Acquisition Attributes" *Leadership & Organization Development Journal*, Vol. 26, No.3: pp. 197-214.
- Pollit, C. (2005), "Performance Management In Practice: A Comparative Study Of Executives' Agencies" *Journal of Public Administration Research and Theory*, Vol. 16: pp.25-44.
- Popovich, M. G. (1998), *Creating High-Performance Government Organizations: A Practical Guide For Public Managers*, California: Jossey-Bass Publishers.
- Porter, M. E. (1985), *Competitive Advantage: Creating and Sustaining Superior Performance*, New York: The Free Press.
- Prichard, C., Hull R., Chumer M. & Willmott H. (2000), *Managing Knowledge: Critical Investigations of Work and Learning*, Basingstoke: Macmillan.
- Prieto, I. M. & Easterby Smith, M. (2006), "Dynamic Capabilities And The Role Of Organizational Knowledge: An Exploration" *European Journal of Information System*, No.15: pp. 500-510.

- Priest, H., Roberts, P. & Woods, L. (2002), "An Overview of Three Different Approaches to the Interpretation of Qualitative Data. Part 1: Theoretical Issues" *Nurse Researcher* Vol. 10, No.1: pp. 30-42.
- Punch, K. F. (2005), *Introduction to Social Research: Quantitative and Qualitative Approaches*, London: SAGE Publication.
- Quigley, N. R., Tesluk, P. E., Locke, E. A. & Bartol, K. M. (2007), "A Multilevel Investigation of The Motivational Mechanism Underlying Knowledge Sharing and Performance" *Organisation Science*, Vol. 18, No.1: pp. 71-88.
- Ragins, B. R. & Cotton, J. L. (1999), "Mentor Functions and Outcomes: A Comparisons of Men and Women in Formal and Informal Mentoring Relationship" *Journal of Applied Psychology*, Vol. 84, No.4: pp. 529-550.
- Ragins, B. R. & Scandura, T. A. (1999), "Burden or Blessing? Expected Costs and Benefits Of Being A Mentor" *Journal of Organizational Behavior*, Vol. 20, No.4: pp. 493-509.
- Rahman, A. A. (1984), "Personnel Management in Public Sector" *Malaysian Management Review*, Vol. 19, No.3: pp. 45-53.
- Rahman, B. A. (2004), "Knowledge Management Initiatives: Exploratory Study in Malaysia" *Journal of American Academy of Business*, Vol. 4, No.1/2: pp. 330-335.
- Rahman, S. A. (2006), "Attitudes of Malaysian Teachers toward a Performance-Appraisal System" *Journal of Applied Social Psychology*, Vol. 36, No.12: pp. 3031-3042.
- Rainey, H. G. (1997), *Understanding and Managing Public Organisations*, San Francisco, CA.: Jossey-Bass.
- Rainey, H. G. & Bozeman, B. (2000), "Comparing Public and Private Organizations: Empirical Research and the Power of the A Priori" *Journal of Public Administration Research and Theory*, Vol. 10, No.2: pp. 447-469.
- Rashman, L. & Hartley. J., (2002), 'Leading and Learning? Knowledge Transfer in the Beacon Council Scheme', *Public Administration*, Vol. 80, No.3: pp. 523-542.
- Reber, A. (1989), "Implicit Learning and Tacit Knowledge" *Journal of Experimental Psychology: General*, Vol. 118, No.3: pp. 219-235.
- Redman, T., Snape, E., Thompson, D. & Yan, F. K. (2000), "Performance Appraisal in an NHS Hospital" *Human Resource Management Journal*, Vol. 10, No.1: pp. 48-62.
- Reilly, R. R. & Chao, G. T. (1982), "Validity and Fairness of Some Alternative Employee Selection Procedures" *Personnel Psychology*, Vol. 35: pp.1-62.

- Reise, S. P., Waller, N. G. & Comrey, A. L. (2000), "Factor Analysis and Scale Revision" *Psychological Assessment*, Vol. 12, No.3: pp. 287-297.
- Remenyi, D., Williams, B., Money, A. & Swartz, E. (1998), *Doing Research in Business and Management: An Introduction to Process and Method*, London: SAGE Publications.
- Revelle, W. (1995), "Personality Processes" *Annual Review of Psychology*, Vol. 46: pp.295-328.
- Rhodes, J., Lok, P., Hung, R. Y.-Y. & Fang, S.-C. (2008), "An Integrative Model of Organizational Learning and Social Capital on Effective Knowledge Transfer and Perceived Organizational Performance" *Journal of Workplace Learning*, Vol. 20, No.4: pp. 245-258.
- Riege, A. (2005), "Three-dozen Knowledge Sharing Barriers Managers Must Consider" *Journal of Knowledge Management*, Vol. 9, No.3: pp. 18-35.
- Riege, A. & Lindsay, N. (2006), "Knowledge Management in the Public Sector: Stakeholder Partnerships in the Public Policy Development" *Journal of Knowledge Management*, Vol. 10, No.3: pp. 24-39.
- Roberts, B. W., Chernyshenko, O. S., Stark, S. & Goldberg, L. R. (2005), "The Structure of Conscientiousness: An Empirical Investigation based on Seven Major Personality Questionnaires" *Personnel Psychology*, Vol. 58: pp.103-139.
- Robertson, I. T. (1994), "*Personality and Personnel Selection*" In Cooper, C. L. & Rousseau, D. M. (Eds), *Trends in Organization Behaviour, Vol 1*, London: Wiley.
- Robson, C. (1993), *Real World Research: A Resource for Social Scientists and Practitioner-Researchers*, Oxford: Blackwell.
- Rogers, G. M. & Revelle, W. (1998), "Personality, Mood and The Evaluation Of Affective And Neutral Word Pairs" *Journal of Personality and Social Psychology*, Vol. 74, No.6: pp. 1592-1605.
- Romer, O. (1986), "Increasing Returns and Long Run Growth" *Journal of Political Economy*, Vol. 94, No.5: pp. 1002-1037.
- Romer, P. (1990), "Endogenous Technological Change" *Journal of Political Economy*, Vol. 98, No.5: pp. S71-S102.
- Rossman, G. B. & Wilson, B. L. (1994), "Numbers and Words Revisited: Being 'Shamelessly Eclectic'" *Quality and Quantity*, Vol. 28: pp. 315-327.
- Rowe, P. A. & Christie, M. J. (2008), "Civic Entrepreneurship in Australia: Opening the 'Black Box' of Tacit Knowledge in Local Government Top Management Teams" *International Journal of Public Sector Management*, Vol. 21, No.5: pp. 509-524.

