KNOWLEDGE SHARING ISSUES
IN VIETNAMESE HIGHER EDUCATION INSTITUTIONS

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ABSTRACT

This research investigates the Vietnamese higher education environment to examine knowledge sharing issues in developing countries, especially in transition economies. It reports on barriers to sharing knowledge among Vietnamese academics and managerial colleagues, focusing on five critical factors: people, culture, organization structure, economics, and technology. These are situated within three contextual factors: management capacity, infrastructure, and training issues. The research employed both qualitative and quantitative data collection methods including focus groups and individual interviews for rich data collection and then tested the found constructs using survey methods with 258 participants. Key findings from this research are work overload and economic stress that result in a lack of absorptive capacity for knowledge improvement and knowledge sharing. These factors, together with limited English language skills, poor infrastructure, inability to use technology, lack of access to library databases, and bureaucratic management styles contribute to measurable levels of cheating, and corruption in education that in turn lead to low quality and quantity of international academic publications and of patents. The findings demonstrate strong evidence for the inclusion of Theory of Planned Behaviour together with Existence, Relatedness, and Growth Theory to explain the barriers that prevented knowledge sharing in Vietnamese Higher Education Institutions which is reflected in the quality and quantity of international publications produced by Vietnamese academics.
STATEMENT OF AUTHORSHIP

Except where reference is made in the text of the thesis, this thesis contains no material published elsewhere or extracted in whole or in part from a thesis submitted for the award of any other degree or diploma.

No other person's work has been used without due acknowledgment in the main text of the thesis.

This thesis has not been submitted for the award of any degree or diploma in any other tertiary institution.

Canh Ta Van

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<td>A:</td>
<td>Attitude</td>
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<td>BI:</td>
<td>Behaviour intention</td>
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<tr>
<td>EFA:</td>
<td>Exploratory factor Analysis</td>
</tr>
<tr>
<td>EI:</td>
<td>Engineering Index</td>
</tr>
<tr>
<td>ERG:</td>
<td>Existence, Relatedness, Growth</td>
</tr>
<tr>
<td>HEIs:</td>
<td>Higher Education Institutions</td>
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<tr>
<td>ICT:</td>
<td>Information and Communications Technology</td>
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<tr>
<td>ISTP:</td>
<td>Index to Scientific &amp; Technical Proceedings</td>
</tr>
<tr>
<td>KM:</td>
<td>Knowledge Management</td>
</tr>
<tr>
<td>KS:</td>
<td>Knowledge sharing</td>
</tr>
<tr>
<td>MOET:</td>
<td>Ministry of Education and Training Vietnam</td>
</tr>
<tr>
<td>PCA:</td>
<td>Principal Component Analysis</td>
</tr>
<tr>
<td>QUAL:</td>
<td>Qualitative data collection method</td>
</tr>
<tr>
<td>QUAN:</td>
<td>Quantitative data collection method</td>
</tr>
<tr>
<td>SCI:</td>
<td>Science Citation Index</td>
</tr>
<tr>
<td>SECI:</td>
<td>The four steps of conversion knowledge from tacit to explicit knowledge (Socialization, Externalization, Combination, Integration)</td>
</tr>
<tr>
<td>SN:</td>
<td>Subjective norm</td>
</tr>
<tr>
<td>SOP:</td>
<td>Standard Operating Procedure</td>
</tr>
<tr>
<td>TPB:</td>
<td>Theory of Planned Behaviour</td>
</tr>
<tr>
<td>UNDP:</td>
<td>United Nations Development Programme</td>
</tr>
<tr>
<td>UNESCO:</td>
<td>United Nations Educational, Scientific and Cultural Organization</td>
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Completing a PhD candidature is not easy and is perhaps more difficult for non-native English speakers. This has been my experience during my research period. There are many difficulties that a PhD student has to overcome during their PhD journey, for example, family issues, renting, expenses, and academic issues. Today, I have reached the destination where I wished to be since I started my journey and I now look back on the challenges that I have experienced. I believe that without the support from MOET (Ministry of Education and Training, Vietnam), La Trobe University, and my supervisors, I would not have completed my PhD dream.

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CHAPTER 1: INTRODUCTION

1.1 Introduction

This chapter starts with a brief summary of the background of the research, a rationale for the need to study knowledge sharing in higher education environments, the objectives of the research, the research questions, and the research methodology. This chapter concludes with an overview of the organization of the thesis.

1.2 Background

Knowledge sharing is one of the most important elements of knowledge management, has been widely discussed for more than two decades, and will continue to be discussed in the years ahead. The reason why knowledge sharing has attracted the interest of many researchers, practitioners and managers is because it offers many significant benefits for organizations and in particular, enhances organizational competitiveness (Alavi & Leidner, 1999; Argote & Ingram, 2000; Birasnav, Rangnekar, & Dalpati, 2011; Dyer & Nobeoka, 2000; Kearns & Lederer, 2003; O'Dell & Grayson, 1998; Rašula, Vukšić, & Stemberger, 2012; Walsham, 2001; Whelan & Carcary, 2011; Wiig, 1997; Zyngier & Burstein, 2012).

Despite the undeniable benefits of sharing knowledge, many organizations, schools, and universities are facing paramount difficulties in effectively applying, encouraging, and exploiting knowledge sharing practices as organizations face dozens of knowledge sharing barriers (Riege, 2005). To date, there is no common formula for cultivating knowledge sharing effectiveness within the context of multiple cultures, organizational structures and social networks, technology and ICT, motivation and leadership.

I contend that cultural and social issues are major obstacles to knowledge sharing in an organization (Ardichvili, Maurer, Li, Wentling, & Stuedemann, 2006; Boh, Nguyen, & Xu, 2013; J. Chen, Sun, & McQueen, 2010; Hofstede, Hofstede, & Minkov, 2010; Jiachenga, Lua, &
Researchers have found that due to the globalization of business, the economy, and education, cultural differences are a major cause of knowledge sharing difficulties, the existence of a low level of trust and demotivated staff. There is often a clash between cultural and religious beliefs (Ellingsen, 2005; Huntington, 1996; Manning & Roy, 2010; Samovar, Porter, & McDaniel, 2009), between individualism and collectivism and between high and low context and power distance that leads to misunderstandings, confusion and the communication becoming more complex and even impossible, in some cases (Hofstede, 2001). Even within the same culture and social context, the issue of cultural influence can have a negative impact on sharing knowledge, as the sharers often fear making mistakes. In most cases, they will not speak up out of fear of retribution if the subordinate is perceived to be smarter than their superior or for fear of knowledge revelation (Khalil & Shea, 2012).

Other obstacles to knowledge sharing are organizational structure and social networks (C.-J. Chen & Huang, 2007; Chow & Chan, 2008; Hsu & Lin, 2008; Mahmoudsalehi, Moradkhannejad, & Safari, 2012; Reagans & McEvily, 2003; Zheng, Yang, & McLean, 2010). These researchers view organizational complexity, that is, a large hierarchy of organizational structures, as creating barriers to knowledge sharing and information flow as information is often delayed, distorted or even becomes lost somewhere within the organization. Furthermore, organizational structures predicate how employees communicate directly and indirectly, and from this, relationships, trust and social interactions can either be built or undermined. Organizational structures also influence how organizations create appropriate channels for sharing knowledge and ensure confidentiality and security for knowledge sharers and knowledge receivers.

Technology is viewed as a significant enabler in facilitating sharing knowledge (Hendriks, 1999; Kim & Lee, 2006; Neches et al., 1991; Riege, 2005; Choi, Lee, & Yoo, 2010). The research results show that with an effective technology base, both knowledge sharers and knowledge receivers overcome temporal and spatial barriers in communicating and sharing expertise and
knowledge. Better infrastructure in organizations could also mean better sharing channels, and information and communication technology (ICT) helps organization to capture, store and retrieve information more quickly and efficiently. Technology also motivates people to participate in sharing knowledge by using easy and friendly software interfaces such as forums or chat rooms to increase team performance. Artificial intelligence and expert systems can be used to capture tacit knowledge from experience and experts then store this in the system for other uses (Neches et al., 1991). Moreover, applying technology will partly overcome language barriers by using online translation tools so people can communicate in different languages.

Another view focuses on the enablers that support knowledge sharing, and also focus on motivation, both extrinsic and intrinsic motivation (Bock, Kyung-Shik, Ayoung, & An, 2009; Bock, W., Kim, & Lee, 2005; Cho, Li, & Su, 2007). Many argue that intrinsic motivation plays an important role in sharing knowledge and that extrinsic motivation does little or even has a negative effect on knowledge sharing (Hsu & Lin, 2008; Lin, 2007). However, many scholars point out that extrinsic motivations are important enablers for knowledge sharing between colleagues (Akerlof, 1984; Barachini, 2009; Galia, 2008).

Leadership has been shown by many researchers to play a significant role in either facilitating or hampering knowledge sharing in organizations (Carmeli, Gelbard, & Palmon, 2013; Gagne, 2009; Jayasingam, Ansari, & Jantan, 2010; Kuo & Lee, 2011; Lee, Gillespie, Mann, & Wearing, 2010; Srivastava, Bartol, & Locke, 2006). Many studies have demonstrated that effective leadership which allows autonomy tends to empower and encourage employees to share knowledge. Furthermore, effective leadership increases cohesion, trust, and willingness to share knowledge in organizations. Specifically, effective leadership supports innovation, the implementation of staff recognition and rewards, provides resources and monitors and assigns tasks and thus impacts knowledge sharing effectiveness (Jong & Hartog, 2007). On a broader scale, an effective leader will play the role of facilitator and mentor to enhance employees’
creativity and encourage them to acquire new knowledge (Carmeli et al., 2013; Krogh, Nonaka, & Rechsteiner, 2012; Yang, 2007).

Despite the many studies which have investigated knowledge sharing, there is limited research on knowledge sharing in higher education institutions (HEIs) (Becheikh, Ziam, Idrissi, Castonguay, & Landry, 2010; Coukos-Semmel, 2003; Fullwood, Rowley, & Dlebridge, 2013; Rowley, 2000; Sohail & Daud, 2009). Specifically, little attention has been paid to knowledge sharing by academic staff in developing countries through research and publications. Thus, this research aims to bridge this gap by examining the barriers of knowledge sharing via research and international publications in Vietnamese higher education institutions (HEIs).

1.3 Motivation for the study of knowledge sharing in HEIs

There are many unanswered questions about knowledge sharing in higher education institutions, such as how academic staff share their knowledge while there knowledge can be considered as critical for their working positions. What type of knowledge do they share? In what way do they share knowledge? Is there any relationship between knowledge sharing effectiveness with research outcomes and quality of graduators? By name, education institutions are the place where knowledge is disseminated and created by talented people. However, there is insufficient research about knowledge management in higher education institutions (Caniels & van den Bosch, 2011; Coukos-Semmel, 2003; Goh & Sandhu, 2013; Sohail & Daud, 2009).

In a specific case, Vietnam emerged as newly emerged economy which is in it transition from a central planned economy to a market based economy. Despite nearly thirty years of transition (in 1986 policies started known as the “open door”) Vietnam still faces huge challenges in its economy, and particularly in the backwardness of its education. Recent report from International Labour Organization (ILO) showed that labour productivity of Vietnam was among lowest level in the Asia pacific region. Productivity in Singapore was nearly 15 times the level in Vietnam. Similarity, Vietnamese productivity is less than one fifth the level in Malaysia and two-fifth the
level in Thailand (ILO, 2014). In term of the creativity index, Vietnam also ranks as lowest in the 22 Asian economies (16/24). The index shows that, creativity index of Vietnam is lower than its neighbours such as Thailand, Malaysia, Indonesia, and Lao PDR (rank 9/24) according to ADB report (ADB, 2014). In a similar vein, the number of scientific and research publications and patent registrations in Vietnam was the lowest in the region (see appendix 1). It can be suggested that these latter problems relate to higher education institutions and knowledge creation and sharing, where many researchers and scientists currently work. Therefore, it is of great value to investigate knowledge sharing in Vietnamese higher education institutions (HEIs) in order to reveal and suggest solutions to unanswered questions on knowledge sharing in higher education.

There are four major and specific reasons that motivate the study of knowledge sharing in the Vietnamese higher education context. First, the literature indicates that there is a lack of in depth research in Higher education in general, and in the Vietnamese higher education setting. Where higher education believed is the cradle of knowledge sharing and knowledge creation.

Second, there is a lack of context-specific information regarding knowledge sharing, especially in developing countries, such as Vietnam, Soviet bloc countries and Arab countries, where management styles and a centralized economy are in a transition to a market economy and a knowledge-driven economy. Understanding the issues in this context will help to better promote knowledge sharing and will reduce the gap in knowledge creation between developed and developing countries.

Third, knowledge sharing in HEIs tends to be different to the business sector as it is not only institutional knowledge such as procedures, know-how or routinized knowledge which is being shared, but academic and scientific knowledge. In addition, the knowledge sharing environment in higher education differs from other sectors as academic staff mostly work independently and are isolated. Therefore, sharing knowledge can be more complicated and challenging.
Finally, given that the literature on knowledge sharing in higher education in general is limited, there is a lack of specific research on knowledge sharing in HEIs in developing countries in both quantity and case specific, even though staff in developing countries face more difficulties in knowledge sharing than their counterparts in developed countries. This is impacted not only by a lack of infrastructure and technology, but also in relation to management styles and culture, as well as by the existence of corruption which has a profound effect. Knowledge sharing through research publications and experience related to this is critical, because universities are places which are supposed to be pioneers in new knowledge creation and knowledge transfer through research and experimentation. This knowledge is not only crucial for staff but is also vital for students as future researchers. Thus, understanding the issues that hinder knowledge sharing and how knowledge is shared is of vital importance.

1.4 Objective and research questions

This study aims to examine the key barriers affecting knowledge sharing in Vietnamese universities that affect research outcomes and international publications. Specifically, this research focuses on eight factors namely: (1) people; (2) culture; (3) organizational structure/policies; (4) economic status; (5) technology; (6) management; (7) training; and (8) infrastructure. Attributes of relationship between these factors are the key to understand why knowledge sharing outcomes in Vietnamese HEIs are so low which is reflected in a low number of journal publications and patent registrations and the low quality of graduates in recent years.

The study also seeks to know to what extent Ministry of Education and Training Vietnam (MOET) and the government can support, facilitate, and improve research outcomes in Vietnamese universities. In addition, this research also aims to develop a theoretical framework of context-specific knowledge sharing in a HEIs setting. The role of the Theory of Planned Behaviour (TPB) and the Existence, Relatedness and Growth theory (ERG) will be examined to explain the causes and consequences of critical, contextual factors in relation to knowledge
sharing outcomes. Within the boundary of the research objectives, four research questions have been developed:

1- What are the key factors that promote knowledge sharing in Vietnamese higher education institutions (HEIs)?

2- What are the major obstacles that hinder knowledge sharing in Vietnamese HEIs?

3- Of the key knowledge sharing determinants in questions 1 and 2, what are the best predictors of knowledge sharing issues in Vietnamese HEIs?

4- What measures can be supported by MOET and the Vietnamese government to improve knowledge sharing strategies and knowledge sharing activities in universities?

1.5 Research method

To answer the research questions accurately and informatively, this study implemented a mixed method approach to investigate the issues using both qualitative and quantitative data. Qualitative data with rich information can be a good source for analysis, interpretation and generalization (Polit & Beck, 2010). Thus, semi-structured interviews combined with group discussions will provide sufficient evidence for the study. In addition, to avoid bias and investigate behaviour that relates to motivation to share knowledge, the relationship between behavioural factors needs to be examined, thus, a large sample size is necessary. Quantitative data will be collected through questionnaires. Qualitative and quantitative data will then be analysed separately before being combined in the discussion chapter.

Staff in universities are the target sample for this study. The selection of participants will include young staff with less than one-year experience to senior staff and staff who have retired and are currently working for private universities. In addition, the participants will also include staff in diverse positions, such as research leaders, managers and heads of training units to ensure the research questions are answered thoroughly.
Data sorting, coding, and analysis will be manually conducted as the data were collected in the Vietnamese language. Software database support for analysis will also be used to facilitate interpretation including SPSS 21 and NVIVO 10. The issue of reliability and validity of the data will also be carefully considered in order to ensure clear and persuasive results.