- Rowley, J. (1999), "What is Knowledge Management" *Library Management*, Vol. 20, No.8: pp. 416-416.
- Ruggles, R. (1998), "The State of Notion: Knowledge Management in Practice" *California Management Review*, Vol. 40, No.3: pp. 80-89.
- Russell, P. (2007), What is Wisdom? *available at:*
http://www.peterrussell.com/SP/Wisdom.php downloaded 5 May 2011.
- Russell, V. (2008), English Council Achieve Record Results in the CPA, *Public Finance*.
- Sady, E. J. (1962), "Improvement of Local Government and Administration for 1962 Development Purpose" *Journal of Local Administration Overseas*, July: pp.135-148.
- Salgado, J. F. (1997), "The Five Factor Model of Personality and Job Performance in the European Community" *Journal of Applied Psychology*, Vol. 82: pp.30-43.
- Salleh, K. & Syed Ahmad, S. N. (2006), KM Strategy for E-Government: An Exploratory Study of Local Authorities in Malaysia, *International Conferences on eGovernance enhancement via Knowledge Management 11-14 September*, Kuala Lumpur: Malaysia.
- Sandhu, M. S., Jain, K. K. & Ahmad, U. K. (2011), "Knowledge Sharing Among Public Sector Employees: Evidence from Malaysia" *International Journal of Public Sector Management*, Vol. 24, No.3: pp. 206-226.
- Sanger, M. B. (2008), "From Measurement to Management: Breaking through the Barriers to State and Local Performance" *Public Administration Review*, Vol. 68: pp.70-85.
- Saucier, G. (1994), "Mini markets: A Brief Version of Goldberg's Unipolar Big Five makers" *Journal of Personality Assessment*, Vol. 63: pp.506-516.
- Saucier, G. & Ostendorf, F. (1999), " Hierarchical Subcomponents of the Big Five Personality Factors: A Cross-Language Replication" *Journal of Personality and Social Psychology*, Vol. 76: pp.613-627.
- Saunders, M., Lewis, P. & Thornhill, A. (2007), *Research Methods for Business Students*, Harlow: Prentice Hall.
- Saunders, M., Lewis, P. & Thornhill, A. (2009), *Research Methods for Business Students*, England: Pearson Education.
- Scarborough, H., Swan, J. & Preston, J. (1999), *Knowledge Management: A Literature Review Issues in People Management*, London: Institute of Personnel Development.
- Scandura, T. (1997), "Mentoring and Organizational Justice: An Empirical Investigation" *Journal of Vocational Behavior*, Vol. 51: pp.58-69.

- Scandura, T. A. (1992), "Mentorship and Career Mobility: An Empirical Investigation" *Journal of Organizational Behavior*, Vol. 13: pp.169-174.
- Scandura, T. A. & Ragins, B. R. (1993), "The Effects of Sex and Gender Role Orientation on Mentorship in Male Dominated Occupations" *Journal of Vocational Behavior*, Vol. 43: pp. 251-265.
- Scandura, T. A. & Williams, E. A. (2000), "Research Methodology in Management: Current Practices, Trends and Implications for Future Research" *Academy of Management Journal*, Vol. 43, No.6: pp. 1248-1264.
- Schacter, D. L. (1996), *Searching for Memory*, New York: Basic Books.
- Schencel, A. & Teigland, R. (2008), "Improved Organizational Performance Through Communities of Practices" *Journal of Knowledge Management*, Vol. 12, No.1: pp. 106-118.
- Schmetz, F. (2002), " Introduction to KM in The Public Sector, in Yao, L., J., Kam T., H., Y., and Chan S., H., (2007), Knowledge Sharing In Asian Public Administration Sector: The Case of Hong Kong" *Journal of Enterprise Information Management*, Vol. 20, No.1: pp. 51-69.
- Schmidt, F. L. & Hunter, J. E. (1993), "Tacit Knowledge, Practical Intelligence, General Mental Ability, and Job Knowledge" *Current Directions in Psychological Science*, Vol. 2: pp.8-9.
- Schmitt, N., Gooding, R. Z., Neo, R. D. & Kirsch, M. (1984), "Meta Analysis of Validity Studies Published Between 1964 And 1982 and The Investigation Of Study Characteristics" *Personnel Psychology*, Vol. 37: pp.407-422.
- Schoen, H. & Schumann, S. (2007), "Personality Traits, Partisan Attitudes And Voting Behaviour, Evidence From Germany" *Political Psychology*, Vol. 28, No. 4: pp. 471-498.
- Schon, D. A. (1983), *The Reflective Practitioner: How Professionals Think In Action*, New York: Basic Books.
- Schroeder, L. D., Sjoquist, D. L. & Stephan, P. E. (1986), *Understanding Regression Analysis: An Introductory Guide*, London: SAGE Publications.
- Scribner, S. (1986), "Thinking in Action: Some Characteristics of Practical Thought". In Sternberg R. J. & Wagner R. K. (Eds.), *Practical Intelligence* (pp. 13-30). Cambridge, MA: Cambridge University Press.
- Scroggins, W. A., Thomas, S. L. & Morris, J. A. (2009), "Psychological Testing In Personnel Selection, Part III, The Resurgence of Personality Testing" *Public Personnel Management*, Vol. 38, No.1: pp. 67-77.
- Seibert, S. E., Kraimer, M. L. & Liden, R. C. (2001), "A Social Capital Theory of Career Success" *Academy of Management Journal*, Vol. 44: pp.219-237.

- Sekaran, U. (2000), *Research Methods For Business: A Skill Building Approach*, New York: John Willey & Sons Ltd.
- Sekaran, U. (2003), *Research Methods For Business: A Skill Building Approach*, New York: John Willey & Sons, Ltd.
- Sekaran, U. & Bougie, R. (2010), *Research Methods for Business: A Skill Building Approach (5th ed.)*, Chichester, UK: John Wiley & Sons Ltd.
- Shafie, H. (1996), "Malaysia's Experience in Implementing the New Performance Appraisal System" *Public Administration and Development*, Vol. 16: pp.341-352.
- Shea, G. (1995), "Can a Supervisor Mentor?" *Supervision*, November.
- Sharma, S., Durand, R. M. & Gur-Arie, O. (1981), "Identification and Analysis of Moderator Variables" *Journal of Marketing Research* Vol. 18, No.3: pp. 291-300.
- Sheridan L. A. & Groves H. E. (1987), *The Constitution of Malaysia*, 4th ed., Malaysian Law Journal: Singapore.
- Shoda, Y. & Mischel, W. (1993), "Cognitive Social Approach to Dispositional Inferences: What if the Perceiver is a Cognitive Social Theorist?" *Personality and Social Psychology Bulletin*, Vol. 19: pp.574-585.
- Siddiquee, N. A. & Mohamed, M. Z. (2007), "Paradox of Public Sector Reforms In Malaysia: A Good Governance Perspective" *Public Administration Quarterly*, Vol. 31, No.3: pp. 284-312.
- Siddiquee, N. A. (2002), "Administrative Reform in Malaysia: Recent Trends and Development " *Asian Journal of Political Sciences*, Vol. 10, No.1: pp. 105-130.
- Siddiquee, N. A. (2006), "Public Management Reform in Malaysia: Recent Initiatives and Experiences" *International Journal of Public Sector Management*, Vol. 19, No.4: pp. 339-358.
- Silverman, D. (2000), *Doing Qualitative Research: A Practical Handbook*, Thousand Oaks, CA: SAGE Publication.
- Singaravelloo, K. (2001), Fostering Public-Private Partnership in a Win-Win Situation: The Experience of a Malaysian Local Government, in Moutanheiro, L., Spiering, M. (eds.), *Public and Private Sector Partnerships: The Enterprise Governance*, Sheffield Hallam University Press.
- Sirkin, R. M. (2006), *Statistics for the Social Sciences*, London: SAGE Publication.
- Skryme, D. J. (2003), The 3Cs of Knowledge Sharing: Culture, Competition And Commitment, 11 December 2003, available at http://www.skyrme.com/updates/u64_f1.htm