1.6 Organization of the thesis

The thesis is organized into eight chapters. Each chapter presents a specific matter. The structure of thesis is as follows:

**Chapter 1: Introduction**

This chapter provides an overview of the study. It details the background of the research and the need to study knowledge sharing in HEIs in developing countries. This is followed by a description of the objective and the research questions, after which an overview of the research method is given. The organization of the chapter is then presented and the chapter ends with a summary.

**Chapter 2: Critical issues in knowledge sharing**

This chapter systematically reviews issues in relation to knowledge sharing in general and in higher education in particular. It starts with a discussion of knowledge sharing concepts and provides views from different scholars and researchers. Then, the chapter briefly reviews different approaches to studying knowledge sharing and the theories of knowledge sharing behaviours. The research then discusses knowledge sharing enablers (including people, culture, organization, and infrastructure) that influence knowledge sharing effectiveness. Next, the chapter reviews research findings on knowledge sharing behaviour taking the Theory of Planned Behaviour as a key research framework and also examines the influence of motivation to share knowledge in the context of Maslow’s and Alderfer’s theories. The chapter then reviews the factors that hinder knowledge sharing which are likely to occur in developing countries (i.e.
corruption, low salary, work overload, and the issue of English proficiency). The research focuses specifically on Vietnam as a typical example of study. The chapter ends with a short conclusion.

Chapter 3: The research model

This chapter explains how the research model was developed from the existing literature. In this chapter, critical factors are first discussed, followed by a discussion of the two embedded theories ERG and TPB as the framework for the study. Management, infrastructure, and training factors are presented as contextual factors for knowledge sharing effectiveness. The chapter ends with a description of the completed model and a conclusion.

Chapter 4: Research method

This chapter provides details on how both qualitative and quantitative data are collected and analysed. The chapter begins with a rationale for choosing the mixed method approach, followed by a discussion of both the advantages and disadvantages of the qualitative and quantitative methods if used alone. The chapter then discusses the research design, the research procedures and the data coding process. A summary of the method and a conclusion complete the chapter.

Chapter 5: Qualitative data analysis

This chapter provides details on how data is analysed and categorised using the thematic analysis approach. The chapter begins by presenting evidence in the form of quotes extracted from audio recordings for three contextual factors, including management, infrastructure and training issues, and five critical factors including people, culture, organizational structure/policies, economic status and technology. The chapter also discusses two emerging factors: corruption and leadership which were found to be critical impact factors for knowledge sharing effectiveness.

Chapter 6: Quantitative data analysis
This chapter presents a data analysis of the responses to the questionnaires. The findings are used to reinforce the qualitative analysis. Exploratory Factor Analysis (EFA) was chosen as the method of data analysis. The chapter begins with a description of the sample’s characteristics, including response rate, age, gender and position. The chapter then presents arguments on why EFA is the most suitable method for data analysis followed by a description of how the factors are extracted, the criteria to retain factors and a description of loadings after implementing a rotation of factors. The chapter then focuses on the major part which is naming factors and providing an interpretation of their meaning. The chapter ends with a conclusion to summarise the chapter.

**Chapter 7: Discussion**

This chapter synthesizes the main findings of Chapter 5 and Chapter 6. It elaborates the perceived benefits from sharing knowledge and the sharing issues. A total of ten factors are discussed, including two emergent factors, corruption and leadership. The main factors in this chapter, namely corruption, leadership, and economic status indicate that developing countries must make a greater effort to manage their universities in order to take a step forward in knowledge management. The chapter ends with a summary of the discussions of the major findings.

**Chapter 8: Conclusion and recommendations for further research**

The final chapter of the thesis consolidates the empirical findings from chapters 5, 6 and 7. Specifically, this chapter provides a concrete answer to each research question. Details on how the study contributes to the body of knowledge, with reference to implications from theory, policy, and practice in relation to universities, especially those in developing countries, are given. The chapter also details the limitations of this research in terms of area-specific and research-specific settings. The study ends with recommendations for future research and a conclusion.
1.7 Summary

This chapter provides an overview of the study. It starts with a background of the research and briefly discusses previous research on knowledge sharing. It argues that studies on knowledge sharing issues in HEIs are important as insufficient studies have been conducted in this area, especially in the area of research and publications in developing countries. The major objective of this study is to identify the issues behind the poor knowledge sharing outcomes in Vietnamese HEIs by answering the four research questions. In this study, the mixed method approach is the best choice for data collection and analysis in order to answer the research questions. Finally, this chapter outlines the thesis structure with a short summary of each chapter from Chapter 1 to Chapter 8.
CHAPTER 2: CRITICAL ISSUES IN KNOWLEDGE SHARING

2.1 Introduction

This chapter provides a critical review on recent literature on knowledge sharing issues. The chapter begins with a discussion of the concepts of knowledge sharing, sharing behaviour, motivation, and sharing enablers that are widely discussed in the business environment which shares certain similar characteristics to the higher education context. It also highlights the relevant theories that will be used in the study. The next section reviews the literature on the higher education sector in particular, and highlights the issue of corruption in higher education that exists widely in developing countries. Finally, by juxtaposing the issues from both business and higher education environments, the research gaps will be highlighted, followed by the research questions.

2.2 Concepts of knowledge and knowledge sharing

Knowledge has been discussed for decades and various definitions have been proposed. So far, there is no definition which is considered better than the others, even though this has been hotly debated (O'Dell & Grayson, 1998). For example, Davenport and Prusak (1998, p.5) stated:

  Knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms.

This definition includes all aspects of knowledge including know how, know what, know where and know when. Furthermore, this definition covers both personal knowledge in the mind of the knowers, and organizational knowledge stored in organizational routines, procedures, tasks assigned, and operations.
However, Tsoukas and Vladimirous (2001) believed that Davenport and Prusak (1998)’s definition is not clear enough to differentiate knowledge from information and data. Tsoukas and Vladimirous (2001) also claimed that the definition is too broad as it includes many things such as values, experience, and contexts without specifying their relationship. Also, what form of knowledge is embedded in an organization or how individuals draw on it were not specified.

Instead, Tsoukas and Vladimirous (2001, p.983) proposed the following definition:

Knowledge is the individual capability to draw distinctions, within a domain of action, based on an appreciation of context or theory, or both… Organizational knowledge is the capability members of an organization have developed to draw distinctions in the process of carrying out their work, in particular concrete contexts, by enacting sets of generalizations (propositional statements) whose application depends on historically evolved collective understandings and experiences.

This definition emphasizes the capability of individuals or organizations to differentiate from others. However, this definition is too broad and it is difficult to visualise what knowledge is. Capability is a broad term, including both mental and physical components. Body strength and height are some of the physical components but they do not indicate type of knowledge.

One of the most widely accepted definitions is from Nonaka and Takeuchi (1995, p.58) who stated that knowledge is a “dynamic human/social process of justifying personal belief towards the truth”. From this perspective, knowledge is a combination of both tacit and explicit components. Whereas tacit knowledge remains hidden inside the person’s mind and is hard to articulate, explicit knowledge is easy to capture, articulate, retrieve and store. This thesis takes Nonaka and Takeuchi (1995)’s profound insight concerning personal knowledge, both tacit and explicit, in relation to knowledge sharing between individuals.
2.2.1 Knowledge sharing

Knowledge sharing is the process of converting tacit knowledge to explicit knowledge (Nonaka & Takeuchi, 1995; Nonaka et al., 2008; Von Krogh, Ichijo, & Nonaka, 2000). Szulanski (1996) defines knowledge sharing as a process that an organization recreates, maintains a complex, and causal ambiguous set of routines in a new setting. Thus, according to Szulanski (1996), knowledge transfer is the copy of complex, ambiguous routines from a source to another entity without distorting the original but the knowledge will be applied or used in a different context or setting.

Lee and Al-Hawamdeh (2002), Becheikh, Ziam, Idrissi, Castonguay, and Landry (2010) on the other hand, articulated knowledge sharing as actions between actors, and knowledge flows through different channels which include documents, face-to-face or technology-mediated (ICT, Internet). The environment and characteristics of the two actors also influence the sharing process and the effectiveness of the knowledge.

Davenport and Prusak (1998) defined knowledge transfer as the combination of transmissions from the sender and absorption by the receiver (transfer = transmission + absorption) which occur concurrently. Thus, in this formula, knowledge transfer is considered successful when an action of transmission from the knowledge owner is implemented and the knowledge receiver has the ability to digest this knowledge. If one of these does not occur, then knowledge sharing is unsuccessful.

In short, knowledge transfer is a complex process which involves various determinants and steps (Inkpen & Tsang, 2005; Krogh et al., 2000; Kwan & Cheung, 2006; O’Dell & Grayson, 1998; Szulanski, 2000). From the existing studies, it can be seen that depending on the environment and culture, knowledge transfer can occur differently, and in a nutshell, after knowledge has been transferred, it will be processed and become new knowledge for the next transfer cycles.
2.2.2 Types of knowledge

Knowledge is a complicated concept and thus, there are various definitions, as previously discussed. Ultimately, they are all correct in a specific context. Therefore, as a result, the type of knowledge is also classified according to a variety of terms and concepts.

Polanyi (1966) classified human knowledge into two broad categories: tacit and explicit knowledge. Tacit knowledge cannot be codified and therefore it is hard to see and articulate, “We can know more than we can tell” (Polanyi, 1966, p.4). On the contrary, explicit knowledge can be easily codified and transferred. These two types of knowledge are the major subject of various research projects on the issue of knowledge sharing (Bratianu & Orzea, 2010; Collins, 2010; Hansen, Nohria, & Tierney, 1999; K. Jones & Leonard, 2009; Nonaka, 1994; Tsoukas, 2003)

Erhardt and Harkins (2013) describe two types of knowledge: declarative knowledge and procedural knowledge or knowing what and knowing how knowledge. Where declarative knowledge can be verbalized or describe things, procedural knowledge explains knowledge residing in the mind or a process that relates to knowing how, which is difficult to articulate.

Lundvall and Johnson (2006) categorised knowledge into four broad groups:

- Know what: which refers to knowing facts or reality;
- Know why: which refers to scientific knowledge of principles and laws of motion in nature, in the human mind and in society;
- Know who: which refers to specific and selective social relations; and
- Know how: which refers to skills or expertise.

According to Lundvall and Johnson (2006), the first two, know what and know why, can be documented in a database, can be copied by others and can be reproduced (explicit knowledge). On the other hand, know who (including know when and know where) and know how cannot be
documented or codified as they are hidden knowledge. However, some of the know-how can be captured in database listings or in some kinds of social media, such as television, emails or Facebook accounts. Know how, as mentioned at the beginning of this paragraph, refers to skills, expertise, and experience, and cannot be translated easily (Roberts, 2000). Knowledge in the type of know how mostly exists in the form of patents (Cavusgil, Knight, & Riesenberger, 2012; Corones, 1984; Roberts, 2000). Thus, know how refers to innovative and creative ideas and thoughts.

Zack (1999), on the other hand, classified knowledge into four major groups and added further details on the role of knowledge in organizations. First, knowledge can be tacit or explicit, where tacit knowledge cannot be visualised and is difficult to articulate, and explicit knowledge is easily articulated, codified, documented, and transferred, which is similar to Polanyi’s definition. Second, knowledge can be declarative, which acts as descriptors to convey knowledge, such as concepts, definitions, or categories. This type of knowledge lays the foundation for effective communication and knowledge sharing in organizations. Third, know how, which refers to procedural knowledge, is the foundation for efficiency in coordinating actions in organizations, for example, who does what or the steps involved in operating a machine in a factory. Lastly, know why can be understood as causal knowledge which shares knowledge in the form of organizational stories, enabling organizations to coordinate their strategies to achieve their goals or outcomes.

Other researchers suggest that knowledge also can be classified in three types: auxiliary knowledge (consists of rules, policies, manuals, operational manuals); field knowledge (consists of project proposals, contracts, and reports); and technical knowhow (experience and expertise) (Ma, Qi, & Wang, 2008).

In education, knowledge can be classified as academic knowledge and organizational knowledge (Coukos-Semmel, 2003). Academic or scholarly knowledge is the primary purpose of higher education. Organizational knowledge, as defined by Coukos-Semmel (2003), refers to the overall
knowledge of a business or an institution, including its strengths and weaknesses, the market it services, and the factors critical to organizational success.

Thus, despite the wide variety of definitions of knowledge proposed by scholars, in general, there are two types of knowledge: personal knowledge, which is not easy to codify, and electronic document knowledge, which is easy to codify and transfer (Haas and Hansen 2007). Although tacit knowledge cannot be codified in most cases, it can be converted into explicit knowledge through four stages, as proposed in the SECI model by Nonaka (1994) and Nonaka et al. (2008). Thus, how to facilitate these four stages is the key to unlocking knowledge sharing in an organization.

This thesis defines knowledge as academic knowledge, which is expressed as both tacit and explicit knowledge. First, tacit knowledge is reflected in experience and expertise that is stored in individual academic staff which could be shared through coaching and peer support, especially in relation to research skills and research publications. Secondly, explicit knowledge is reflected in the form of the teacher’s notes, curriculums, and forums where staff can share best practices in relation to teaching and publications.

### 2.2.3 Approaches to share knowledge in the literature

A number of approaches have been taken to study the problems and issues related to the sharing of tacit and explicit knowledge (Haldin-Herrgard, 2000; Hau, Kim, Lee, & Kim, 2013; C.-P. Lin, 2007; Von Krogh, Ichijo, & Nonaka, 2000; Wang, Noe, & Wang, 2014; Yu, Lu, & Liu, 2010). Most regard cultural and social issues as the major cause of organizational obstacles to sharing knowledge (Ardichvili, Maurer, Li, Wentling, & Stuedemann, 2006; Barachini, 2009; Chen, Sun, & McQueen, 2010; Huong & Katsuhiro, 2010; Hutchings & Michailova, 2007; Liu & Porter, 2010; Quin, Ramburuth, & Wang, 2008; Siakas, Georgiadou, & Balstrup, 2010).

In this context, researchers have found that, under the globalization process, cultural differences are a major issue which hampers knowledge sharing. The conflict between collectivism and
individualism, between high and low context and power distance led to misunderstandings and communication becoming complex and in some cases almost impossible (Forbes, Collinsworth, Zhao, Kohlman, & LeClaire, 2011; Hofstede, 2001; LeFebvre & Franke, 2013; Oyserman, Coon, & Kemmelmeier, 2002; Rivera-Vazquez, Ortiz-Fournier, & Flores, 2009). Even within the same culture and social context, the issue of culture influence might have a negative impact on sharing knowledge as the sharers fear losing face when making mistakes. People will not speak up out of fear of retribution if the subordinate is smarter than their superior or even for fear of knowledge revelation (Khalil & Shea, 2012).

Other perspectives consider how organizational structure and social networks play a key role in hampering knowledge sharing (Choi, Kang, & Lee, 2008; Chow & Chan, 2008; Cross, Parker, Prusak, & Borgati, 2001; Hansen, 1999; C.-L. Hsu & Lin, 2008; M.-H. Hsu, Ju, Yen, & Chang, 2007; Inkpen & Tsang, 2005). From this perspective, researchers indicate that the complex hierarchy of organizational structures that create barriers for sharing knowledge, such as flow of information, was distorted or jammed. Organizational structure also influences how people interact, both directly and indirectly, and from this relationship, trust and social interaction have a chance to be either built up or undermined. The condition of sharing knowledge based on organizational structures is also influenced by how organizations create appropriate channels for sharing knowledge or ensuring confidentiality and security for knowledge sharers and knowledge receivers.

The third approach treats technologies as a significant enabler in facilitating the sharing of knowledge (Choi, Lee, & Yoo, 2010; Hendriks, 1999; Kim & Lee, 2006; Neches et al., 1991; Riege, 2005). These results show that with an effective technology base, both knowledge sharers and knowledge receivers overcome temporal and spatial barriers in communicating and sharing expertise and knowledge. Better infrastructure in organizations could also mean better sharing channels, and information and communication technology (ICT) helps an organization to capture, store and retrieve information more quickly. Technology also motivates people to participate in
sharing knowledge through easy-to-use and user-friendly software interfaces, such as forums or chat rooms to increase team performance. Artificial intelligence and expert systems can be used to elicit and capture tacit knowledge from experience which experts can then store in the system for other uses (Neches et al., 1991). Moreover, applying technology will partly overcome language barriers by using online translating tools so people can communicate across languages.

The fourth research approach focuses on motivation as a determinant to share knowledge, such as intrinsic motivation and extrinsic motivation determinants (Bock, Shin, Suh, & Hu, 2009; N. Cho, Zheng Li, & Su, 2007; Gagne, 2009; Galia, 2008). Many argue that intrinsic motivation plays an important role in sharing knowledge whereas extrinsic motivation does little or even has a negative effect on knowledge sharing (N. Cho et al., 2007; C.-L. Hsu & Lin, 2008; H.-F. Lin, 2007). However, many scholars point out that extrinsic motivation is an important enabler for knowledge sharing between colleagues (Akerlof 1984, Barachini 2009, Galia 2008, Silva & Davis 2011).

Various approaches have been undertaken on the study of knowledge transfer and its characteristics. One focused on the characteristics of knowledge as the key issue for sharing. These characteristics of knowledge include knowledge is subjective and tacit (Elliott, Stemler, Sternberg, Grigorenko, & Hoffman, 2011; Joia & Lemos, 2010; Ikujiro Nonaka & Toyama, 2005; I. Nonaka et al., 2008; Spender, 1996), knowledge is sticky and complex (Szulanski, 2003; Zander & Kogut, 1995). Knowledge is institutionalized (Chai, Yap, & Wang, 2012; Dyer & Nobeoka, 2000; Freidson, 1988; Liinason, 2010) in which case, knowledge becomes difficult to transfer or imitate. In order to transfer knowledge successfully, it needs to be codified and experienced in four main steps. I. Nonaka et al. (2008) proposed four steps in a knowledge cycle to convert it from tacit to explicit knowledge: socialization, externalization, combination, and internalization (SECI model). Each step involves other sub-steps and agents in order to achieve knowledge transfer and conversion. According to the model, knowledge creation, conversion and sharing processes is like a spiral, the first step being interactions between individuals
(socialization) as tacit knowledge, and is personal and contextual based. In the second step, tacit knowledge is converted to explicit knowledge, such as a symbolic language or images, so that it can be shared by others in groups or teams (externalization). The third step is the knowledge combination process as knowledge now is combined (combination) from inside and outside groups or organizations to be more complex and systematic explicit knowledge. In the fourth step, after explicit knowledge has been received from groups or organizations, individuals begin to process explicit knowledge (internalization) and apply it to their work. Therefore, knowledge now becomes tacit and resides in the form of work experience and expertise, and this experience will be shared between individuals again but at a higher level, thus the cycle goes on. Szulanski (2003) describes ambiguity and the unprovenness of knowledge as sticky and thus, knowledge is difficult to digest from the knowledge-receiver side. Thus, this stream of research perceives knowledge as being difficult to grasp as it resides in people and is hard to articulate.

A second stream of research perceives knowledge transfer as a transmitter and receiver interaction process. In this perspective, people who own knowledge are perceived as knowledge transmitters, and people who receive knowledge are regarded as knowledge receivers or knowledge seekers (Husted & Michailova, 2002; Hutchings & Michailova, 2004; Nonaka & Takeuchi, 1995). According to this line of thought, the difficulties associated with knowledge transfer come from both knowledge holders and knowledge seekers. For example, Husted and Michailova (2002) indicated three dimensions which need to be addressed properly:

- The behaviour of the knowledge transmitter;

- The behaviour of the knowledge receiver;

- The transmitters’ and receivers’ shared understanding of the content of knowledge.

In the first dimension, the knowledge transmitter, sharing knowledge depends on time, resources, and the environment. People are not willing to transfer their valuable expertise in a hostile environment, particularly when they feel overworked or too busy earning money. In the second
dimension, the behaviour of the knowledge receiver, people are reluctant to accept knowledge because they prefer to develop their own ideas and knowledge to prove their quality and value. In the third dimension, receivers can sometimes become sceptical about the reliability and validity of the transmitter, especially if the transmitter is a newcomer. Strong group ties also prevent receivers from opening their minds to accept new knowledge from an outsider (Carolan & Natriello, 2005; Hansen et al., 1999; Levin & Cross, 2004; Levin, Cross, Abrams, & Lesser, 2002). Receivers also reject knowledge when they are in a specialised group, as they feel that they have specialised knowledge which they might think is deeper knowledge than the knowledge being transmitted (Barber, 1961; Tong & Mitra, 2009) or if they have strong group affiliations, they may prefer interactions within this group (Agarwal, Tan, & Poo, 2007).

A third stream of research examines sharing knowledge from the perspective of the relationship between organizational design and knowledge transfer (Argote & Ingram, 2000; Argote & Miron-Spektor, 2011; Goh, 2002; Tang, Mu, & MacLachlan, 2010; Wang & Noe, 2010). According to this line of thought, scholars consider that knowledge is embedded in practices, products and services, infrastructure such as ICT, routine and tasks. Changes in these reflect the effectiveness of knowledge transfer and organizational learning. Therefore, organizational practices and structure, task designs, and processes are important for effective learning in an organization. For example, Argote and Miron-Spektor (2011) and Tang et al. (2010) concluded that effective organizational learning is inherited from an effective organizational structure and organizational environment. This is why some organizations are better at learning than others.

A fourth stream of research explores cross-culture impediments to sharing knowledge. For example, collectivism, compliance, power distance, uncertainty avoidance and especially saving face (Ardichvili et al., 2006; Barachini, 2009; Chen et al., 2010; Jiachenga, Lua, & Francesco, 2010; Liu & Porter, 2010; Quin et al., 2008; Rivera-Vazquez et al., 2009; Siakas et al., 2010; Vaara, Sarala, Stahl, & Björkman, 2012; Young, Kuo, & Myers, 2012). According to this line of thought, perceived values and beliefs are major factors which influence individual knowledge
sharing behaviour. Thus, the roles played by managers or leaders are important in encouraging employees to transfer their knowledge.

### 2.3 Theories of knowledge sharing behaviour

Sharing knowledge effectively is never easy. As previously discussed, knowledge sharing is a complicated process, not only because of the different types of knowledge but because the process of converting tacit knowledge into explicit knowledge requires much effort such as time and resources (Herschel, Nemati, & Steiger, 2001; Sanchez, 2005; Smith, 2001; Ting, Wang, Tse, & Ip, 2011). Furthermore, many determinants can influence knowledge sharing efficiency and knowledge sharing effectiveness (Bock & Kim, 2002; Cabrera, Collins, & Salgado, 2006; Lin, Hung, & Chen, 2009; Papadopoulos, Stamati, & Nopparuch, 2013). Sharing efficiency refers to how knowledge can be transferred better, faster and more accurately while sharing effectiveness refers to sharing knowledge with the right people, at the right time and in the right place so that knowledge can be transferred and utilised effectively (M. C. Jones, 2005; Maditinos, Chatzoudes, & Tsairidis, 2012; Parry & Graves, 2008). In the case of higher education, effectiveness can be measured by the quality and quantity of the graduates and the research publications and patents. Therefore, all the factors that are related to knowledge sharing need to be carefully examined in order to identify the knowledge sharing process which produces the best outcomes.

Various theories have been developed in an attempt to explain human behaviour. However, there are two particular theories on sharing behaviours and academic settings that are widely applied: the Theory of Reasoned Action (TRA) by Ajzen and Fishbein (1975, 1980) and the Theory of Planned Behaviour (TPB) (Ajzen, 1991). TPB was developed to solve issues that were not solved in TRA. They include reciprocity theory, social network theory, social exchange theory, game theory, social capital theory, experiential theory, gift exchange theory, and social cognitive theory. Each of these theories is discussed in the following sections.
The TRA was originally developed in 1967 and in the early 1970s. This theory was revised and expanded by Ajzen and Fishbein (1975, 1980). This theory helps to explain and predict behavioural intention rather than attitude as the main predictor of personal behaviour. There are three major constructs of the theory: (1) behavioural intention (BI); (2) attitude (A); (3) subjective norm (SN). The equation is BI = A + SN. In this formula, the (BI) of a person is predicted by (A) toward the expected outcome or result of behaviour, and with (SN) or in other words, the influence of other people on a person’s attitude and behaviour. For example, if a person perceives a positive outcome of an action, then (A) will be positive. On the contrary, if the outcome is perceived to be negative, then (A) will be negative. Similarly, if a person performs an action or behaviour that most people in a group or society expect or accept, then (SN) is perceived as positive, otherwise it is negative. Thus, behavioural intention is positive if both attitude and subjective norm are positive, and behavioural intention is negative when both attitude and subjective norm are negative.

TRA has been and continues to be the key framework for scholars to investigate human behavioural intention in various areas of social life (H. Cho, Chen, & Chung, 2010; Chow & Chan, 2008; Dong, Liem, & Grossman, 2010; Richardson, Wang, & Hall, 2012; Wang & Noe, 2010). For example, in psychology (Bock & Kim, 2002; Bock, Zmud, Kim, & Lee, 2005), in health (Glanz, Rimer, & Viswanath, 2008; Hennessy, Bleakley, & Fishbein, 2012; Roberto, Krieger, Katz, Goei, & Jain, 2013), and in education (El-Gayar, Moran, & Hawkes, 2011; Maldonado, Khan, Moon, & Rho, 2011; Mullan & Westwood, 2010; Pryor, 1990) for predicting knowledge sharing intention.

Chow and Chan’s (2008) work showed that social networks and shared goals significantly influence intention to share knowledge while trust has little impact on people’s intention to share their knowledge. In education, Simkin and McLeod (2010) used the Theory of Reasoned Action to predict and explain why students cheat in universities and colleges. This study concluded that the Theory of Reasoned Action is a major tool for explaining people’s behaviour and intention. In
particular, attitude, wanting to get ahead, morals and subjective norm were the key factors that influence students’ intention to cheat.

TPB is an extension or revision of TRA which was developed to overcome the limitations of TRA, such as a situation where behaviours are not fully under volitional control (Ajzen, 2011). As a result, TPB is becoming increasingly used for predicting people’s intention over TRA, although TRA is still the key framework for researchers. The major difference between TRA and TPB is the addition of a third determinant of behavioural intention: perceived behavioural control. This is determined by two factors: control belief and perceived power (Ajzen, 2011, 2012). Perceived behavioural control indicates that a person’s motivation is influenced by how difficult the behaviours are perceived to be and the anticipation of how successfully the individual can or cannot perform the activity. In addition to perceived control which directly influences individual behavioural intention, there are four other external variables that can indirectly influence the likelihood of performing the behaviour (Montano & Kasprzyk, 2008):

1. Demographic variables which are determined by gender and age;
2. Attitude towards targets which are determined by expected outcome;
3. Personality traits which are determined by trust, passion, patience, introvertedness or extrovertedness, and openness;
4. Other individual variables such as health status, adaptability or compatibility, stress.

Exploring knowledge sharing in the virtual environment, H. Cho et al. (2010) used the TPB model to investigate knowledge sharing behaviour between Wikipedia's contributors. Their results indicated that self-efficacy, reciprocity, social relationships, a sense of belonging, intrinsic motivation, and altruism factors significantly influenced individual knowledge sharing attitudes, while reputation was not a significant predictor of attitude (Bock & Kim, 2002; Bock et al., 2005; H.-F. Lin, 2007; Quintal, Lee, & Soutar, 2010).
By combining TPB with other theories or factors, Tohidinia and Mosakhani (2010) expanded TPB with the inclusion of individual perception, organizational climate and ICT support, finding that these factors had a positive impact on individual intention and knowledge sharing behaviour. Thus, in addition to the common factors, such as subjective norm, self-efficacy, intrinsic rewards or perceived behavioural control, organizational managers need to support the sharing of knowledge from different perspectives and individual characteristics, for example, by creating a supportive knowledge sharing environment and improving IT infrastructure such as computers, communication and the Internet. Individual barriers such as age, religion or other personal characteristics are removed by creating an effective organizational culture.

TPB was combined with the self-determination theory (SDT) to determine a model to predict knowledge sharing between individuals (Gagne, 2009). TPB is a key framework subject to study knowledge sharing behaviour in game theory (Cummings & Corney, 1987; Ho, Hsu, & Oh, 2009). In analysing risk-taking behaviour such as gambling, according to Cummings and Corney (1987), TPB is a crucial framework to determine behaviour through personal attitude, subjective norm, and personality traits. Cummings and Corney (1987) emphasized that external factors such as demographics, socioeconomic factors, information processing bias, and motivation were viewed as indirectly affecting behaviour, while the need for achievement, change, internal directedness, and dominance are major determinants in identifying behaviours.

Ho et al. (2009) combined game theory and TRA to predict the decision-making process in sharing knowledge. The authors’ findings showed that while TRA only aims to explain behaviour from one side (the sharer) or a single constraint, game theory can predict knowledge sharing behaviour from both sides (the sharer and receiver) as they are interdependent. Therefore, by combining game theory and TRA, the prediction of individual behaviour in relation to knowledge sharing is more reliable and accurate than using a single theory. Furthermore, in an environment where salient belief and positive motivation exist, TRA provides more reliable predictions than the game theory model. On the other hand, where individuals analyse the
strategies of others and consider the level of payoff for sharing knowledge outcomes for themselves, then game theory is the preferred model by which to predict knowledge sharing behaviours.

Despite widely being used as a key theoretical framework for many researchers, or perhaps due to its popularity, TRA and TPB have received a number of criticisms and have been the subject of debate in relation to their use for predicting human behaviours (Kor & Mullan, 2011; McEachan, Conner, Taylor, & Lawton, 2011; Norman, 2011; De Ridder & De Wit, 2006, 2006). Miniard and Cohen (1983) criticized TRA, saying that it is not a useful model to separate personal from normative contributions to evaluate individual behaviour. They further state that the TPB model is not able to explain relationships or connections between past behaviour and future behavioural intentions (Norman, 2011). One of the major criticisms of TPB is from Sniehotta, Presseau, and Araújo-Soares (2013), who argued that TPB was less predictive of behaviour when research experiments used longitudinal research or research repeated over long period of time and when outcome were measured objectively. Furthermore, Sniehotta, Presseau et al. (2013) emphasized that TPB is weak in terms of validity and utility. In relation to validity, TPB cannot sufficiently explain variability in behaviour and lacks flexibility in relation to changes in cognition. In terms of utility, TPB does not accurately accumulate empirical evidence. However, the authors admitted that TPB still plays a role in predicting and understanding individual behaviour.

Apart from a few critics of TPB, the majority of scholars still believe that TPB is a useful theory to predict intentions and behaviour. It has and continues to be a key theoretical framework for research in human behaviour, especially in sharing knowledge (Bock & Kim, 2002; Chatzoglou & Vraimaki, 2009; Cho et al., 2010; Jeon, Kim, & Koh, 2011; Radaelli, Lettieri, & Masella, 2013; Tohidinia & Mosakhani, 2010). Therefore, this study applies the TPB in the prediction and analysis of knowledge sharing behaviour which is discussed further in detail in chapter 3.
Social capital theory is also used to predict knowledge sharing behaviour in a notion of utilising social relationships and networks between individuals (C.-M. Chiu, Hsu, & Wang, 2006; Gooderham, Minbaeva, & Pedersen, 2011; Inkpen & Tsang, 2005; Wang & Noe, 2010; Widén-Wulff & Ginman, 2004; Widén, 2011; S.-C. Yang & Farn, 2009).

Social capital refers to an “investment in social relations with an expected return” (N. Lin, Cook, & Burt, 2008, p.6), thus teamwork, collaboration and reciprocity, trust and respect are the major determinants to predict knowledge sharing behaviour between individuals in a human network and in communities. In the research based on the social capital model, many authors found that interpersonal trust, social interaction ties, norms of reciprocity, and self-efficacy have a significant relationship with knowledge sharing behaviour (S. Chai, Das, & Rao, 2012; Chena & Hung, 2010; C.-M. Chiu et al., 2006; Inkpen & Tsang, 2005; Widén-Wulff & Ginman, 2004; Widén, 2011; S.-C. Yang & Farn, 2009).

The social cognitive theory is constructed by three major elements: behavioural, environmental, and personal factors. They are used to predict and explain human motivation and behaviour (Bandura 1989). The theory examines the reciprocity between these three elements with the assumption that they are not necessarily equal. The relationship between personal and behaviour factor is determined by personal thought, affect, and action. In particular, the behaviour of individuals is determined by personal beliefs, goals, expectations, and self-perception. Personal behaviour is influenced by the surrounding environment as stated in Bandura’s (1989) findings about environment versus personal causation. The same person in different environments, such as different social status environments, may behave differently, or people may behave differently in differing social environments because of their age, sex, race, and education level. Bandura (1989) emphasized the bi-directionality between behaviour and environment circumstances, suggesting that people are both products and the producer of their environment. The social environment shapes people’s behaviour, for example, a child living in a rural area may seem to lack confidence compared to a child who lives in a city, or people who work in a hostile environment...
tend to hoard their knowledge more than people who work in a supportive environment (Husted & Michailova, 2002; Hutchings & Michailova, 2007). Therefore, it is possible to suggest that individuals evolve personally in their work environment. For example, in an organization, managers or leaders can set up a workplace environment by creating rules and regulations at work or a code of conduct that governs people’s behaviour, and as a result, the workplace environment can be modified or created according to the expectations of its producer. Therefore, knowledge sharing behaviour can be influenced.