- Skarlicki, D., P., Folger, R., & Tesluk, P., (1999), "Personality as a Moderator in the Relationship between Fairness and Retaliation" *Academy of Management Journal*, Vol. 42, No.1: pp. 100-108.
- Sloan, K. (2004), "*Managers' Experiential Learning: An Examination Of The Relationship Between Personality and Tacit Knowledge*" PhD Dissertation, US: The George Washington University.
- Sloan, K. (2009), "The Role of Personality in a Manager's Learning Effectiveness" *European Journal of Social Sciences*, Vol. 12, No.1: pp. 31-42.
- Small, C. T. & Sage, A. P. (2005), "Knowledge Management and Knowledge Sharing: A Review" *Information Knowledge Systems Management*, Vol. 5: pp.153-169.
- Smith, E. A. (2000), "Applying Knowledge Enabling Methods in The Classroom And Workplaces" *Journal of Workplace Learning* Vol. 12, No.6: pp. 236-244.
- Smith, E. A. (2001), "The Roles of Tacit and Explicit Knowledge in the Workplace" *Journal of Knowledge Management*, Vol. 5, No.4: pp. 311-321.
- Smith, J. K. (1983), "Quantitative versus Qualitative Research: An Attempt To Clarify The Issue" *Educational Researcher*, Vol. 12, No.3: pp. 6-13.
- Smith, J. K. & Heshusius, L. (1986), "Closing Down the Conversation: The End of the Quantitative-Qualitative Debate among Educational Inquirers" *Educational Researcher*, Vol. 15, No.1: pp. 4-12.
- Snelling, I. (2003), "Do Star Rating Really Reflect Hospital Performance?" *Journal of Health Organization and Management*, Vol. 17, No.3: pp. 210-223.
- Snyder, M. (1974), "Self-monitoring of Expressive Behavior" *Journal of Personality and Social Psychology*, Vol. 30, No.4: pp. 526-537.
- Sobh, R. & Perry, C. (2006), "Research Design and Data Analysis in Realism Research" *European Journal of Marketing*, Vol. 40, No.11/12: pp. 1194-1209.
- Spector, P. E. (1992), *Summated Rating Scale Construction: An Introduction*, United Kingdom: SAGE Publication.
- Spender, J. C. (1996), "Organizational Knowledge, Learning and Memory: Three Concepts In Search of A Theory" *Journal of Organizational Change Management*, Vol. 9, No.1: pp. 63-78.
- Spender, J. C. & Grant, R. M. (1996), "Knowledge and The Firm: Overview" *Strategic Management Journal* Vol. 17, Winter Special Issue: pp. 5-9.
- Spring, M. (2003), "Knowledge Management in Extended Operational Networks" *Journal of Knowledge Management*, Vol. 7, No.4: pp. 29-37.
- Stange, K. C., Miller, W. L., Crabtree, B. F., O'Connor, P. J. & Zyzanski, S. J. (1994), "Multimethod Research: Approaches For Integrating Qualitative And

- Quantitative Methods" *Journal of General Internal Medicine*, Vol. 9, No.5: pp. 278-282.
- Starbuck, W. H. (1992), "Learning by Knowledge-Intensive Firms" *Journal of Management Studies*, Vol. 29: pp.713-740.
- Sternberg, R. J. (1985a), *Beyond IQ- A Triarchic Theory of Human Intelligence*, Cambridge: Cambridge University Press.
- Sternberg, R. J. (1985b), "Implicit Theories of Intelligence, Creativity and Wisdom" *Journal of Personality and Social Psychology*, Vol. 49, No.3: pp. 607-627.
- Sternberg, R. J. (1988), *The Triarchic Mind*, New York: Penguin Books.
- Sternberg, R. J. (1997), *Successful Intelligence*, New York: Penguin Putnam.
- Sternberg, R. J. (1998), *Wisdom: Its Nature, Origins, and Development*, Cambridge: Cambridge University Press.
- Sternberg, R. J. & Wagner, R. K. (1988), *Practical Intelligence*, Cambridge: Cambridge University Press.
- Sternberg, R. J. (2004), "Culture and Intelligence" *American Psychologist*, Vol. 59, No.5: pp. 325-338.
- Sternberg, R. J. (2005), "The Theory of Successful Intelligence" *Interamerican Journal of Psychology*, Vol. 39, No.2: pp. 189-202.
- Sternberg, R. J., Cornway, B. E., Ketron, J. L. & Bernstein, M. (1981), "People's Conception of Intelligence" *Journal of Personality and Social Psychology*, Vol. 41, No.1: pp. 37-55.
- Sternberg, R. J., Forsythe, G. B., Hedlund, J., Horvath, J. A., Wagner, R. K., Williams, W. M., Snook, S. A. & Grigorenko, E. L. (2000), *Practical Intelligence in Everyday Life*, New York: Cambridge University Press.
- Sternberg, R. J. & Grigorenko, E. L., (2000), "*Practical Intelligence And Its Development* in Bar-On, R., & Parker, J. D. A., (Eds), *The Handbook Of Emotional Intelligence: Theory, Assessment, Development At Home, School And In The Workplace* " San Francisco: Wiley & Sons.
- Sternberg, R. J. & Grigorenko, E. L. (2001), *Practical Intelligence and Principa*, US: Yale University.
- Sternberg, R. J. & Horvath, J. A. (1999), *Tacit Knowledge in Professional Practice: Researcher and Practitioner Perspectives*, New York: Routledge.
- Sternberg, R. J., Okagaki, L. & Jackson, A. (1990), "Practical Intelligence for Success in School" *Educational Leadership*, Vol. 48: pp.35-39.

- Sternberg, R. J. & Wagner, R. K. (1993), "The g-centric View of Intelligence And Job Performance Is Wrong" *Current Directions in Psychological Science*, Vol. 2, No.1: pp. 1-4.
- Sternberg, R. J., Wagner, R. K. & Okagaki, L. (1993), "*Practical Intelligence: The Nature and Role of Tacit Knowledge in Work and At School*" In Reese H., W., & Puckett, J., M., (Eds.), *Advance in Lifespan Development*, Hillsdale, NJ: Erlbaum.
- Sternberg, R. J., Wagner, R. K., Williams, W. M. & Horvath, J. A. (1995), "Testing Common Sense" *American Psychologist*, Vol. 50, No.11: pp. 912-927.
- Stewart, T. A. (1997), *Intellectual Capital: The New Wealth of Organizations*, New York: Doubleday Currency.
- Stogdill, R. M. (1948), "Personal Factors Associated With Leadership: A Survey Of The Literature" *Journal of Psychology*, Vol. 25: pp.35-71.
- Stone, E. F. & Hollenbeck, J. R. (1984), "Some Issues Associated With the Use of Moderated Regression" *Organizational Behaviour & Human Performance*, Vol. 34: pp.195-213.
- Suhaimee, S., Bakar, A. Z. A. & Alias, R. A. (2006), "Knowledge Sharing Culture in Malaysian Public Institution of Higher Education: An Overview" *Proceedings of the Postgraduate Annual Research Seminar 2006*, UTM Skudai: Johor.
- Sun, L., Aryee, S. & Law, K. S. (2007), "High Performance Human Resource Practices, Citizenship Behaviour and Organizational Performance: A Relational Perspective" *Academy of Management Journal*, Vol. 50, No.3: pp. 558-577.
- Suppiah, V. & Sandhu, M. S. (2011), "Organisational Culture's Influence On Tacit Knowledge-Sharing Behaviour" *Journal of Knowledge Management*, Vol. 15 No.3: pp. 462 – 477.
- Swanson, R. A. (1999), "The Foundations of Performance Improvement and Implications for Practice" *Advances in Developing Human Resources*, Vol. 1, No.12: pp. 1-25.
- Swap, W., Leonard, D., Shields, M. & Abrams, L. (2001), "Using Mentoring And Storytelling To Transfer Knowledge In The Workplace" *Journal of Management Information System*, Vol. 18, No.1: pp. 95-114.
- Syed Ikhsan, S. O. S. & Rowland, F. (2004a), "Benchmarking Knowledge Management In A Public Organization In Malaysia" *Benchmarking: An International Journal*, Vol. 11, No.3: pp. 238-266.
- 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*, Vol. 8, No.2: pp. 95-111.