Due to its use in the prediction of human behaviour, social cognitive theory has been widely used as key theoretical framework for studying relationships and predicting personal characteristics, motivation, and behaviour. For example, it is used to explain why people engage in certain behaviours, such as community loyalty (C.-P. Lin, 2010), or explain why people engage in sharing knowledge (Chena & Hung, 2010), or, in combination with other theories, to predict knowledge sharing motivation (C. M. K. Cheung, Lee, & Lee, 2013; C.-M. Chiu et al., 2006; J. H. Choi, Lev, & Kim, 2014; M.-T. Tsai & Cheng, 2011).

The social exchange theory was originally developed by Homans (1958) to explain changes in human behaviour in terms of cost and reward. According to this theory, the greatest change in behaviour occurs when an individual perceives less profit, and the least change in behaviour occurs when an individual perceives a large profit. Profit is calculated based on the equation Profit = Reward – Cost, therefore the lower the cost, the more the profit and vice versa. This can be applied in the knowledge sharing process, especially when sharers expected a return (extrinsic motivation) when sharing with others in order to obtain rewards or recognition.

The social exchange theory is another key research framework for many researchers, and its features are the main assumptions in many research structures (Emerson, 1976; Cook & Rice 2003; Cropanzano & Mitchell 2005; Watson & Hewett, 2006). These include behaviour, relationships, trust, emotion, affect, fairness, commitment and reputation. In the area of sharing knowledge, knowledge is perceived as a good resource to exchange, and knowledge is owned by
individuals. As result, people are more likely to exchange their knowledge to receive benefits such as rewards, intangible benefits such as a reciprocal relationship, enhanced reputation or increased self-esteem (Barachini, 2009; Bartol & Srivastava, 2002; Bock, Zmud, Kim, & Lee, 2005; Galia, 2008; King & Marks Jr, 2008; Liao, 2008; Wasko & Faraj, 2005).

In regard to reciprocity theory, Gouldner (1960) defined reciprocity as a pattern of mutually contingent exchanges of gratification between two or more individuals or even units. Vroom (1994) stated that a person performs a particular act due to the expectation that he or she will receive a favourable outcome. This is referred to as Expectancy Theory. Reciprocal behaviour had been examined over many decades (Blau, 1964; Gibbon, 1977; Seyfarth & Cheney, 1988; Trivers, 1971). Reciprocity or expectancy theory has also been widely used for examining human behaviour in knowledge sharing. Falk and Fischbacher (2006) suggested that reciprocity is a behavioural response to perceived kindness and unkindness from individuals. The theory deals with individuals who evaluate the consequences of an action and predicts behavioural intention. Therefore, it is a crucial framework in understanding how people evaluate their intention to engage in knowledge sharing behaviour (S. Chai et al., 2012; C. Liao, To, & Hsu, 2013; H.-F. Lin, 2007). The reciprocity norm is widely used in the knowledge sharing principle. People share their experiences, expertise, and other useful knowledge based on the closeness of their relationship and the level of expected reciprocity between individuals and parties.

Chua (2003) concluded that the bilateral relationship between sharers and receivers is only sustained through reciprocity, as knowledge sharing does not occur in a social vacuum. Before and during the sharing of knowledge, individuals would anticipate the risk-return relationship of the sharing outcome, especially in an environment where the pro-sharing norm is relatively weak (Bartol, Wei, Xiangquan, & Kelu, 2009; Bock et al., 2005; Kankanhalli & Tan, 2005). In contrast, in the gift exchange theory (Akerlof, 1982, 1984), where a person gives a gift or something similar gift to others, these actions are determined by norms of behaviour, and in turn,
these norms are influenced by the relationships between individuals. Therefore, gift-giving actions are influenced by individual relationships.

Game theory is another popular theory to predict human behaviour and knowledge sharing behaviour. Game theory can be used as a stand-alone research framework (Chua, 2003; S. P. Ho, Hsu, & Lin, 2011; Y.-M. Li & Jiang-Li, 2010; Samieh & Wahba, 2007; Zhao, Xu, & Liu, 2009) or can be combined with other theories to expand the scope of research (C.-T. B. Ho et al., 2009; Zhang, Chen, Vogel, Yuan, & Guo, 2010; Zhu, Wei, Vasilakos, & Wei, 2012). The general findings from the research showed that reciprocity, expected reward, trust, social networks, and motivation are significant determinants for sharing knowledge between individuals. For example, Zhao, Xu et al. (2009) and Zhang, Chen et al. (2010) concluded that enhancing rewards, trust and punishment will improve knowledge sharing in organizations, while the direct costs and the benefits of sharing knowledge are found in S. P. Ho et al. (2011), Y.-M. Li & Jiang-Li (2010), and in Samieh & Wahba (2007).

In this discussion on the theories of sharing behaviours, it can be seen that there are two distinct lines of thought. The first argues that sharing knowledge is the result of personal and altruistic motivation. Monetary rewards are unnecessary and sometimes have a negative impact (Bock et al., 2005). This line of thought suggests that building a good social relationship, subjective norms, autonomy, and a good attitude will positively influence individual knowledge sharing behaviour and recommend how to create an environment to facilitate the above determinants in order to maximize knowledge sharing. On the other hand, the second line of thought from the theories of perceived knowledge as a good can be traded off and people who own it had previously spent time and resources in order to acquire it, therefore, to share knowledge with someone, individuals usually consider a trade-off between sharing and not sharing. Therefore, knowledge sharers expect that their knowledge will be valued explicitly, for example, in monetary rewards, recognition, or promotion, as demonstrated by the Theory of Social Exchange, reciprocity, and Game Theory.
2.4 Knowledge sharing enablers

Turning now to a discussion of the factors that enable knowledge sharing in an organization, C.-P. Lin (2007) argues that knowledge sharing enablers can serve as a foundation that helps people to work together ethically and cooperatively, enhances trust and therefore, fosters individual and organizational commitments in sharing their critical knowledge.

Sharing knowledge with another person is never as easy as might be first thought and it is rarely a matter of a single factor, such as infrastructure or motivation, alone. In order to share knowledge, a person has to have been influenced by a number of factors that directly or indirectly relate to knowledge sharing behaviour, called enablers and constraints of knowledge sharing. Knowledge enablers can be classified into two types: internal and external enablers (Salazar, 2010). Internal enablers are factors that can be controlled by the organization, while external enablers are beyond the control of an organization. Internal enablers are, for example, organizational policies, organizational structure, or knowledge workers, while external enablers are knowledge culture. Siemsen, Roth, and Balasubramanian (2008) indicated three major enablers that facilitate or hamper knowledge sharing between employees: motivation, opportunity, and ability. These three factors should be addressed in a cooperative way rather than treating them individually. Bock et al. (2009) confirmed that relationships, knowledge confidentiality, and absorptive capacity were the major success factors for knowledge sharing. In short, knowledge sharing enablers can be classified into six major categories: people; leadership; organization; organizational culture; infrastructure; and information and technology (ICT).

2.4.1 People

Regardless of how good the system is, without the people no knowledge can be generated or shared. People play a centre role in innovation and development. People create rules and regulations, they create an environment, maintain it and sometimes even destroy it, and therefore, people are considered as enablers for sharing knowledge. Horak (2001) indicated that there are ten human factors that significantly influence knowledge management initiatives. They include
fear, cultural change, capturing of tacit knowledge, and ease of use, stakeholder involvement, and benefits realization. Similarly, many scholars confirm that people in organizations are central to the success of knowledge management and only through people can data and information be interpreted and turned into useful knowledge (Bhatt, 1998, 2001; McAdam & McCreedy, 1999; Oltra, 2005).

### 2.4.2 Leadership

Bass and Riggio (2006) argued that leaders inspire employees with their vision as to how the organization should perform to achieve a desirable outcome. Transformational leadership also enhances team cohesion and the feeling that leaders and employees are committed to the team’s goals.

A large body of research confirmed that the leadership role is a critical success factor for knowledge sharing in an organization. Gagne (2009) concluded that the leadership in an organization influenced the employee’s motivation to share knowledge, as a leader can influence how a reward system is implemented. Leadership is also an agent which helps team members increase their interaction, cohesion and trust which results in increased knowledge sharing (Carmeli, Atwater, & Levi, 2011; Zboralski, 2009). Effective leadership facilitates knowledge sharing between members of an organization and between organizations and outside organizations and also improves the employee’s ability to solve problems creatively (Carmeli, Gelbard, & Palmon, 2013).

Srivastava, Bartol, and Locke (2006) and Lee, Gillespie, Mann, and Wearing (2010) stated that knowledge sharing does not happen automatically in a team due to a lack of orientation and strategic procedures. They concluded that a leader has an important role to play in making it come about, and an effective leader can enhance a team member’s willingness to disclose information and disclose their expertise within the team, and enhance their knowledge sharing intention (P. Lee, Gillespie, Mann, & Wearing, 2010).
Effective leadership also creates an open environment that supports knowledge sharing behaviour. It creates a positive climate that is positively related to team innovativeness through a facilitation of team knowledge sharing intention and ensures employees have sufficient autonomy in deciding how tasks are to be done (Jong & Hartog, 2007; R.-Z. Kuo & Lee, 2011; Liua & Phillips, 2011).

Leaders not only use orienting organizational strategies and facilitate knowledge sharing between employees, a leader should lead by example or be the first person to share knowledge and continue to do so in order for employees to follow. An effective leader should be a good example of sharing and encourage others to share. J.-T. Yang (2007) referred to this as the mentor role of leaders. By actively acting as an example, leaders create trust and a sense of safety among employees and the organization, therefore organizational learning and innovation is improved by knowledge sharing (Aragon-Correa, Garcia-Morales, & Cordon-Pozo, 2007). More importantly, leaders with a high level of expertise have the potential to improve the extent of knowledge acquisition and dissemination practices (Jayasingam, Ansari, & Jantan, 2010).

Georg von Krogh, Nonaka, and Rechsteiner (2012) illustrated how leadership influences the way new knowledge is created, transformed and distributed through different stages of knowledge creation, based on a combination of organizational context (Ba) and the SECI model which was discussed in the previous section. Ba is explained by Ikujiro Nonaka and Toyama (2005, p.428) as follows: “Ba is a shared context in motion, in which knowledge is shared, created and utilized”. In their model, they stated that distributed leadership and centralized leadership should be used flexibly, as distributed leadership is associated with an informal organization and centralized leadership is associated with a formal organization.

Together with centralised leadership, distributed leadership or empowered leadership can help employees to explore their competence (R.-Z. Kuo & Lee, 2011). Distributed leadership allows people to have more autonomy which enhances their confidence so they can engage actively in
work which leads to effective and innovative problem solving in universities, leading to effective knowledge sharing (Bligh, Pearce, & Kohles, 2006; Scribner, Sawyer, Watson, & Myers, 2007; Xue, Bradley, & Liang, 2011)

**2.4.3 Organizational structure and Work design**

Organizational structure and Work design play a role as an environmental and supporting factor to facilitate collaboration and knowledge sharing. There are a number of factors that either directly or indirectly influence individuals’ knowledge sharing behaviour, which is beyond the employee’s capabilities. These are include organizational structure, work design, strategy and development policies, leadership style, the organizational culture, working environment, rewards and incentive systems. Leadership and reward systems have been discussed. Hence this section will briefly review how organizational structure and work design impact the knowledge sharing behaviour of employees.

**2.4.3.1 Organizational structure**

Organizational structure includes the way employees interact, their working space, the compensation system, and information flow. An effective organizational structure has a positive impact on organizational knowledge sharing and knowledge capacity (C. Yang & Chen, 2007; Zheng, Yang, & McLean, 2010). There are three common organizational structures: formal (centralized), informal (decentralized) and integrated (C.-J. Chen & Huang, 2007). Each can enhance knowledge sharing behaviour (Bartol & Srivastava, 2002; Jones, 2005; Long & Fahey, 2000). A centralized organization or a vertical structure is a system where employees interact with managers or senior management and receive instructions from them, while a decentralized organization allows employees to interact with each other more within a team and the organization.

Research suggests that knowledge sharing is better inspired and facilitated if the structure of an organization is less formal. C.-J. Chen and Huang (2007) indicated that the level of knowledge
sharing is higher when the organizational structure is less formal, more decentralized, and integrated, and that this is more favourable to social interaction. Jones (2005) asserted that an informal structure in the physical workspace, a simple hierarchy in team relationships, and a positive atmosphere between the team and the rest of the organization are important factors to facilitate sharing. Willem and Buelens’ (2009) findings indicated that an organization with horizontal coordination consisting of teams, mutual adjustment and integration results in more knowledge sharing.

Organizational structure influences on network ties between employees such as strong network ties (Hansen, 1999; Hansen, Mors, & Lovas, 2005; Reagans & McEvily, 2003), which result in a higher level of trust between knowledge sharers, thus will facilitate knowledge sharing.

Organizational structure defines the structure of knowledge infrastructure in an organization. The better and optimal the organizational structure the easier and more effective in knowledge sharing. For example, in an organization where knowledge infrastructure is well developed including people can easily access information, knowledge products can be made accessible, and experiences can be shared, then knowledge sharing would be more effective (Kruizinga, van Heijst, & van der Spek, 1996). In particular, an effective organizational structure is one where the organization can easily identify who needs help and who has the expertise to offer help (Karimzadehgan, White, & Richardson, 2009), thereby enabling a smooth flow of information, which is less distorted and transparent and will encourage employees to participate in sharing knowledge.

### 2.4.3.2 Work design

Effective human resource management is a key for an organization to survive and grow. It also plays a critical role in maintaining core competitiveness in the area of knowledge management (E. F. Cabrera & Cabrera, 2005; C.-J. Chen & Huang, 2009; Hafeez & Abdelmeguid, 2003). Cabrera and Cabrera (2005) explain that an effective work design helps employees engage in teamwork effectively within and across teams, gives employees significant autonomy over how
they manage their work tasks, and therefore, increases job satisfaction, coordination and collaboration, as work design includes strategies and plans as well as who does what in order to achieve pre-set targets. A community of practice is an example of how an organization sets up a work design to share knowledge and solve problems. A community of practice (CoP) is a group of people who share a passion in a specific area of knowledge, interact regularly to share, and improve their knowledge (Wenger, 2011). Wenger and Snyder (2000) asserted that CoPs generate knowledge and is a place where expertise and experiences are shared effectively. CoPs increase the level of trust in a team, bring people closer to each other to inspire motivation and stimulate intrinsic motivation to engage in knowledge sharing (Ardichvili, Maurer, Li, Wentling, & Stuedemann, 2006 Fang & Chiu, 2010; Jeon et al., 2011; Tremblay & Psyche, 2012; Wasko & Faraj, 2005).

Staffing and recruitment policies are obviously important for an organization to sustain competitive growth. Competent staff help the organisation to run more smoothly and efficiently and have rich knowledge and expertise, thus they are a valuable resource and an asset to the organization. Cabrera and Cabrera (2005) found that highly skilled staff have additional skills that facilitate the building of social capital, for example, the ability to work with others and highly developed communication skills. Human resource management policies directly influence employee motivation and employee satisfaction. Effective human resource management policies will help organizations retain more loyal employees, encourage more employees to share knowledge and more importantly, reduce the organization’s loss of critical business knowledge when experienced employees leave (Hafeez & Abdelmeguid, 2003; Hislop, 2003).

Providing regular training for employees is an important activity of an organization, regardless of the type of organisation and the sector in which the organization is operating. There are different types of staff training, formal, or informal, team-based training, seminars, workshops etc.; through these activities, new knowledge and skills can be acquired (Mehrabani & Mohamad, 2011). Training improves employee confidence, motivation, commitment, and improves work-
related knowledge, and therefore might increase the likelihood of sharing knowledge among colleagues (Borner, Moormann, & Wang, 2012; Ramanadhan, Wiecha, Gortmaker, Emmons, & Viswanath, 2010). Effective training also pushes employees with less intrinsic motivation in the direction that an organization expects (Kuvaas, Buch, & Dysvik, 2012). Training also helps an organization become a learning organization, enabling individuals and team members to express their own ideas and perspectives, resulting in effective knowledge sharing.