- Szulanski, G. (2000), "The Process of Knowledge Transfer: A Diachronic Analysis of Stickiness" *Organizational Behavior and Human Decision Processes*, Vol. 82: pp.9-27.
- Tabachnick, B. G. & Fidell, L. S. (2001), *Using Multivariate Statistics (4th ed.)*, Needham Heights, MA: Allyn & Bacon.
- Tabachnick, B. G. & Fidell, L. S. (2007), *Using Multivariate Statistics (5th ed.)*, Boston: Pearson Education.
- Tan, H. & Libby, R. (1997), "Tacit Managerial versus Technical Knowledge as Determinants of Audit Expertise in the Field" *Journal of Accounting Research*, Vol. 35, No.1: pp. 97-113.
- Tannenbaum, S. (1997), "Enhancing Continuous Learning: Diagnostic Finding from Multiple Companies" *Human Resource Management*, Vol. 36: pp.231-266.
- Tashakkori, A. & Teddlie, C. (1998), *Mixed Methodology: Combining Qualitative and Quantitative Approaches*, London: SAGE Publications.
- Taylor, D., Abdul-Hamid, F. & Mohd-Sanusi, Z. (2008), "The Factors Impacting Managerial Performance in Local Government Authorities within an Islamic Cultural Setting" *Journal of Applied Management Accounting Research*, Vol. 6, No.2: pp. 73-89.
- Taylor, W. A. & Wright, G. H. (2004), "Organizational Readiness For Successful Knowledge Sharing: Challenge For Public Sector Managers" *Information Resources Management Journal*, Vol. 17, No.2: pp. 22-37.
- Teik, K. B. (2005), Ethnic Structure, Inequality and Governance in the Public Sector: Malaysian Experiences, In Programme Paper Number 20, Geneva, Switzerland: United Nations Research Institute for Social Development.
- Tett, R. P. & Burnett, D. D. (2003), "A Personality Trait-based Interactionist Model of Job Performance" *Journal of Applied Psychology*, Vol. 88 No.3: pp. 500-517.
- Tett, R. P., Jackson, D. N. & Rothstein, M. (1991), "Personality Measures As Predictors Of Job Performance: A Meta-Analytic Review" *Personnel Psychology Reports*, Vol. 44: pp.703-742.
- The World Bank (2011), Data Countries and Economic Malaysia. The World Bank Group.
- Thorndike, E. L. (1920), "Intelligence and Its Uses" *Harper's Magazine*, Vol. 140: pp.227-235.
- Thite, M. (2004), "Strategic Positioning of HRM in Knowledge-based Organizations" *The Learning Organization*, Vol. 11, No.1: pp. 28-44.

- Tiwana, A. (2002), *The Knowledge Management Toolkit: Orchestrating IT, Strategy and Knowledge Platforms*, Englewood Cliffs, NJ: Prentice-Hall.
- Tokar, D. M., Fischer, A. R. & Subich, L. M. (1998), "Personality and Vocational Behavior: A Selective Review of the Literature, 1993-1997" *Journal of Vocational Behavior* Vol. 53: pp.115-153.
- Tooley, S., Hooks, J. & Basnan, N. (2010), "Performing Reporting By Malaysian Local Authorities: Identifying Stakeholder Needs" *Financial Accountability & Management*, Vol. 26, No.2: pp. 103-133.
- Truxillo, D. M., Bennet, S. R. & Collins, M. L. (1998), "College Education And Police Job Performance: A Ten Year Study" *Public Personnel Management*, Vol. 27, No. 2: pp. 269-280.
- Tsoukas, H. & Vladimirou, E. (2001), "What is Organizational Knowledge?", *Journal of Management Studies*, Vol. 38, No.7, pp:973-993.
- Turban, D. B. & Dougherty, T. W. (1994), "Role of Protege Personality in Receipt of Mentoring and Career Success" *Academy of Management Journal*, Vol. 37, No.3: pp. 688-702.
- Uzzi, B. (1997), "Social Structure And Competition In Interfirm Networks: The Paradox Of Embeddedness" *Administrative Science Quarterly*, Vol. 42, No.1: pp. 35-67.
- Van Scotter, J. R. & Motowidlo, S. J. (1996), "Interpersonal Facilitation and Job Dedication as Separate Facets of Contextual Performance" *Journal of Applied Psychology*, Vol. 81: pp.525-531.
- Villa, J. R., Howell, J. P., Dorfman, P. W. & Daniel, D. L. (2003), "Problems with Detecting Moderators In Leadership Research Using Moderated Multiple Regression" *The Leadership Quarterly* Vol. 14: pp.3-23.
- Von Krogh, G. (1998), "Care in Knowledge Creation" *California Management Review*, Vol. 40, No.3: pp. 133-153.
- Von Krogh, G., Ichijo, K. & Nonaka, I. (2000), *Enabling Knowledge Creation: How To Unlock The Mystery Of Tacit Knowledge And Release The Power of Innovation*, New York: Oxford University Press.
- Wagner, R. K. (1985), *Tacit Knowledge in Everyday Intelligent Behaviour*, PhD Thesis, US: Yale University.
- Wagner, R. K. (1987), "Tacit Knowledge in Everyday Intelligence Behaviour" *Journal of Personality and Social Psychology*, Vol. 52, No.6: pp. 1236-1247.
- Wagner, R. K. & Sternberg, R. J. (1985), "Practical Intelligence in Real World Pursuits: The Role of Tacit Knowledge" *Journal of Personality and Social Psychology*, Vol. 49: pp.436-458.

- Wagner, R. K. & Sternberg, R. J. (1986), *Tacit Knowledge in Sternberg, R. J. & Wagner, R. K. (Eds), Practical Intelligence: Nature and Origins of Competence In The Everyday World* London: Cambridge University Press.
- Wagner, R. K. & Sternberg, R. J. (1987), "Tacit Knowledge in Managerial Success" *Journal of Business and Psychology*, Vol. 1, No.4: pp. 301-312.
- Wagner, R. K. & Sternberg, R. J. (1990), "*Street Smarts*", In Clark, K., E., & Clark, M., B., (Eds), *Measures of Leadership (pp.493-504)*, Clark Orange, NJ: Leadership Library of America.
- Wagner, R. K. & Sternberg, R. J. (1991), *Tacit Knowledge Inventory For Managers: User Manual*. San Antonio, TX: Psychological Corporation.
- Wagner, R. K., Sujan, H., Sujan, M., Rashotte, C. & Sternberg, R. J. (1999), "*Tacit Knowledge in Sales*". In Sternberg, R., J., & Horvath, J., A., (Eds), *Tacit Knowledge in Professional Practice*, Mahwah, NJ: Lawrence Erlbaum.
- Wang, C. C. (2004), "The Influence Of Ethical And Self Interest Concerns On Knowledge Sharing Intentions Among Managers: An Empirical Study" *International Journal of Management*, Vol. 21, No.3: pp. 370-381.
- Wang, S. & Noe, R. A. (2010), "Knowledge Sharing: A Review and Directions for Future Research" *Human Resource Management Review* Vol. 20, No.2: pp.115-131.
- Wasko, M. M. & Faraj, J. L. (2005), "Why Should I Share? Examining Social Capital And Knowledge Contribution in Electronic Network of Practices" *MIS Quarterly*, Vol. 29, No.1: pp. 35-57.
- Wasko, M. M. & Faraj, S. (2000), "'It Is What One Does': Why People Participate and Help Others in Electronic Communities of Practice" *The Journal of Strategic Information Systems*, Vol. 9, No.2-3: pp. 155-173.
- Wasonga, T. A. & Murphy, J. F. (2006), "Learning from Tacit Knowledge: The Impact of the Internship" *The International Journal of Educational Management*, Vol. 20, No.2: pp. 153-163.
- Watson, D., Clark, L. A. & Harkness, A. R. (1994), "Structures of Personality And Their Relevance To Psychopathology" *Journal of Abnormal Psychology*, No.103: pp. 18-31.
- Weick, K.E. & Sutcliffe, K. M. (2003), "Hospitals as Cultures of Entrapment: A Re-analysis of the Bristol Royal Infirmary", *California Management Review*, Vol. 45, No.2: pp.73-84.
- Weiss, H. M. & Adler, S. (1984), "Personality and Organizational Behaviour" *Research in Organizational Behaviour*, Vol. 6: pp.1-50.
- Weiss, M. (2005), "Prickly Ambivalence: State, Society and Semidemocracy in Malaysia" *Commonwealth and Comparative Politics*, Vol. 43, No.1: pp. 61-81.

- Whitely, W., Dougherty, T. W. & Dreher, G. F. (1992), "Correlates of Career Oriented Mentoring for Early Career Managers and Professionals" *Journal of Organizational Behaviour*, Vol. 13, pp.141-154.
- Widen-Wulff, G. & Suomi, R. (2007), "Utilization of Information Resources for Business Success: The Knowledge Sharing Model" *Information Resources Management Journal*, Vol. 20, No.1: pp. 46-67.
- Wiig, K. (2004), *People Focused Knowledge Management*, Oxford: Elsevier.
- Wiig, K. M. (2002), "Knowledge Management In Public Administration" *Journal of Knowledge Management*, Vol. 6, No.3: pp. 224-239.
- Wiig, K. M. (2000), Application of Knowledge Management in Public Administration, *Paper Prepared to Public Administration of the City of Taipei, Taiwan*, available at http://www.krii.com/downloads/km_in_public_admin_rev.pdf
- 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*, Vol. 17, No.4: pp. 581-606.
- Williams, L. J. (1995), "Covariance Structure Modelling in Organizational Research: Problems With the Methods Versus Applications of the Methods" *Journal of Organizational Behavior*, Vol. 16, No.3: pp. 225-234.
- Williams, R. S. (1998), *Performance Management: Perspectives on Employee Performance. Essential Business Psychology*, United Kingdom: Thomson Business Press Inc.
- Williams, W. M. (1991), *Tacit Knowledge and the Successful Executive*, PhD Thesis, US: Yale University.
- Wilson, D., & Game, C., (2006), *Local Government in the United Kingdom*, New York: Palgrave MacMillan.
- Witt, L. A., Kacmar, K. M., Carlson, D. S. & Zivnuska, S. (2002), "Interactive Effects of Personality And Organizational Politics On Contextual Performance" *Journal of Organizational Behavior*, Vol. 23, No.8: pp. 911-926.
- Woods, L., Priest, H. & Roberts, P. (2002), "An Overview of Three Different Approaches to the Interpretation of Qualitative Data. Part 2: Practical Illustrations" *Nurse Researcher*, Vol. 10, No.1: pp. 43-51.
- Woods, L. P. & Roberts, P. M., (2000), "Generating Theory and Evidence from Qualitative Computerised Software" *Nurse Researcher*, Vol. 8, No. 2: pp. 29-41.
- Worrell, F. C. & Cross, W. J. E. (2004), "The Reliability and Validity Of Big Five Inventory Scores With African American College Students" *Journal of Multicultural Counseling and Development*, Vol. 32, No.1: pp. 18-32.

- Wu, A. D. & Zumbo, B. D. (2008), "Understanding and Using Mediators and Moderators" *Social Indicators Research*, Vol. 87: pp.367-392.
- Xavier, J. A. (2009), "Establishing Key Performance Indicators for the Senior Echelons of the Public Service" *Journal of Excellence*, Vol. 1, No.1: pp. 18-43.
- Xiaohua, L. (2008), "An Empirical Study on Public Service Motivation And The Performance Of Government Employee in China" *Canadian Social Science*, Vol. 4, No.2: pp. 18-28.
- Yahya, S. & Goh, W. K. (2002), "Managing Human Resource Towards Achieving Knowledge Management" *Journal of Knowledge Management*, Vol. 6, No.5: pp. 457-468.
- Yahya, M. N., Ahmad, N. N. N. & Fatima, A. H. (2008), "Budgetary Participation and Performance: Some Malaysian Evidence" *International Journal of Public Sector Management*, Vol. 21, No.6: pp. 658-673.
- Yang, J. (2006), "Knowledge Sharing: Investigating Appropriate Leadership Roles and Collaborative Culture" *Tourism Management*, Vol. 28: pp.530-543.
- Yang, J. (2007), "The Impact of Knowledge Sharing on Organizational Learning And Effectiveness" *Journal of Knowledge Management*, Vol. 11, No.2: pp. 83-90.
- 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*, Vol. 20, No.1: pp. 51-69.
- Yee, F. P. (2009), No 5-star Rating For Local Governments, *The Star*.
- Yin, R. K. (1994), *Case Study Research, Design and Methods*, (2nd ed.), Newbury Park: SAGE Publication.
- Yong, A. K. B. (1996), Malaysian Human Resources Management, *Malaysian Institute of Management*, Malaysia.
- Yusof, Z. A. & Bhattasali, D. (2008), "Economic Growth and Development in Malaysia: Policy Making and Leadership", Commission on Growth and Development, Washington, DC: The International Bank for Reconstruction and Development.
- Yusoff, M. S. B. M. (2005), "The Public Service as a Learning Organization: The Malaysian Experience" *International Review of Administrative Sciences*, Vol. 71, No.3: pp. 463-474.
- Zaccaro, S. J., Gilbert, J. A., Thor, K. K. & Mumford, M. D. (1991), "Leadership and Social Intelligence: Linking Social Perspectiveness and Behavioral Flexibility to Leader Effectiveness" *Leadership Quarterly*, Vol. 2, No.4: pp. 3 17-342.
- Zack, M. H. (1999), "Managing Codified Knowledge" *Sloan Management Review*, Vol. 40, No.4: pp. 45-58.