### 2.4.4 Organizational culture

There are diverse definitions of organizational culture. Kroeber, Kluckhohn, and Untereiner (1952) summarised 164 different definitions of culture. Cohen (2009) stated that the definition depends on the form and domain of culture. Therefore, there is no unique definition of culture. Hofstede and Minkov (2010) defined culture as the collective programming of the mind, which distinguishes the members of one group or category of people from another. Culture plays a significant role in forming our way of feeling, thinking, and acting (Endrass, André, Rehm, & Nakano, 2013; Vaughn, 2010). However, there are differences between national culture and organizational culture, as national culture can influence organizational culture but not vice versa. National culture affects an individual’s interaction and action (Boh, Nguyen, & Xu, 2013; J. Chen et al., 2010; Kogut & Singh, 1988) and promotes openness, the capacity to collaborate and the exchange of ideas and knowledge, while organizational culture supports and facilitates knowledge creation and (Rivera-Vazquez et al., 2009). Organizational culture is not fully explained by country of origin. National culture has an impact on a macro scale but only has a minor impact on specific organizational culture (Gerhart, 2008; Vaara et al., 2012).

Organizational culture plays an important role in organizational competitiveness and development. Organizational culture can influence knowledge in two distinct ways (E. F. Cabrera & Cabrera, 2005). Firstly, it creates strong social sharing norms that engage employees in the same direction as the organization. Secondly, it creates a culture of caring that nurtures trust and cooperation, which are the main conditions for knowledge sharing. Jiachenga et al. (2010) found that there are
significant differences between Western culture and Eastern culture in terms of knowledge sharing. While Western culture tends to perceive knowledge sharing as the realization of self-worth and the manifestation of individual determination, Eastern culture tends to comply, avoid conflict, and perceive knowledge sharing by other’s expectations or collective responsibility not for individual benefits. Siakas et al. (2010), on the other hand, found that cultural differences cause misunderstandings between team members in relation to sharing knowledge, such as differences in the perception of time, for example punctuality, arrogant behaviour and self-centred characteristics, or different background and expectations. A culture of saving face is also believed to hamper knowledge sharing as people perceive losing face is a kind of insult, is disrespectful, gives them a bad image and is impolite (C. W. Chow, Deng, & Ho, 2000; Liu & Porter, 2010; Young et al., 2012). Contrary to the research findings which show that cultural differences have a negative impact on knowledge sharing and national culture has an impact on organizational culture. Vaara et al. (2012) and Gerhart (2008) found that organizational culture can be altered or standardized and is largely independent from national culture. For example, an American multinational company (MNC) can set up an American style industrial culture in a factory in China that is relatively independent from Chinese culture. The findings of Vaara et al. (2012) indicate that both organizational and national cultural differences are positively associated with knowledge transfer, and national culture differences provide opportunities for knowledge transfer.

2.4.5 Infrastructure

Infrastructure refers to the availability of affordable, reliable, and effective support such as buildings, communication, data storage, and other fundamentals which serve as a base for operations and technology utilization (McKenzie, 2007). Infrastructure for sharing knowledge includes libraries, buildings with computers, broadband, IT skills, and IT infrastructure for communication, interaction, and collaboration (Cabri, Leonardi, & Zambonelli, 2000). IT infrastructure is one of the critical success factors enabling the management and sharing of
knowledge (J. H. Choi et al., 2014; S. Y. Choi, Lee, & Yoo, 2010; Skyrme, 1999). IT infrastructure, especially computers and the Internet, can provide access to knowledge resources regardless of time and location constraints. Apart from the functions of storing, retrieving, and capturing knowledge, IT infrastructure, especially knowledge transfer tools can support management to promote behaviour that motivates people to share knowledge effectively throughout the organization (Rasli, Madjid, & Asmi, 2004).

Infrastructure is a fundamental requirement for applying or building new technology for knowledge management and facilitates the sharing of knowledge. Communication or any type of knowledge activity that takes place today is possible only with underlying IT infrastructure which transports, stores, and retrieves data (Png, Tan, & Wee, 2001). Thus, infrastructure provides supports and enables sharing knowledge more efficiency. It relates to critical factors in the way of facilitating, connecting people with people, people with system to share and retrieve information and knowledge. From this perspective infrastructure plays a role as contextual factor that support people, culture, organizational structure/policies, economic status and technology to promote knowledge sharing.

2.4.6 Information and Communication Technology (ICT)

Knowledge sharing cannot be successful if it lacks support from Information and Communication Technology (ICT), especially in today’s highly technological era where people have to process a huge amount of information to create and store knowledge. One of the most outstanding features of ICT is that it can traverse cultural, social, and hierarchical barriers to knowledge sharing. The process can be done through the Internet, intranets, forums and other modes of sending and receiving messages, regardless of time and location that allow people to share their thoughts and ideas (Alavi & Leidner, 2001; Hendriks, 1999; Huysman & Wulf, 2006; Kankanhalli & Tan, 2005; Young & Tseng, 2008). ICT is also a useful tool to store, retrieve, and capture knowledge effectively (Cheng, Ho, & Lau, 2009; Dixon, McGowan, & Cravens, 2009; H.-F. Lin, 2007). ICT is a platform where knowledge sharers and receivers can participate. It supports teamwork,
collaboration, and internal and external connectivity (Malhotra & Majchrzak, 2004; Punie, 2007). ICT is not only useful for experienced and high ranking staff, it also helps low level employees to have a more positive attitude towards accepting communication tools for the sharing of knowledge. Additionally, through ICT, employees can enhance their reputation, as well as improve their knowledge by sharing knowledge online (Zhang, Vogel, & Zhou, 2012).

According to Lee and Kelkar (2013), ICT assists knowledge creation and supports all four phases of the SECI model, as discussed in section 2.2.2. For example, ICT allows users to: easily access knowledge experts (externalization), maintain relationships with supervisors (socialization), engage in collaboration (combination), and participate in virtual learning (internalization). ICT plays a key role in organizational learning, which is a critical factor for sharing knowledge in an organization. ICT acts as a learning space where employees can participate and interact in a social learning process, where employees are co-producers of knowledge not only consumers of learning content (Punie, 2007). Moreover, ICT also helps to provide evidence of knowledge contribution in an organization, because a manager can track the content, date and time that employees contributed (Zhang et al., 2012), thus management becomes more transparent to employees.

Thus, knowledge-sharing enablers make a significant contribution to the sharing of knowledge in an organization. As discussed, knowledge will not be shared if there is no support from people in an organization, especially leaders and managers. Organizational structure, infrastructure, and ICT are also key enablers that facilitate knowledge sharing behaviour in an organization. While leaders can encourage staff in the form of emotional and psychological support, organizational structure, infrastructure, and ICT serve as environmental and physical support for knowledge sharing. However, emotional and psychological support alone is not enough to inspire someone to share knowledge. The internal factors of the individual are also important in knowledge sharing effectiveness, for example, intrinsic motivation can serve as a determinant for sharing knowledge.
2.5 Sharing behaviour determinants

Knowledge sharing enablers that facilitate or obstruct knowledge sharing include people, leadership, organization, culture, infrastructure, and technology (Ardichvili et al., 2006; Choi et al., 2008; Salazar, 2010). Sharing determinants are individual factors or psychological components that determine individual behaviours (H.-F. Lin, 2007; M.-J. J. Lin, Hung, & Chen, 2009; Papadopoulos, Stamati, & Nopparuch, 2013). Thus, this section discusses subjective norms, social interaction, trust, knowledge self-efficacy, and absorptive capacity as determinants of knowledge sharing behaviour.

2.5.1 Subjective norms

Ajzen (1991) defined subjective norm as the perceived social pressure to perform or not perform the behaviour in question. Ajzen (1991) argued that people with more favourable subjective norms will have a stronger attitude toward performing the behaviour under consideration. The evidence that subjective norms have an influence on knowledge sharing intentions has been widely discussed. The results also indicate that subjective norm has a strong influence on knowledge sharing behaviour (Bock & Kim, 2002; Bock et al., 2005; Cho et al., 2010; Hau & Kim, 2011; Jeon et al., 2011; F.-Y. Kuo & Young, 2008; Srite & Karahanna, 2006; Tohidinia & Mosakhani, 2010; Wu & Sukoco, 2010).

In relation to the impact of social capital on knowledge sharing, Chow and Chan (2008) indicated that a social network and shared goals significantly contribute to the subjective norm on knowledge sharing and thus, influences attitude and intention to share knowledge. Furthermore, subjective norm and behavioural intention have a significantly positive relationship with each other in the context of culture, information, power distance, and level of uncertainty avoidance (Pookulangara & KristianKoesler, 2011; Srite & Karahanna, 2006). D. C. Li (2011) also indicated social influence directly influences individual intention, which plays a critical role in making decisions as to whether or not to participate in a specific action.
2.5.2 Social interaction

According to Szulanski (1996), one of the biggest barriers to knowledge sharing in an organization is the lack of a relationship or even exists an arduous relationship between individuals. In the organizational environment, stronger network ties usually result in a more positive impact on knowledge sharing intention (Cabr, Leonardi, & Zambonelli, 2000; W. S. Chow & Chan, 2008; Dyer & Nobeoka, 2000; Reagans & McEvily, 2003; Tortoriello, Reagans, & McEvily, 2012).

Knowledge is sticky and implicit that varying degree in depths, therefore, more frequent contact and intimacy enables people to trust each other. High knowledge accessibility together with high collaboration willingness of knowledge sharers and receivers leads to a higher intention to share knowledge (Fliaster & Spiess 2007).

Knowledge sharing occurs between people who trust each other and who interact frequently in an organization. It is rare for someone to share their expertise and experience with a stranger or with someone with whom there is a lack of trust. The stronger the relationship between individuals, the higher the chance that knowledge will be shared between them (S. Chai, Das, & Rao, 2012; Chena & Hung, 2010; W. S. Chow & Chan, 2008; M. Z. Islam, Ahmad, & Mahtab, 2010; Song & Teng, 2008; W. Tsai, 2002; Y.-H. Tsai, Ma, Lin, Chiu, & Chen, 2013; Zhou, Siu, & Wang, 2009). H. H. Chang and Chuang (2011) stated that when people have intensive interaction and there is trust between them, they are likely to share reliable knowledge. Thus, stronger ties and trust will help individuals collaborate and share. However, weak ties are not necessarily a negative signal for knowledge sharing behaviour. Granovetter (1983) and Hansen (1999) found that a relationship that has weak ties facilitates job change easily, because employees do not have many constraints with each other or with the organization. Thus, the change of job creates links between groups as members move around in different organizations. Furthermore, Hansen (1999) found that weak ties help employees search for useful knowledge easily among sub-units. D. Z. Levin and Cross (2004) went further and insisted that weak ties and trust have a more positive
impact on knowledge sharing than strong ties and trust. Thus, in either case, both strong and weak ties and trust play a critical cohesion role in the sharing of useful knowledge between individuals.

2.5.3 Trust

There are many definitions of trust (Park, 2006; Rousseau, Sitkin, Burt, & Camerer, 1998). However, as Huotari and Iivonen (2004) summarised, trust in knowledge management is based on an expectation of people’s willingness and an ability to fulfil their needs and wishes.

Trust is obviously an important factor in every aspect of our lives. In sharing knowledge, trust is also a significant component as knowledge is considered to be power and no one will give power to others without trust and a belief that giving knowledge will not make the sharer vulnerable. In knowledge sharing, regardless of whether this occurs face-to-face or online, trust is believed to be the most significant determining factor. It plays a crucial role in deciding whether or not the knowledge sharers agree to participate in the sharing process (Al-Alawi, Al-Marzooqi, & Mohammed, 2007; Chai & Kim, 2010; Choi et al., 2008; He, Qiao, & Wei, 2009; Maurer, 2010; Riege, 2005; Zhou, Siu, & Wang, 2009).

Researchers have identified different types of trust that impact knowledge sharing and behaviour, either directly or indirectly. McNeish and Mann (2010) and Chena and Hung (2010) identified that interpersonal trust and intergroup trust must be established before knowledge sharing can be implemented. Interpersonal trust is influenced by culture (Chen, Chang, & Tseng, 2012; Chen, Chang, Tseng, Chen, & Chang, 2013), therefore, culture is an important factor that directs individuals’ behaviour and connects them together.

Two types of trusts are frequently discussed in knowledge sharing: affect-based trust and cognition-based trust. Affect-based trust is the mutual care and concern between individuals in a team, while cognition-based trust refers to the reliability and competence of individuals. Results from Holste and Fields (2010) and Zhou et al. (2009) indicated that affect-based trust has a
significantly greater influence on willingness to share tacit knowledge, while cognition-based trust influences a willingness to use tacit knowledge as sharers evaluate reciprocity and the competence of their team members.

M.-H. Hsu et al. (2007) found that there are three different types of trust which directly impact knowledge sharing behaviour and indirectly via knowledge self-efficacy, economy-based trust, information-based trust and identification-based trust. Economy-based trust refers to economic benefits and a fear of punishment for the violation of trust. Information-based trust refers to a belief that technology can convey, control, and protect transactions and information. Identification-based trust refers to a mutual understanding between parties. Hsu, Ju et al. (2007) emphasized that the three types of trust have a causal relationship with each other and they all affect knowledge self-efficacy and knowledge sharing behaviour.

Ardichvili, Page, and Wentling (2003), on the other hand, identified that knowledge-based trust and institutional-based trust are important for sharing knowledge between individuals. The former involves social interaction between individuals in a team or group, the latter refers to trust in the integrity of the organization and the competence of its staff. The author emphasized that people are more likely to share knowledge with someone if they belong to the same group or same social network. On the other hand, if working in a low-trust organization, poor knowledge promotion is inevitable, as people tend to hoard their critical knowledge (Emelo, 2012; Husted & Michailova, 2002; Husted, Michailova, Minbaeva, & Pedersen, 2012; Michailova & Husted, 2003).

Benevolence-based trust and competence-based trust also are important types of trust that encourage knowledge sharing between individuals. Benevolence-based trust refers to the belief that an individual will not harm another, even when they have the opportunity to do so, while competence-based trust refers to a perception that there is someone with highly developed skills and expertise in a given area who is willing to help. Therefore, in order to promote sharing and seeking new knowledge, it is necessary for an organization to enhance trust between employees
and reform the organizational culture in order to support knowledge sharing (Abrams, Cross, Lesser, & Levin, 2003; Ling, 2011)

2.5.4 Knowledge self-efficacy

In their study of attitude toward knowledge sharing, Bock and Kim (2002) indicated that attitude toward knowledge sharing has a significant influence on an individual’s behavioural intention. Bandura (1997, p.3) stated that “self-efficacy refers to beliefs in one’s capabilities to organize and execute the courses of action required to produce a given attainment”. Thus, generally self-efficacy is broadly defined as a person’s belief in their ability to perform a specific task successfully. Knowledge self-efficacy is an individual belief that knowledge can be applied to or can be useful for specific purposes.

Thus, self-efficacy can affect knowledge sharing intention, and according to Bandura (1997) and Endres, Endres, Chowdhury, and Alam (2007), self-efficacy positively predicts knowledge sharing in tacit and complex sharing.

In terms of role breadth self-efficacy and knowledge sharing, A. Cabrera et al. (2006) found a strong relationship between knowledge self-efficacy and knowledge sharing intention, finding that individuals with high levels of role breadth self-efficacy are more likely to engage in knowledge sharing. The authors suggest, “a sense of personal competence and confidence may be a requirement for a person to engage in knowledge exchange” (A. Cabrera et al., 2006, p. 259).

Role breadth self-efficacy, as Parker (1998) defined, refers to employees’ perceived capability of carrying out a broader and more proactive set of work tasks that extend beyond prescribed technical requirements.

H.-F. Lin (2007b) indicated the strong influence of knowledge self-efficacy on knowledge donating and knowledge collecting which is a willingness to share knowledge. The author concluded that self-efficacy is one of the two main individual factors that significantly influence the knowledge sharing process in addition to altruism.
M.-H. Hsu et al. (2007) found that individual knowledge self-efficacy is a good predictor of knowledge sharing; in other words, self-efficacy plays “a critical role in guiding people’s behaviour” (p.165) and has both a direct and indirect influence on individual knowledge sharing behaviour. Recent research findings also support the impact of self-efficacy on knowledge sharing behaviour (C. M. K. Cheung et al., 2013; Cho et al., 2010; Lai & Chen, 2011; C. Liao et al., 2013; M.-J. J. Lin et al., 2009; Okyere-Kwakye & Nor, 2011; Tohidinia & Mosakhani, 2010).