- Zahari, A. R., (1991), *Memahami Kerajaan Tempatan di Malaysia*, Petaling Jaya: Fajar Bakti.
- Zahidul, I., Mahtab, H. & Ahmad, Z. A. (2007), "The Role of Knowledge Management Practices on Organizational Context and Organizational Effectiveness" *ABAC Journal*, Vol. 28, No.1: pp. 42-53.
- Zainuddin, D. (2000), A New Malaysia- from Strategic Vision to Strategic Implementation, The 2001 Budget Speech, 27 October 2000, retrieved from <http://www.treasury.gov.my/englishversionbaru/index.htm>
- Zawawi, D. (2008), "Cultural Dimensions among Malaysian Employees" *International Journal of Economics and Management*, Vol. 2, No.2: pp. 409-426.
- Zedeck, S. (1971), "Problems with the Use of 'Moderator' Variables" *Psychological Bulletin*, Vol. 76, No.4: pp. 295-310.
- Zhao, H. & Seibert, S. E. (2006), "The Big Five Personality Dimensions and Entrepreneurial Status: A Meta Analysis Review" *Journal of Applied Psychology*, Vol. 91, No.2: pp. 259-271.
- Zhou, A. Z. (2004), "Managing Knowledge Strategically: A Comparison of Managers' Perceptions between the Private and Public Sector in Australia" *Journal of Information and Knowledge Management*, Vol. 3, No.3: pp. 18-29.

Appendix A

CODE:
ORGANIZATION NAME:



THE UNIVERSITY OF HULL

Dear Respondents,

I am inviting you participate in a research project to study The influence of knowledge and personality in Malaysian local authorities on both, individual and organizational performance. Underlying of this study is individual performance appraisal components two and three: knowledge and skills and personal quality. I am asking you to look over the questionnaire and, if you choose to do so, complete it and send it back to me. It should take you about 45 minutes to complete.

The results of this project will be use for my PhD dissertation and also will be share with government sector, particularly Ministry of Housing and Local Government and Malaysian Economic Planning Unit. If you have any questions or concerns about completing the questionnaire or about being in this study, you may contact me via email (H.Abdul-Manaf@2008.hull.ac.uk) or by telephone as below. Ministry of Development and Local Government Malaysia and University of Hull, United Kingdom has approved this study. If you have any further information, please don't hesitate to contact me.

Sincerely,

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Definition:

Tacit knowledge is knowledge, skills and abilities inside human mind and body that difficult to explain. Often people know how to do the work but is hard to explain how they complete it, e.g. working with highly motivation, excellent leadership, capable to solve critical problem, thinking outside the box.

Personality trait is individual characteristics represent in such human attitude, thinking and awareness.

Part I: Knowledge Sharing Practices

This question would like to find your perceptions about knowledge sharing practices: the process of acquiring, transmitting, exchanging and processing knowledge from unit/sender can be integrated and used in another unit/receiver through mentoring programs and knowledge sharing mechanism. Please circle the following scale to indicate how much you agree/disagree with the statements.

1	2	3	4	5
Strongly disagree	Disagree	Uncertain	Agree	Strongly Agree

A. Mentoring Programs (co-worker can be superiors, subordinates or peers)

1. I feel confident in my ability to communicate my ideas to co-workers. **(MP1)**
2. I can easily assess what information my co-worker already knows. **(MP2)**
3. I feel confident in my ability to assess co-worker's learning style. **(MP3)**
4. I can easily identify the main points I want to cover with a co-worker. **(MP4)**
5. I am able to figure out if my co-worker understood my main points. **(MP5)**
6. I prioritize my co-workers' training based on their performance goals. **(MP6)**
7. I have a formal system in place to manage communication with co-workers **(MP7)**
8. I take time to organize my thoughts before I meet with a co-worker. **(MP8)**
9. I present the minimum relevant info co worker need to be productive. **(MP9)**
10. I am sensitive to co worker's learning style when sharing information. **(MP10)**
11. I actively assess whether my co-worker understands what I' m presenting. **(MP11)**
12. Improving my communication skills makes me more effective at my job. **(MP12)**
13. Helping a co-worker come up to speed more quickly benefits me directly. **(MP13)**
14. I am highly motivated to be a good mentor. **(MP14)**

B. Knowledge Sharing Mechanism

Important mechanisms for sharing knowledge in my organization are:-

1. Word of mouth sharing through senior staff **(KSM 1)**
2. Personal networks **(KSM 2)**
3. Collaboration tools (eg., email, telephone calls) **(KSM 3)**
4. Sharing prior project documents informally **(KSM 4)**
5. Manuals written voluntarily **(KSM 5)**
6. Meetings among high level staff **(KSM 6)**

7. Project reviews **(KSM 7)**
8. One senior person coordinating all staffing needs **(KSM 8)**
9. Having a common project director shared across projects **(KSM9)**
10. Cross-staffing across projects **(KSM 10)**
11. Setting up a community (eg. forum for the discussion substantive issues) **(KSM 11)**
12. Support centers **(KSM 12)**
13. Staff deployment policies **(KSM 13)**
14. When individuals and project teams reuse project documents from previous project such as proposal, budgets, reports, the documents are usually found through:
 - a. Database **(KSM 14a)**
 - b. Use of templates **(KSM 14b)**
 - c. Broadcast emails and forums **(KSM 14c)**
 - d. Expertise directory **(KSM 14d)**
 - e. Standardized methodology (i.e, official meeting, board)**(KSM 14e)**

Part II: Tacit Knowledge Inventory Managers (TKIM)

This task presents work-related situations, each followed by a series of items that are relevant to handling that situation. For each situation, please write a number between 1 to 7 to each statement to indicate your action according to the situation, even though it may or may not apply to you.

For example, if the respondent gave the first item a rating of 1, this would indicate that the individual thought this response was extremely bad. A rating of 5 for the second item would indicate that the response is good, although not extremely so. Please respond to every item, and when you have finished, check to be sure you have not inadvertently omitted a response.

Situation 1

You are a deputy director of a state economic development agency that is involved in promoting tourism for your state. You have been with this agency since the beginning of your career, having spent thirteen years in a managerial role in human resources and two years in your present position.

Your agency has been losing market share of the tourism industry to other states steadily over the past five years. Your agency's strength in the past has been in introducing new and innovative programmes ahead of other states, but now it seems to be three steps behind other leading states in a rapidly changing market.

You believe that your lack of knowledge about the latest development in the industry limits your effectiveness. Your schedule is very busy, but you think it is important to catch up on, and keep up with, innovation that affects the industry.

Rate the quality of the following strategies for becoming more knowledgeable about new products and technology on a 1- to 7- point scale.

1	2	3	4	5	6	7
Extremely bad	very bad	bad	neither good nor bad	good	very good	extremely good

1. Ask for a leave of absence to pursue an advanced specialized degree. **(dtk1o)**
2. Order a news clipping service (news clipping services provide news from a large number of sources on a given topic). **(dtk2o)**
3. Subscribe to several journals relevant to your operations. **(dtk3o)**
4. Subscribes to several consumer-oriented magazines that cover your industry. **(dtk4o)**
5. Begin attending trade shows in your industry. **(dtk5o)**
6. Ask to sit in on weekly discussions on ideas for new programmes held by the Research and Development division. **(dtk6o)**
7. Attend a series of specialized presentations by research scientists from outside the agency who are brought in by the Operations division. **(dtk7o)**
8. Hire a staff member whose primary responsibility is to keep you abreast of current trends in your industry. **(dtk8o)**
9. Ask the Technology division to prepare monthly summary reports of innovative projects. **(dtk9o)**
10. Ask for weekly presentations for you and your staff on technical issues by staff in the Research and Development and Operations divisions. **(dtk10o)**

Situation 2

An employee who reports to one of your subordinates has asked to talk with you about waste, poor management practices, and possible violations of both departmental policy and the law on the part of your subordinate. You have been in your present position only a year, but in that time you have had no indications of trouble about the subordinate in question. Neither you nor your department has an "open door" policy, so it is expected that employees should take their concerns to their immediate supervisors before bringing a matter to the attention of anyone else. The employee who wishes to meet with you has not discussed this matter with her supervisor because of its delicate nature.