### 2.5.5 Absorptive capacity

A lack of absorptive capacity is one of the four major barriers factors to successful knowledge transfer (O’Dell & Grayson, 1998; Szulanski, 1996). Absorptive capacity can be individual capacity (Mua, Tang, & MacLachlan, 2010; Szulanski, 1996), the unit’s capacity (W. Tsai, 2001) or the organization’s capacity (W. M. Cohen & Levinthal, 1990). However, they all have in common “the ability to recognize the value of new, external information, assimilate it, and apply it to commercial ends” (W. M. Cohen & Levinthal, 1990, p.128). A simple definition of absorptive capacity is the ability to learn and to solve problems (L. Kim, 1998). Thus, it is clear that a lack of absorptive capacity can be difficult for individuals as well as the organization to sustain a competitive advantage and innovation capacity as an organization’s capacity will depend on the absorptive capacities of its individual employees (W. M. Cohen & Levinthal, 1990; Mua et al., 2010).

Absorptive capacity can be divided into potential and realized absorptive capacity to explain the internal capacity of an organization or individual (Camisón & Forés, 2010; Moos, Beimborn, Wagner, & Weitzel, 2013; Zahra & George, 2002). Potential absorptive capacity consists of two capacities: (1) the ability to acquire knowledge; and (2) the ability to assimilate knowledge. Similarity, realized absorptive capacity consists of two capacities: (1) the ability to exploit knowledge; and (2) the ability to transform knowledge.

Moos et al. (2013) found that acquisitive and assimilative absorptive capacity directly influence organizational knowledge. These capacities help to enrich knowledge in an organization by the
Organizational size and structure also influence the organization’s absorptive capacity. The findings of Saito and Sumikura (2010), Pai and Chang (2013) indicate that small- and medium-sized firms face difficulty in Research and Development (R&D) investments, as large firms tend to allocate relatively more to development research than small firms. An organizational structure, which has different divisions or units, might have a different ability to absorb different kinds of knowledge. They also have different capabilities to transfer knowledge internally (Lane, Koka, & Pathak, 2006; Schmidt, 2005; Volberda, Foss, & Lyles, 2010), thus, it creates discrepancies between units/divisions. As W. Tsai (2001) concluded, the better a unit can access other unit’s knowledge, the higher the absorptive capacity the unit has. Communication is also an important factor in improving absorptive capacity (W. M. Cohen & Levinthal, 1990). The more simple and effective the structure, the less distortion of knowledge there will be. More effective communication, both between and across units, will ensure that knowledge flows better and is fostered, assimilated, and transformed.

At the individual level, Szulanski (1996) and O’Dell and Grayson (1998) confirmed that a lack of absorptive capacity of the knowledge receiver is one of the major obstacles to knowledge transfer. Thus, improving individual absorptive capacity or selecting the right people for the job is necessary as individual absorptive capacities will combine with organizational capacities and thus contribute to enhancing the organization’s competitive advantage (Gray, 2006; Jansen, bosch, & Volberda, 2005). Schmidt (2005) indicated that absorptive capacity in relation to research is determined by three factors: (1) research and development activities, which build absorptive capacity and generate new knowledge and innovations; (2) Personal experience and
skills that are influenced by the ability to accumulate knowledge and by educational level; and 
(3) Organizational structure and human resource management practices reflected by how 
knowledge is transferred within and across units and departments, relationships and incentive and 
rewards systems. From the discussion above, individual absorptive capacity, according to Silva 
and Davis (2011) can be evaluated through research productivity or performance rating by the 
firm (Wal, Criscuolo, & Salter, 2011).

Thus, individual behaviour in sharing knowledge is determined by subjective norm, social 
interaction, trust, knowledge self-efficacy, and absorptive capacity. Therefore, if individuals 
perceive these factors as positive, they will have positive knowledge sharing behaviour. Another 
factor that influences individual behaviour and is an important determinant is motivation, which 
is discussed in the next section.

2.6 Motivation to share knowledge

One of the roles of effective leadership is to motivate employees to participate in sharing useful 
knowledge for a sustainable competitive advantage and the innovative development of an 
organization. However, human motivation is complicated and difficult to predict, and it is even 
more difficult in the arena of globalization, as it depends on personal characteristics, economic 
situation, political context, culture, and religious issues. Despite the different factors which 
influence motivation as mentioned above, the argument of this thesis only focuses on two types 
of motivation: extrinsic and intrinsic motivation.

2.6.1 Brief history of theories of human motivation

Motivation has been a subject of research for many years. The most important research in this 
area is Freud’s Psychoanalytic Theory of Motivation (1923), Maslow’s Theory of Human 
Motivation (1943) and McClelland’s Human Motivation (1987).

Freud (1923) classified personality into three components: ID, ego, and super ego. ID refers to 
instinct, that is, a naturally born or biological instinct which allows humans to behave and act
unconsciously to satisfy biological needs. The ego component explains human behaviour with a justification and considers the benefits between loss and gain. The super ego involves two main functions: to reward an individual for good behaviour and to punish an individual for bad behaviour. Thus human motivation to act, according to this theory, is based on biological desires and social expectation.

Maslow (1943) developed the Theory of Human Motivation, called the Theory of Human Needs or Maslow’s Hierarchy of Needs. It consists of five layers in a pyramid of needs: basic needs, safety needs, social needs, esteem needs, and self-actualization needs to explain the motivation to participate in a specific action in order to achieve desire. Maslow’s theory is discussed further in detail in section 2.6.3 of this chapter.

McClelland (1987) defined the subject matter of motivation from both unconscious and conscious intents. Unconscious intent comes from inner thoughts, feelings and instinctive behaviour such as to eat, to love or to become something. Conscious intent refers to wanting something explicitly or doing something as planned, therefore, conscious intent can be used to predict actions and behavioural intention. McClelland (1987) concluded that motivation is a major determinant of human behaviour. Motivation is a reason for people to spend their time doing things as well as a reason for creativity and growth. More importantly, motivation influences why behaviour happens.

Thus, human motivation can be determined through biological desires such as hunger, thirst and love. On the other hand, human motivation can be influenced by intention to do something or social expectations. Therefore, to inspire human motivation, the issues of human needs, as well as social factors, are important determinants.

2.6.2 Motivation and knowledge sharing behaviour

Tacit knowledge resides in people in terms of expertise and experience. There is a need to make sure that the knowledge owners feel ready and confident to share their knowledge. Therefore,
motivation is one way of encouraging an individual to share knowledge. There are mixed views as to whether people share knowledge for specific rewards or whether they share knowledge due to altruism or both. There are two schools of thought about the motivation which influences knowledge sharing behaviour. One view perceives extrinsic motivation influences knowledge sharing behaviour, while the other insists that intrinsic motivation plays a key role in influencing knowledge sharing behaviour. The former argued that rewards and expectancy are necessary to encourage people engage in knowledge sharing and collaboration (Al-Alawi et al., 2007; Boera, Berends, & Baalen, 2011; Chena & Hung, 2010; Gagne, 2009; Galia, 2008; Majewski, Usoro, & Khan, 2011; O'Dell & Grayson, 1998; Osterloh & Frost, 2000; Osterloh, Frost, & Frey, 2002; Zhang et al., 2010). The later proved that extrinsic motivation have mixed result on effort and achievements and extrinsic incentive more or less likely to alter behaviours in the desire direction (Bock, Shin, Suh, & Hu, 2009; Bock, Zmud, Kim, & Lee, 2005; Dysvik & Kuvaas, 2013; Gneezy, Meier, & Rey-Biel, 2011).

Barachini (2009) argues that individuals do not share knowledge freely. Therefore, knowledge sharing is considered a trading process. That is, the knowledge owner expects to obtain something in return after knowledge has been shared, for example, appraisal, recognition or rewards. Therefore, the author suggested that a reward or an incentive system is necessary to motivate people to share knowledge, while Zhang et al. (2010) found that rewards have a significant impact on explicit knowledge sharing and suggested that rewards should be applied directly. The author also emphasized that the evaluation of costs and the benefits of receiving knowledge from the knowledge sharers are important factors in deciding if knowledge sharing will occur. In addition, Majewski et al. (2011) suggested that trust and reciprocity are very important factors to sustain and promote knowledge sharing in a virtual community. Similarly, Konstantinou and Fincham (2010) argued that knowledge sharing is an exchange activity with an expectation of reciprocity and equity. Individuals can withhold knowledge if they realise that knowledge is being shared with an inappropriate person or if there is no sense of reciprocity.
The study conducted by Reinholt, Pedersen, and Foss (2011) also confirmed that extrinsic motivation is an important determinant of knowledge sharing. They concluded that individuals who are highly capable of sharing knowledge might choose not to do so with colleagues unless they are adequately motivated. They also concluded that the level of engagement in sharing knowledge between individuals is highest when motivation, ability, and network centrality are all high.

In contrast, the second school of thought argues that sharing knowledge between individuals is due to intrinsic motivation or a sense of altruism, that sharing comes automatically, and the role of monetary rewards is not significant and can even have a negative impact on the motivation to share knowledge (Bock & Kim, 2002; Bock et al., 2005). Kohn (1993) pointed out that incentives for a specific behaviour do not alter the attitudes that underlie the behaviour. Monetary rewards only have a temporary effect and last for a short time. In the long run, it creates unfair competition, destroying cooperation and collaboration. Kohn (1993) also pointed out six major problems that incentive programs can cause:

(1) Remuneration is not a motivator even though it is a target the people are working for. However, more money does not mean people increase their motivation, respectively;

(2) Rewards and punishments are two sides of the same coin which destroy motivation;

(3) Rewards destroy relationships and collaboration. People share for rewards, which creates internal competitiveness within units;

Thus, friends and colleagues might become competitors. This scenario creates a “if you win, I lose” mentality. Hence, as a consequence there is no or little cooperation between employees;

(4) Rewards ignore reasons. In an organization, problems may come from different reasons and causes. For example, lack of preparation for the demands of jobs, weak collaboration, or employee feel intimidated about making recommendation. They need different responses in order to make a change. Therefore, incentive to boost productivity cannot help and the organization
will not have chance to get useful feedback from employees for long-term improvement. Therefore, organizational management becomes more difficult for managers to manage;

(5) Rewards discourage risk taking. Employees become cautious of doing things for fear of not being given a reward if the job is not done according to expectations. Thus, this discourages innovative ideas;

(6) Rewards undermine interest, as employees work under pressure to obtain a reward or if they are punished, they tend to lose interest as they feel they are being controlled and monitored, “the more a manager stresses what an employee can earn for good work, the less interested that employee will be in the work itself” Kohn (1993, p.7).

Similarly, other findings indicate that sharing knowledge is not motivated by monetary rewards but for internal motivation or sharing knowledge for enjoyment (V. Agrawal, Muhammed, & Thatte, 2008; Bartol & Srivastava, 2002; H. H. Chang & Chuang, 2011; Gammelgaard, 2007; H.-F. Lin, 2007a; Vuori & Okkonen, 2012).

Siemsen et al. (2008) concluded that changes in motivation have no impact on behaviour, which implies that knowledge sharing behaviour is independent from extrinsic motivation. The tool to break the barrier for sharing knowledge between individuals is intrinsic motivation not extrinsic motivation (Cruz, Pe´rez, & Cantero, 2009), and enjoyment in helping others as well as knowledge self-efficacy, these being the major motivating factors for knowledge sharing intentions (Hunga, AlexandraDurchikova, Hui-MinLai, & Wan-MeiLin, 2011; Olatokun & Nwafor, 2012; Steinel, Utz, & Koning, 2010).

Another critical factor that helps employees improve their knowledge sharing behaviour is job autonomy, as job autonomy gives them more freedom in doing tasks, and employees will take more responsibility for what they are doing and inspires them to do their best. Hackman and Oldham (1976) asserted that job autonomy is one of the five critical core dimensions of job motivation including skill variety, task identity, task significant and feedback. Hackman and
Oldham (1976) emphasized that people with a high job autonomy, their responsibilities for the outcome is higher, result in high intrinsic motivation, high job performance, high job satisfaction and low absenteem and turnover. Thus, job autonomy is considered a critical factor that influences an employee’s intrinsic motivation (Foss, Minbaeva, Pedersen, & Reinholt, 2009; Nesheim & Gressgård, 2014; Reinholt et al., 2011).

Thus, both extrinsic and intrinsic motivations have a significant impact on knowledge sharing behaviour and they are critical determinants for the success of knowledge sharing. From the discussion above, we find that motivation cannot be absent from knowledge sharing efficiency and effectiveness. The next section addresses the theoretical basis for motivation.

2.6.3 Theories of Motivation

There are two main theories which describe human motivation to achieve human desires which have been used by many researchers in the field of human motivation and human behaviours, the Theory of Human Motivation (Maslow, 1943) and the Theory of Existence, Relatedness, and Growth (Alderfer, 1969).

*Maslow's theory*

Maslow (1943) constructed a hierarchy of needs on five levels. The lowest is the basic level of need, such as food and shelter (purely material). The highest level of need is self-actualization or spiritual (non-material) People are motivated to satisfy their needs either consciously or unconsciously. The sequence of needs is as follows: (1) physiological needs; (2) safety needs; (3) love and belonging needs; (4) esteem needs; and (5) self-actualization needs.

According to Maslow (1943), physiological needs are the most important to human beings, for example, the need for food, warmth, shelter, sleep and other physical needs. They serve a fundamental role in human survival but they also serve as channels for all sorts of other human needs and motivation. For example, a hungry man will be dominated by how to obtain food, and will be motivated to spend time and effort to get it.
Safety needs are the second layer of human needs, emerging after physical needs are satisfied. Employment status, health, and safety of the family and property are examples of safety needs. In poor countries, where the common problems are employment, inadequate health care services, and a lack of facilities or housing, their safety needs are insufficient. Therefore, at least in the short term, their priority and focus is on a more secure job, better health care and their own house, thus, safety needs are active motivators.

Love needs or belonging needs are the third layer of needs in Maslow (1943)'s Theory of Human Needs. Love or belongings needs include friendship and family which become the focus when biological and safety needs are satisfied. When food and safety needs are met, a person will seek friendship, family relationships and love, and spending time taking care of and supporting members of the family or doing charity work or social work as now love needs have become the major motivator.

Being self-confident and obtaining respect from others are examples of esteem needs. Maslow (1943) stated that satisfaction of self-esteem needs leads people to feel self-confident, worthy, strong, capable, and useful and needed in society. Therefore, encouragement, appreciation, and recognition are important motivators to meet esteem needs.

The highest level of Maslow’s Hierarchy of Human Needs (1943) is self-actualization. When arriving at this level, people are happy to be themselves or become more what they are. The desire to reach self-actualization is a major motivator at this level.

Thus, Maslow (1943) showed that motivation is an important determinant of human behaviour, for without motivation, people will not expend effort to achieve their desires. On the other hand, motivation is a continuous process rather than a single process. Thus, motivation to achieve desires will contribute to human innovation and revolution, thus will enhance science and technology.
Gokce (2010) conducted research into teachers’ motivation, concluding that physical needs are the most important for teaching motivation. Arnolds and Boshoff (2002) indicated that front line employees are motivated by physical needs, such as monetary compensation. They can also be motivated by self-esteem needs such as praise for achievements. Udechuk (2009) argued that Maslow’s theory helps to explain the trend of employees leaving their job or lacking motivation to work because of their physiological needs were not being met, such as paying off their student loans, paying their mortgages, making their car payments and other necessary services. Sharing knowledge between colleagues is influenced by salary, job security, and status (Hendriks, 1999; Skok & Tahir, 2010; Ye, Zhi-Ping, & Bo, 2005).

In recent research on employee motivation in Malaysia, Islam and Ismail (2008) found that high wages are the highest motivation for employees, while full appreciation of work done was ranked as the last of six in the list of motivators. Research on knowledge workers also indicated that motivation to work and share knowledge between colleagues and managers can be reflected via Maslow’s theory (Frick, 2011; Gokce, 2010; Hosoi, 2005; Ye et al., 2005).

Despite being a well-known theory on human motivation, Maslow’s theory has been criticised by researchers for lacking conceptual precision and empirical support (Berla, Williamson, & Powell, 1984; Geller, 1982; Wahba & Bridwell, 1976). Maslow’s theory is a broad theory of human development rather than a description (C. A. Arnolds & C. Boshoff, 2002). Others criticised it saying that individual needs are innate, so social interaction, and culture impact are seriously downgraded (Trigg, 2004). One of the major problems with Maslow’s theory is the overlap between needs (Alderfer, 1969; Alderfer & Guzzo, 1979), for example, safety needs overlap with physiological and love needs, and love needs also overlap with self-actualization needs (Alderfer, 1969).

Existence, Relatedness, and Growth (ERG) Theory

According to Alderfer (1969), existence needs (E) include all forms of material and physiological desires, such as food, payments, or physical working conditions. Relatedness needs (R) include
all relationship involvements from family to the workplace environment. Growth needs (G) include all needs involving personal development and achievements. Alderfer (1969) stated that an employee’s behaviour can be motivated simultaneously by more than one level of need, therefore, it can explain human motivation more precisely than Maslow’s theory. Alderfer’s theory is referred to as the ERG theory, which is discussed throughout the thesis.

ERG theory overcomes the problems of Maslow’s theory of needs. For example, Maslow (1943) did not clearly mention the role of social connection and collaboration, and that multiple needs could be satisfied at any one time. Particularly, Alderfer (1969) emphasized that people might not satisfy all their needs at the same time, which is called frustration regression. Frustration regression refers to a person’s tendency to seek lower-order needs when higher orders are not met. For example, if existence needs are satisfied, a person seeks relatedness needs. However, these needs might not attain satisfaction, so the individual becomes frustrated and tends to turn back to existence needs as the dominant source of motivation.

Research on ERG theories found that a lack of job security or existence needs was a major factor in a high turnover rate and a lack of work motivation (Dwivedula & Bredillet, 2010), while other researchers found that different rankings have different motivation, according to Maslow and ERG theory. For example, top managers are primarily motivated by growth needs or higher order needs while front line employees are primarily motivated by satisfaction from peer relatedness and existence needs such as money and high pay (Arnolds & Boshoff, 2002; Müller, Alliata, & Benninghoff, 2009). Satisfying needs such as physiological, self-esteem and self-actualization is the appropriate way to motivate knowledge workers to work and share knowledge (Hosoi, 2005). In developing countries such as Malaysia and some European countries, monetary incentives play an important role in motivating employees, regardless of gender, race, and age group (R. Islam & Ismail, 2008; Müller et al., 2009; Oyedele, 2010). ERG also is a useful framework to explain extrinsic and intrinsic motivation and social capital as well as subjective norm and intention toward sharing knowledge (Hau & Kim, 2011).
Thus, according to ERG theory, motivation is a source for human behaviour and intention to act. In other words, in the pursuit of the satisfaction of human needs, motivation is the key driving force. Therefore, in the field of knowledge sharing behaviour, motivating employees to share knowledge is a key to success and the ERG is an important tool to identify who needs what in order to maximize their knowledge contribution.

2.7. Factors influencing knowledge sharing effectiveness in Higher education

Despite sharing many common factors with business sectors in the area of sharing knowledge, higher education has its own characteristics which should be carefully examined in order to implement knowledge sharing effectively. This section looks specifically at higher education as a focus point to find out exactly how many key factors and at what level they influence on knowledge sharing effectiveness. First, the concept of knowledge in education is discussed. Secondly, the determinants of knowledge in higher education are also highlighted. Thirdly, the discussion narrows to the issues related to knowledge sharing in developing countries, specifically corruption, work overload, and English as a barrier for international publications and knowledge sharing.

In education, knowledge is classified into two categories: academic knowledge and organizational knowledge. Coukos-Semmel (2003) classified academic knowledge as general knowledge including concepts and rules and is the primary purpose of universities and colleges. Organizational knowledge refers to knowledge of the overall business of an institution: its strength and weaknesses, the markets it serves, and the factors critical to organizational success.

Yeh (2005) indicates that transfer and the capture of academic knowledge requires three major strategies: individual, institutional and network. Individual strategy deals with individual professional growth including teaching ability, skill, experience, and research expertise; institutional strategy stores and disseminates knowledge captured from individuals throughout the organization and also deals with organizational learning, sharing culture and communities of
practice; network strategy deals with a knowledge map for teaching, knowledge databases, and instructional resource centres. Organizational knowledge sharing and management in general is influenced by four domain factors: culture, leadership, technology, and management. These factors facilitate the leveraging of individual and organizational knowledge (H.-Y. Lee & Roth, 2009).

While there is significant research on knowledge management and knowledge sharing in the business and industry sectors, it is interesting to note that knowledge sharing in higher education is largely neglected (Coukos-Semmel, 2003; Fullwood, Rowley, & Dlebridge, 2013; H.-Y. Lee & Roth, 2009; Rowley, 2000; Santo, 2005).

Although higher education is a cradle where new knowledge is created, disseminated and transferred, the amount of current research still does not suffice with its scope and impact of universities and research institutions. Most of the previous studies were conducted to find which factors play an important role in the knowledge sharing process and attitudes between universities and industry (Agrawal, 2001; Geuna & Muscio, 2009; Gils, Vissers, & Van Gils, Vissers, & De Wit, 2009, 2009; Worasinchai, Ribiere, & Arntzen, 2008). Hong, Heikkinen, and Blomqvist (2010), in research on knowledge collaboration between universities and industry in China, indicated that culture is the most prominent factor that influences collaboration, and interpersonal relationships and trust are the keys that drive staff attitudes toward cooperative sharing. The results also supported Santoro and Bierly (2006)’s finding about technology transfer between universities and industry.

Knowledge management tools and technology are also important factors in how to improve knowledge management and sharing in universities (Bang, 2001; Corbitt, Bradley, & Thanasasankit, 2005; Dagli, Silman, & Birol, 2009; Llorens, Bayona, Gomez, & Sanguino, 2010; Ranjan, 2011; Ranjan & Khalil, 2007). According to the authors, open access, portals, and knowledge repositories can be used to capture and disseminate knowledge among academia.
Social networks are another tool that helps academics share their knowledge and expertise, for example, Facebook is easy to use and distributes knowledge effectively (Racatham & Firpo, 2011). However, with social networks or other knowledge repositories, only explicit knowledge can be shared, otherwise it is very difficult to understand, and more importantly, knowledge cannot be absorbed easily, especially tacit knowledge such as expertise, feelings, or art. Tacit knowledge is what we know is more than we can tell, as Polanyi (1966) stated. Shim and Roth (2008) suggested two ways of sharing tacit knowledge in higher education: observation and bring it to surface strategy, as tacit knowledge is context dependent therefore, observation and learning by doing is a good way to absorb knowledge, however, this method is passive and requires time as well as patience from observers. Bring it to surface, on the other hand, is an active method which transforms tacit knowledge into a better communication form. Using metacognitive skills such as talking aloud about the problem can help one to think deeply and find out the answers. Storytelling and metaphors also help to articulate tacit knowledge.

A community of practice is also another way to share tacit knowledge among professional and academic staff. Witt, McDermott, Peters, and Stone (2007), and Hew and Hara (2007) suggested universities use knowledge exchange networks that help university staff become involved and share their experience. A community of practice (CoP) in higher education however has significantly different elements from CoPs in business environments in terms of power relationships, incentives and rewards, responsibilities and resource control. For example “the way in which academics work has a long lineage with traditional foundations based on autonomous and collegiate relations” (Nagy & Burch, 2010, p. 228). CoPs in business are moderated, governed and aligned between employers and employees with the same goals and foci. Thus, instead of using CoPs, Nagy and Burch (2010) suggested using the term CoP-iA (community of practice in academia).
Determinants of knowledge sharing in universities account for most of the research in higher education. Becheikh et al. (2010) suggested three main categories of knowledge determinants in knowledge sharing.

(1) Determinants relating to knowledge transfer attributes, for example, the type of knowledge (tacit or explicit), the application of knowledge in the education context, accessibility of knowledge, and relevance of knowledge;

(2) The characteristics of the actors involved, for example individual and organizational attributes such as personal capacity, experience, organizational structure, culture, and environment;

(3) The transfer mechanism, for example, the method to achieve knowledge online or face-to-face and the interaction mechanism, such as seminars, workshops, or academic conferences.

Culture is the most important determinant that enables or deters the sharing of knowledge between individuals (Hong et al., 2010; Howell & Annansingh, 2013; Santoro & Bierly, 2006; Sohail & Salina, 2009). Cranfield and Taylor (2008) suggested five major determinants for knowledge sharing in higher education: (1) The characteristics of academic staff; (2) The context and characteristics of universities; (3) Culture; (4) Difficulties experienced; and (5) Management structure and style. Azni, Bakar, Shah, and Hamid (2010)’s findings indicated that organizational rewards are the most critical determinants of knowledge sharing, followed by culture, tacit knowledge, IT factors, and organizational support. Personal trust plays a less important role in the determination of knowledge sharing, which can be explained by staff who work independently (S. K. Goh & Sandhu, 2013).

Cheng et al. (2009) suggested that in addition to technology, organizational factors such as the incentive system and personal expectations are two significant factors that are associated with a passion to share knowledge. The authors emphasized that academics are motivated to share
knowledge if proper incentives and reward mechanisms are applied, as monetary and non-monetary rewards are fundamental factors which attract people to work.

Leadership, organizational culture, time, and staff training were found to be important factors in higher education which impact on staff sharing their knowledge (Cornelissen, Swet, Beijaard, & Bergen, 2011; Coukos-Semmel, 2003; P. Liao, 2004; Mahasinpaisan, 2011; Yeh, 2005). Leadership influences the success or failure of a mission via effective decision making, communication and task assignment and thus influences the other factors, both at an individual and organizational level. Factors such as tasks, individual capacity, organization structure/policies, and fear of knowledge revelation, knowledge nature, and technology were determined as key knowledge sharing barriers in higher education (Khalil & Shea, 2012; Yassin, Sahari, Ashaari, & Salim, 2011).

Other research findings indicated that developing a knowledge society in higher education could facilitate the sharing of knowledge between academic staff. Nokkala (2005) states that knowledge society discourses in classes or workshops, on one hand, will create universities which are enterprises, autonomous and competing actors in the global labour and education market. On the other hand, a knowledge society enhances national competitiveness by enriching knowledge resources. Valimaa and Hoffman (2008) emphasized that a knowledge society is an intellectual device which provides knowledge and information through a network of academic staff within a university. Oosterlinck (2002) suggested that with a knowledge society, staff and students could update their knowledge frequently, therefore reducing out-of-date knowledge, and increasing the competitive advantage both in teaching and in research as well as applying new knowledge in the real life of graduate students.

2.7.1 Corrupt practices and fraud in higher education

Corruption is the abuse of a public office for private gain (World Bank, 1997) or the abuse of entrusted power for private gain (Transparency International Corruption Perception Index, 2013).
Both definitions clearly state that corruption takes collective assets for the unlawful enrichment of individuals or others. In education, corruption can be defined as the systematic use of a public office for private benefit (Hallak & Poisson, 2002, 2007b). More specifically, corruption is the abuse of authority for personal as well as material gain (Anechiarico & Jacobs, 1996; Heyneman, 2004).

Corruption can occur anytime and anywhere in the world. However, the level and scale of corruption tends to be more severe in developing countries and countries that used to belong to the Soviet bloc. As indicated by the Transparency International Corruption Perception Index, corruption occurs in almost every country in different forms and levels. However, countries with higher levels of conflict or poverty have higher and more severe levels of corruption (Transparency International, 2013). Jain (2001) suggested that there are three major prerequisites for corruption to occur: bureaucratic discretionary power, the association of this power with economic rents, and deterrence as a function of the probability of being caught and penalized. Dreher, Kotsogiannis, and McCorriston (2007) proposed four major causes of corruption,

1. Political factors which include the desecration of the legal system, a political system of instability and conflict (Hallak & Poisson, 2007a), the government turning a blind eye on corruption, and a low level of democracy (B. Dong & Torgler, 2013; Goel & Nelson, 2010; Kotera, Okada, & Samreth, 2012).

2. Historical factors, for example, in colonized countries, the adopted common law system is less corrupt than the civil law system, or newly independent countries seem to face higher and wider corruption levels due to underdeveloped monitoring systems or they have less experience in managing these types of issues (Goel & Nelson, 2010);

3. Social and cultural factors, for example, countries have different views on corruption due to different norms, beliefs and religious differences (Morgan, 1998), for example, some cultures facilitate corruption while others impede it (Larmour & Wolanln, 2001; Round & Rodgers, 2009) and culture impacts directly on the corruption perceptions index (CPI) (H. Y. Cheung & Chan, 2008);
(4) Economic factors, for example, according to Dreher et al. (2007), countries with a lower degree of openness tend to have corrupt activities such as a high level of economic rents. Natural resource endowments also create opportunities for corruption, and more importantly, low salaries significantly impact corrupt behaviour and activities (Altbach, Reisberg, & Rumbley, 2009; Dawson, 2010; Hallak & Poisson, 2005, 2007b; Heyneman, 2007; Osipian, 2010; Waite & Allen, 2003; World Bank, 2012).

Corruption levels can be defined by the UNDP, cited by Balboa and Medalla (2006), by the following formula: \( C = (M+D)-(A+I+T) \), where \( C \) is corruption, \( M \) is monopoly, \( D \) is discretion, \( A \) is accountability, \( I \) is integrity and \( T \) is transparency. This formula suggests that a higher level of monopoly and a lower level transparency leads to a higher corruption level; on the other hand, strong governance will reduce the level of corruption.

2.7.2 Corruption typology

Corruption in higher education in general can be identified in different forms and at a variety of levels. From the government level to the school, and down to the classroom (Chapman, 2002; Heyman, 2011), corruption occurs at all level in universities, in traditional forms such as selling exam papers, selling marks, illegal admission of staff who are not qualified for the position, or corruption in quality accreditation and bogus PhDs degree (Hallak & Poisson, 2007a; Heyman, 2011). Chapman (2002) indicated that corruption could also be found at the ministry level, such as favouritism in hiring and appointing staff and promotion decisions. It can also occur at the regional level through favouritism in personnel appointments (e.g., headmasters, teachers) or at the school level in the form of ‘ghost’ teachers, which means that past teachers who have resigned remain on the pay roll (Comrey & Lee, 2013; USAID, 1988). Finally, it can also be found at the classroom level in the form of bribery to change grades or in relation to grade-to-grade promotion (Chapman, 2002; Hallak & Poisson, 2007b; Rumyantseva, 2005). Corruption in education can be in the form of academic corruption and administrative corruption (Rumyantseva, 2005). Academic corruption ranges from selling exam papers to students,
providing private tutoring, charging a fee for guaranteed admission, and charging a fee for services, while administrative corruption refers to procurement, or corruption in hiring personnel. The hiring of unqualified staff will result in not only an increased number of incompetent staff who lack the required knowledge in relation to both ethics and academia but also creates a vicious circle in relation to corruption as newly employed corrupt staff try to recover what they have given to secure their positions. Osipian (2012) found that corruption in Russian higher education was not only limited to bribery, embezzlement and fraud, logrolling in academia is a typical form of latent corruption where academic staff guarantee the admission of students or new staff in universities as a reciprocal exchange.

2.7.3 Consequences of corruption

Corruption in higher education results in both tangible and intangible costs that can be classified into three types: financial or economic, ethical, and social costs (Hallak & Poisson, 2002; Weidman & Enkhjargal, 2008). Examples of financial costs are a reduction in the return on education investment by up to 70%, fund leakage, fraud, waste, a loss of talented students who may choose to migrate to other countries, low quality of graduates and poor performance. Countries with a high level of corruption incur costs of approximately 0.5 percent of the country’s GDP. They are likely to attract investment levels which are almost 5 percent less than a relatively incorrupt country and lose about half a percentage point of gross domestic product per year (Kaufmann, 1997; Naidoo, 2002; Olken & Pande, 2012). Also, between 5% and 15% is added to the cost of goods and services in general (Hallak & Poisson, 2007b; M. Levin & Satarov, 2000).