Rate the quality of the following things you are considering doing in this situation on a 1- to 7- point scale.

1	2	3	4	5	6	7
Extremely bad	very bad	bad	neither good nor bad	good	very good	extremely good

11. Refuse to meet with the employee unless the individual first discusses your matter with your subordinate. **(dtk11o)**
12. Meet with the employee but only with your subordinate present. **(dtk12o)**

13. Schedule a meeting with the employee and then with your subordinate to get both sides of the story. **(dtk13o)**
14. Meet with the employee and then investigate the allegations if an investigation appears warranted before talking with your subordinate **(dtk14o)**.
15. Find out more information about the employee, if you can, before making any decisions. **(dtk15o)**
16. Refuse to meet with the employee and inform your subordinate that the employee has attempted to sidestep the chain of command. **(dtk16o)**
17. Meet with your subordinate first before deciding whether to meet with the employee. **(dtk17o)**
18. Reprimand the employee for ignoring the chain of command. **(dtk18o)**
19. Ask a senior colleague whom you respect for advice about what to do in this situation. **(dtk19o)**
20. Turn the matter over to an assistant. **(dtk20o)**

Situation 3

You have just completed your most important project ever, which involved automating the department's warehouses. You have worked many evenings and weekend days over the last six months on this project. You are pleased with your performance because, despite adversity, the project was completed at the projected cost and on time. Near the project's end, it seemed likely that you were going to need additional time and money. But, through hard work on your part, and by pushing some of your people very hard, you met both time deadlines and cost projections.

In a meeting, your supervisor (having been in his position for six months), brings up the topic of your performance on the project. Expecting lavish praise, and perhaps even discussion of a possible increase in responsibility, you are stunned by his evaluation of your performance, which is entirely negative. He states that some of your subordinates have complained to him directly about their treatment at your hands in the last phase of project completion. He questions your ability to manage others, and wonders aloud about your ability to lead others. He says nothing positive about the fact that you completed the project on time and at cost under adverse circumstances, nor about how hard you worked on the project.

Rate the quality of the following things you might do in this situation on a 1- to 7- point scale.

1	2	3	4	5	6	7
Extremely bad	very bad	bad	neither good nor bad	good	very good	extremely good

21. Admit that you perhaps were too hard on your workers, but state that in your judgment, the importance of meeting the deadline and budget projection made your actions necessary. **(dtk21s)**
22. Express disappointment with your performance appraisal, and state that you think it is one-sided. **(dtk22s)**

23. Accept the criticism and explain how you will behave differently in the future. **(dtk23s)**
24. Try to find out if anything else is behind this overly negative evaluation. **(dtk24s)**
25. Begin looking for a new position. **(dtk25s)**
26. Discuss with your supervisor specific examples of where he thinks you went wrong in dealing with the project, and how he would have handled it more effectively. **(dtk26s)**
27. Ask your supervisor to give you a second chance, resolving to yourself to keep him better informed about your activities in the future. **(dtk27s)**
28. Ask your supervisor to help you develop your skills at managing others. **(dtk28s)**
29. Seek the advice of others you trust in the department about what you should do. **(dtk29s)**
30. Admit you might have made some mistakes, but be sure your supervisor is aware of all that you accomplished and the adverse circumstances that you faced. **(dtk30s)**

Situation 4

Rate the quality of the following strategies for handling the day-to-day work of a manager on a 1- to 7-point scale.

1	2	3	4	5	6	7
Extremely bad	very bad	bad	neither good nor bad	good	very good	extremely good

31. Think in terms of tasks accomplished rather than hours spent working. **(dtk31t)**
32. Use a daily list of goals arranged according to your priorities. **(dtk32t)**
33. Reward yourself upon completion of important tasks for the day. **(dtk33t)**
34. Be in charge of all phase of every task or project you are involved in. **(dtk34t)**
35. Take frequent but short breaks (i.e., a quick walk to the mail room) throughout the day. **(dtk35t)**
36. Only delegate inconsequential tasks, since you cannot guarantee that the tasks will be done properly and on time unless you do them yourself. **(dtk36t)**
37. Do only what you are in the mood to do to maximize the quality of your work. **(dtk37t)**
38. Take every opportunity to get feedback on early drafts of your work. **(dtk38t)**
39. Set your own deadlines in addition to externally imposed ones. **(dtk39t)**
40. Do not spend much time planning the best way to do something because the best way to do something may not be apparent until after you have begun doing it. **(dtk40t)**

Situation 5

You have been asked to give a talk to managers in the department on tips for good report writing.

Rate the quality of the following pieces of advice about report writing that you are considering including in your talk on a 1- to 7-point scale.

1	2	3	4	5	6	7
Extremely bad	very bad	bad	neither good nor bad	good	very good	extremely good

41. Write reports so that the main points will be understood by a reader who only has time to skim the report. **(dtk41t)**
42. Explain, in the first few paragraphs, how the report is organized. **(dtk42t)**
43. Use everyday language and avoid all jargon. **(dtk43t)**
44. Work hard to convey your message in the fewest number of words. **(dtk44t)**
45. Consider carefully whom you are writing for. **(dtk45t)**
46. Write carefully the first time around to avoid having to rewrite. **(dtk46t)**
47. Be formal rather than informal in your style. **(dtk47t)**
48. Avoid visual aids, such as figures, charts, and diagrams, because they often oversimplify the message. **(dtk48t)**
49. Use the passive rather than the active voice (e.g., write "30 managers were interviewed" rather than "we interviewed 30 managers"). **(dtk49t)**
50. Avoid using the first person (e.g., write "it is recommended" rather than "I recommend"). **(dtk50t)**

Situation 6

You have been assigned to revise the policy manual for your division of the department. You have six weeks to complete this assignment. The old policy manual was too vague, resulting in several individuals attending to matters only one need handle, and other important matters receiving the attention of no one. Responsibility for the new policy manual is completely yours. The assignment is somewhat of a "hot potato" because of the effects of division policy on the importance of particular management positions in the division. You believe that how this assignment turns out could have important positive or negative consequences for your career.

Rate the quality of the following courses of action you might take in terms of their leading to positive consequences for your career on a 1- to 7-point scale.

1	2	3	4	5	6	7
Extremely bad	very bad	bad	neither good nor bad	good	very good	extremely good

51. Decide right away if you can come up with a reasonable product that would be satisfactory to most - if not, try to get out of the assignment. **(dtk51t)**
52. Learn as much as possible out your superiors' views on policy covered by the manual. **(dtk52t)**
53. Stick with revisions your superiors favor or probably could be sold on. **(dtk53t)**
54. Get feedback from your superiors on drafts of new policy under consideration. **(dtk54t)**
55. Get feedback from those affected by the policy manual on drafts of new policy under consideration. **(dtk55t)**
56. Form a committee with representation from every department that will share responsibility for the assignment. **(dtk56t)**
57. Find out, if you can, why you, specifically, were chosen for this assignment. **(dtk57t)**
58. Use this opportunity to reduce the power of those in the division who do not support you, as long as you can avoid being obvious about it. **(dtk58t)**
59. Avoid mentioning by name individuals whose poor performance is the cause for a particular policy revision. **(dtk59t)**
60. Don't worry if you miss the deadline for the new policy manual as long as you are making progress. **(dtk60t)**

Situation 7

You are responsible for awarding a contract for a new computer system for your office. As is true for most decisions, the information you have is neither perfectly reliable nor complete.

Rate the importance of the following pieces of information in making your decision to award the contract to the Jackson Computer Systems on a 1- to 7-point scale.

1	2	3	4	5	6	7
Extremely bad	very bad	bad	neither good nor bad	good	very good	extremely good

61. The Treasury reports no major complaints about the company. **(dtk61s)**
62. The bid of the company is RM3,000 less than that of any other bid (approximate cost of the system is RM 65,000). **(dtk62s)**
63. The company advertises their system as being the most reliable system you can buy for the price. **(dtk63s)**

- 64. Former customers whom you have contacted personally are favorably impressed with the company and its product. **(dtk64s)**
- 65. The company's estimate of cost of operation of the system was lower than that of competing companies. **(dtk65s)**
- 66. The company is new. **(dtk66s)**
- 67. The company promises a very quick installation. **(dtk67s)**
- 68. The company has provided letters from former customers attesting to the quality of their system. **(dtk68s)**
- 69. The company has done good work for your department in the past. **(dtk69s)**
- 70. Another department similar to your department has recently purchased the same system from the same company you are considering awarding the contract to. **(dtk70s)**

Situation 8

You are looking for a new project to tackle in the coming year. You have considered a number of possible projects and desire to pick the project that would be best for you.

Rate the importance of the following considerations when selecting new projects on a 1- to 7-point scale.

1	2	3	4	5	6	7
Extremely bad	very bad	bad	neither good nor bad	good	very good	extremely good

- 71. The project is the one my immediate superior most desires to be completed. **(dtk71o)**
- 72. Doing the project would require my developing skills that may enhance my future career success. **(dtk72o)**
- 73. The project should attract the attention of the local media. **(dtk73o)**
- 74. Doing the project should prove to be fun. **(dtk74o)**
- 75. The risk of making a mistake is virtually nonexistent. **(dtk75o)**
- 76. The project will require my interacting with senior executives whom I would like to get to know better. **(dtk76o)**
- 77. The project is valued by my superior even though it is not valued by me. **(dtk77o)**
- 78. The project will enable me to demonstrate my talents that others may not be aware of. **(dtk78o)**
- 79. The project is in an area with which I have a lot of experience. **(dtk79o)**
- 80. The project is the one I most want to do. **(dtk80o)**

Situation 9

You and a co-worker jointly are responsible for completing a report on a new project by the end of the week. You are uneasy about this assignment because he has a reputation for not meeting deadlines. The problem does not appear to be lack of effort. Rather, he seems to lack certain organizational skills necessary to meet a deadline and also is quite a perfectionist. As a result, too much time is wasted coming up with the "perfect" idea, project, or report.

Your goal is to produce the best possible report by the deadline at the end of the week. Rate the quality of the following strategies for meeting your goal on a 1- to 7-point scale.

1	2	3	4	5	6	7
Extremely bad	very bad	bad	neither good nor bad	good	very good	extremely good

81. Divide the work to be done in half and tell him that if he does not complete his part, you obviously will have to let your immediate superior know it was not your fault. **(dtk81s)**
82. Politely tell him to be less of a perfectionist. **(dtk82s)**
83. Set deadlines for completing each part of the report, and accept what you have accomplished at each deadline as the final version of that part of the report. **(dtk83s)**
84. Ask your superior to check up on your progress on a daily basis (after explaining why). **(dtk84s)**
85. Praise your co-worker verbally for completion of parts of the assignment. **(dtk85s)**
86. Get angry with him at the first sign of getting behind schedule. **(dtk86s)**
87. As soon as he begins to fall behind, take responsibility for doing the report yourself, if need be, to meet the deadline. **(dtk87s)**
88. Point out firmly, but politely, how he is holding up the report. **(dtk88s)**
89. Avoid putting any pressure on him because it will just make him fall even more behind. **(dtk89s)**
90. Offer to buy him dinner at the end of the week if you both meet the deadline. **(dtk90s)**
91. Ignore his organizational problem so you don't give attention to maladaptive behavior. **(dtk91s)**

Part III: Personality Traits

Here are a number of characteristics that may or may not apply to you. Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement.

1	2	3	4	5
Disagree Strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly

I see myself as someone who...

- | | | | |
|---|---------|---|---------|
| 1. Tends to find fault with others | (PT1A) | 15. Is inventive | (PT15O) |
| 2. Does a thorough job | (PT2C) | 16. Can be cold and aloof | (PT16A) |
| 3. Is original, comes up with new ideas | (PT3O) | 17. Perseveres until the task is finished | (PT17C) |
| 4. Is helpful and unselfish with others | (PT4A) | 18. Values artistic, aesthetic experiences | (PT18O) |
| 5. Can be somewhat careless | (PT5C) | 19. Is considerate and kind to almost everyone | (PT19A) |
| 6. Is curious about many different things | (PT6O) | 20. Does things efficiently | (PT20C) |
| 7. Starts quarrels with others | (PT7A) | 21. Prefers work that is routine | (PT21O) |
| 8. Is a reliable worker | (PT8C) | 22. Is sometimes rude to others | (PT22A) |
| 9. Is ingenious, a deep thinker | (PT9O) | 23. Makes plans and follows through with them | (PT23C) |
| 10. Has a forgiving nature | (PT10A) | 24. Likes to reflect, play with ideas | (PT24O) |
| 11. Tends to be disorganized | (PT11C) | 25. Has few artistic interests | (PT25O) |
| 12. Has an active imagination | (PT12O) | 26. Likes to cooperate with others | (PT26A) |
| 13. Is generally trusting | (PT13A) | 27. Is easily distracted | (PT27C) |
| 14. Tends to be lazy | (PT14C) | 28. Is sophisticated in art, music, or literature | (PT28O) |

Please check: Did you write a number in front of each statement?

Part V: Demographic Background

Please mark (✓) in the respective boxes and fill in the appropriate answers.

1. Sex: Male Female
2. Age: _____ years
3. Educational level:

<input type="checkbox"/> Secondary school and below	<input type="checkbox"/> Diploma / Certificate	<input type="checkbox"/> Undergraduate
<input type="checkbox"/> Master	<input type="checkbox"/> Ph.D	<input type="checkbox"/> Other professional qualifications
4. Current department/unit: _____
5. Grade /Current position: _____

<input type="checkbox"/> Grade 41	<input type="checkbox"/> Grade 44	<input type="checkbox"/> Grade 48	<input type="checkbox"/> Grade 52	<input type="checkbox"/> Grade 54
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6. Salary: RM _____
7. Working experiences: _____ years
8. Period in this position: _____ years
9. How many subordinate do you have? _____
10. Last year performance appraisal mark: _____
11. Service Excellence Award: Year _____

Thank you time and kindly cooperation