Ethical cost includes the mistrust of others, the mistrust of students and the distortion of students’ behaviours as well as the distortion of values and culture (Chapman, 2002; Rumyantseva, 2005; Weidman & Enkhjargal, 2008). Thus, ethical costs can be extended to the disrespectful behaviour and attitudes of students toward teachers who commit corruption. In their view, the relationship between teachers and students is a trading relation that can be bargained, and knowledge is not as
important as the degree. Moreover, ethical costs can also affect teachers who did not commit any professional misconduct or corruption, as students and people in society may perceive them to be as bad as the teachers who did commit a corrupt act. They might think that all teachers are the same, thus, non-corrupt teachers will feel insulted and as a consequence, their intrinsic motivation will be damaged, they will feel stressed and burned out.

An example of a social cost is social inequality where the wrong person is promoted. For example, if unqualified professionals or low qualified teachers are promoted, this will increase the school dropout rate, the larger the number of unqualified teacher the higher of student dropout rate (Boyd et al., 1999; Huerta, 2009). This is because of how much of what students can learn dependens on the experience and expertise of the teacher (Darling-Hammond, 2000), in other word, poor quality teachers is highy associated with low achievement rate of students. Thus, if students do not find learning is useful and interesting they would give up and find other things are more interesting. This could lead to increased criminal activities in poor families that cannot afford to pay bribes, as students are not able to attend classes (Gupta, Davoodi, & Tiongson, 2000; Loeber & Farrington, 2000; Olken & Pande, 2012). These costs are long lasting and result in talent being misallocated or wasted due to promotions being awarded based on bribery rather than on personal effort and merit. As a result, of low quality staff being promoted or recruited, there is a deterioration in professional skill levels and achievement motivation (Chapman, 2002; Hallak & Poisson, 2007b; Weidman & Enkhjargal, 2008). In turn, these staff are not capable of sharing knowledge properly due to a lack of skill and knowledge or absorptive capacity. Corruption causes the misallocation of funds (Heyneman, Anderson, & Nuraliyeva, 2008) which widens the gap between rich and poor, as staff who have more power become richer whereas other staff becomes poorer. At the national level, corruption results in escalating social crime, such as money laundering, gangsters and social tension which increases political instability and threatens national security (Kaufmann, 2004; M. Levin & Satarov, 2000).
Corruption in higher education and professional misconduct relates to the behaviour of a lecturer that violates the code of conduct that a university lecturer would normally follow in their profession (Hallak & Poisson, 2007b; Heyneman et al., 2008; Weidman & Enkhjargal, 2008). This behaviour, together with incompetent skills and mistrust, will influence knowledge sharing behaviour and absorptive capacity.

2.7.4 Work overload

Work overload is negatively proportional to job satisfaction, which means more stress will lead to less satisfaction (Altaf & Awan, 2011; Obiora & Iwuoha, 2013). Work overload of lecturers can lead to stress and emotional exhaustion, which is called teacher burnout (Hakanen, Bakker, & Schaufeli, 2006; Jamal, 2010; Jennett, Harris, & Mesibov, 2003). The original term burnout came from Maslach and Jackson (1981) who described burnout as a syndrome of emotional exhaustion and cynicism that occurs frequently, which is a waste of talent. The cause of work stress is, in fact, a very complex phenomenon. M.-L. Chang (2009) summarised three major sources of teacher burnout:

1. Individual factors which include age, gender, experience, educational background, self-esteem and religious background. Staff who have more experience, higher professional self-efficacy, and higher educational background have less job stress than others do (Grayson & Alvarez, 2008; Jennett et al., 2003; Klassen, Foster, Rajani, & Bowmana, 2009; Skaalvik & Skaalvik, 2010).

2. Organizational factors, which include class size, work demand, salaries, role ambiguity, organizational rigidity, decision-making participation, and autonomy issues. Larger class sizes or classroom overload create more stress and cause lecturer burnout (Fernet, Guay, Senécal, & Austin, 2012; Klassen et al., 2009; Mykletun, 1984). Lecturers experience burnout and job dissatisfaction when they have less autonomy in their job, as well as a low salary (Klassen et al., 2009; Pearson & Pearson, 2005; Skaalvik & Skaalvik, 2009, 2010; Tytherleigh, Webba, Cooper, & Rickettsa, 2005; Winter & Sarros, 2002). The other very important factor that
influences teacher burnout is the imbalance between work and family relationships. If staff spend more time at work, they will spend less time looking after their health, which could lead to fatigue and cause them to make mistakes in the workplace. The level of burnout is even higher if staff have family responsibilities, such as taking care of children or looking after elderly parents, thus a good work-life balance plays an important role in reducing job stress and burnout (Elloy, 2003; Sanz-Vergel, Demerouti, Moreno-Jiménez, & Mayo, 2010; Tytherleigh et al., 2005; X. Yang, Ge, Hu, Chi, & Wang, 2009).

3- Transaction factors which include the teacher’s adjustment to students’ misbehaviour, their perception of organizational leadership, perceived support from peers and leaders, teacher efficacy, norms of student-teacher interaction, rewards and promotions. Students’ misbehaviour causes teachers to experience many unpleasant emotions which lead to stress and burnout. However, perceived support, teacher efficacy, rewards and promotion are critical influencing factors on the teacher’s motivation to work, that is, the higher the perceived support, reward, promotion and teacher efficacy, the less stress there is on teachers (Hakanen et al., 2006; Mercer, 2009; Skaalvik & Skaalvik, 2009; Winter & Sarros, 2002). In addition, perceived job security is also a critical factor that impacts on the level of teacher burnout (Mykletun, 1984; Olsen, 1993; Skaalvik & Skaalvik, 2011). In some cases, job security is considered the most significant source of stress for university staff (Tytherleigh et al., 2005).

Work overload, job uncertainty, time pressure, and low job control create more stress on lecturers and, in turn, reduce job satisfaction and motivation (Fernet et al., 2012; Hakanen et al., 2006; Skaalvik & Skaalvik, 2009). Teacher burnout does not only have a negative impact on physical health issues, but also on psychological well-being (Hakanen et al., 2006; Tytherleigh et al., 2005; X. Yang et al., 2009). A person who experiences teacher burnout will reduce their organizational contribution significantly (Fernet et al., 2012) in terms of quality of performance, collaborative research teamwork, motivation and the sharing of knowledge. Teacher burnout also
creates obstacles to innovative ideas and results in poor professional development and poor academic excellence.

2.7.5 English as a barrier for publications and updating new knowledge

In the age of globalization, English has become the common language, not only in publishing research articles but also in communication and collaboration. Therefore, English skills are important for those who would like to participate globally and improve their national economy through exchanging technologies and knowledge. Higher education plays an important role in exchanging technologies and knowledge, as academic staff, being knowledge workers, contribute through teaching and research. However, becoming fluent in English is quite challenging and a lack of fluency in English diminishes chances to update and exchange knowledge. This issue, together with corruption and teacher burnout, has a significant impact on the innovative and creative publishing of articles from academic staff in developing countries.

Over 90% of journal articles are published in English (Gustafson, 2012; Hyland, 2007), and 80% of the world’s knowledge database is stored electronically in English (Benjamin, 2012). However, more than 75% of the world’s population does not speak English (Crystal, 2003). Even people in countries which have a long-term familiarity with English, such as Hong Kong, they still consider English to be the most significant barrier for a researcher publishing their articles (Flowerdew, 1999).

Scholars have indicated over a long period that mastery of the English language is the major obstacle for them to communicate and share knowledge in publishing research reports or articles (Albert, 2001; Bostrom, Kajermo, Nordstrom, & Wallin, 2008; Flowerdew, 1999; Marshall & While, 1994; Shomoossi & Kooshan, 2011). Countries with a low English proficiency usually score poorly on research publications, regardless of how much they invest in research (Man, Weinkauf, Tsang, & Sin, 2004). Speaking, reading and writing in English is quite challenging for non-native English speaking researchers as they struggle with the demands of syntax and spend much more time than they would if publishing in their native language (Flowerdew & Li, 2009).
English is considered the most important vehicle for obtaining knowledge and publishing research (Flowerdew, 1999). Lecturers and researchers from non-English speaking countries face critical challenges when participating in research and collaborating with other colleagues internationally and in fact, 58% of papers were rejected due to issues of English language proficiency (McKercher, Law, Weber, Song, & Hsu, 2007). Other findings indicate grammatical errors are a common reason for the rejection of articles (Byrne, 2000; Pierson, 2004; Stout, Rebele, & Howard, 2006). In Taiwan, the main reason for paper rejection is poor English skills (Wallace, 2012).

English issues cause pessimism in most countries because for an article to gain scientific recognition in the international arena, it must be written in academic English (Genç & Bada, 2010). If an author would like their article to have a wider audience and have a higher impact, the author has no choice but to write it in English (M.-H. Chiu & Duit, 2011; González-Alcaide, Valderrama-Zuria, & Aleixandre-Benavent, 2012). A lack of English proficiency is considered to be a handicap in the international academic world, especially in spoken communication and in gaining an audience for research (Bostrom et al., 2008; Pérez-Llantada, Plo, & Ferguson, 2011).

In relation to the audience, non-English speaking readers often find it difficult to understand academic papers written in English, even though the content may be relevant to their field of interest (Sunol & Saturno, 2008). Thus, a lack of English proficiency is a significant barrier for a nation and academic staff in the sharing and absorption of new knowledge internationally.

Thus, there are two main categories of factors that influence knowledge sharing behaviours, knowledge sharing enablers, which relate to external factors such as leadership support, organizational support, and organizational culture; and internal factors, such as behaviour and motivation.

2.8 Research context

In Vietnam, there are more than 400 universities and colleges, however, their scale and staff quality are questionable, except for two universities, Hanoi and Ho Chi Minh City, which
produced most of the international publications nationwide. Other universities performed poorly in quality and quantity. Despite the large number of universities, only 121 universities are on the list of university rankings. Vietnamese universities ranked at a very low level, both at a regional and international level. No university in Vietnam ranked in the top 100 in Asia. The highest ranking university in Vietnam is Vietnam National University Hanoi (ranked 1141 in the world) and the lowest ranking university is Hanoi Agricultural University Faculty of Economics and Rural Development (ranked 21807) (http://www.webometrics.info/en/Asia/Vietnam).

There are more than twenty five thousand PhD recipients in Vietnam. However, their contribution to the development of higher education and research is limited, and the actual outcome of research publications and patents is lowest in the Asian region (see appendix_1 for more details). Vietnamese higher education is facing limited autonomy in its operations, particularly in student enrolment numbers, finance and decision-making (Anh, 2009; Cox & Blake, 1991). Together with limited autonomy, Vietnamese higher education faces tough challenges to leadership as there is a lack of talented people who can lead higher education out of the current backward system. Overlapping management, a lack of autonomy and corruption has had a significant impact on the role of leaders in universities (Nguyen, 2013; Xuan, 2013). In addition, transparency is also another issue which the education system must address to improve its quality and trust in universities. If MOET keeps the current asking-giving policy, then there are issues which will never be solved, such as corruption, low qualified staff, inequality and mistrust (Nguyen, 2013). Thus, universities in Vietnam face difficulties in terms of management and leadership in order to compete in the world of globalized education and economy where knowledge is the core competitive advantage.

Staff overload and a limited opportunity to express ideas are typical problems facing Vietnamese higher education. A compulsory 900 teaching hours per year, together with a high student-to-teacher ratio causes academic staff to feel fatigued and exhausted. Moreover, as their low salary
does not cover their basic needs, they have no choice to work extra hours which further exacerbates the problem.

Even though the war ended decades ago and the level of censorship has been somewhat eased, as a habit, many people are afraid of participating in an open debate and expressing their thoughts, especially on policies, the government, state operations or politically-related issues. Suspicion causes a low level of trust and people are always in a defensive state, causing a barrier to communication and knowledge sharing (see appendix_1 for details).

Thus, the context of Vietnamese higher education comprises different issues that cause concern for many Vietnamese researchers in terms of how to make it function better (Kieu & Chau, 2000; Lam, 2009; L. H. Pham & Fry, 2005; T. H. T. Pham, 2011). This research investigates critical issues that relate to knowledge sharing of academic staff, specifically examining factors that impact research skills and knowledge, research collaboration, research performance and international publications.

Even though there is significant overlap between the influential factors relating to the sharing of knowledge in the business environment and the higher education environment, the latter however has some distinguishing features that influence knowledge sharing behaviours among academic staff. The first distinguishing feature is the knowledge itself, as knowledge in higher education comprises both academic and organizational knowledge. While organizational knowledge is discussed thoroughly in the business environment, there is less focus on academic knowledge because it is specific to the higher education setting, even though it has characteristics of tacit and explicit knowledge. Academic knowledge is important for universities as it is not only provides students with knowledge but also is a result of critical research outcomes from researchers and scientists who are working in education and research institutions, thus sharing academic knowledge might be slightly different compared to sharing organizational knowledge.

Sharing knowledge behaviour in universities is different from other sectors as the actors are highly educated and there is rich knowledge, for example, between professors or between
professors and PhD students. More importantly, owning a high level of academic knowledge proves the high ranking of a person, as knowledge is product and is a means for career advancement. Therefore this is a large barrier for academic staff sharing their knowledge. Furthermore, unless there is a specific project, academic staff often work independently most of their time, so the degree of social interaction between them is much lower than in the business environment. In business, the stronger the social tiers and social interaction, the better the knowledge sharing opportunities (M. Z. Islam et al., 2010; Zhou et al., 2009).

Corruption occurs in any country and at any level in business, government and education. The cost of corruption in higher education is both intangible and tangible (Hallak & Poisson, 2002; Weidman & Enkhjargal, 2008) including financial, economic, social and ethical costs. However, a lack of absorptive capacity to share and receive knowledge is considered as a consequence of incompetent researchers and lecturers. That is, those who have bought a degree, those who have bought marks to pass their thesis, and those who have bought a position in an university has not been a focus in the literature, especially in the context of the transition economy. Thus, there is a need for research to explore this area.

2.9 Conclusion

This chapter has presented critical issues that influence the sharing of knowledge in higher education. Academic staff who work in universities are influenced by a variety of factors, both external and internal, that either support or hinder knowledge sharing effectiveness. External factors include leadership, management, organizational structure/policies, organizational culture, infrastructure and technology support. These factors are referred to as knowledge enablers and should be carefully examined in order to maximize their support.

Internal factors, referred to as determinants, are the key issues in knowledge sharing effectiveness. As they refer to individual capacities and behaviour, motivation plays a key role in inspiring people to share their knowledge. Individual capacity in knowledge sharing is expressed in terms of absorptive capacity, thus, it reflects how an organization employs and utilizes its
employees effectively. There is no specific literature which indicates the existing link between corruption in higher education and absorptive capacity and knowledge sharing effectiveness. In addition, there is no clear evidence in the literature which measures knowledge sharing effectiveness in higher education through research outcomes and international publications, particularly research in a developing country where there is a high level of corruption, work overload and insufficient English proficiency, such as Vietnam. Therefore, this research will focus on Vietnam as a typical case of a developing country for this research. The next chapter overviews the theoretical model in order to explore and answer the following research questions.

1- What are the key factors that promote knowledge sharing in Vietnamese higher education institutions (HEIs)?

2- What are the major obstacles that hinder knowledge sharing in Vietnamese HEIs?

3- Of the key knowledge sharing determinants in questions 1 and 2, what are the better predictors of knowledge sharing issue in Vietnamese HEIs?

4- What measures can be supported by MOET and the Vietnamese government to improve knowledge sharing strategies and knowledge sharing activities in universities?
CHAPTER 3: RESEARCH MODEL

3.1 Introduction

This chapter presents the research model that was used for this research. This model was constructed based on a review of the literature on knowledge sharing, particular in the education sector. In order to understand the factors that affect individual behaviour in relation to knowledge sharing in Vietnamese higher education settings, the model is built on two existing theories: the Theory of Planned Behaviour (TPB) (Ajzen, 1991) and the Theory of Needs (Maslow, 1943; Alderfer, 1969). The rationale for choosing these two theories is that the research examines barriers as factors influence staff sharing behaviours. Specifically how individuals’ belief in their capacity to execute positive behaviours to share knowledge (knowledge self-efficacy), peer pressure in sharing knowledge that relates to subjective norm. In addition, the research explores if any factor influences on individual evaluation of ease or difficulty of performing knowledge sharing behaviour such as organizational structure and policies, the use of technology and economic factor. Thus, TPB is a useful theory for the research. On the other hand, theory of needs which specifically ERG theory is used in this research to facilitate exploration of different level of needs that impact on motivation to share knowledge. Such as existence needs (economics, infrastructure, job security), relatedness needs (training, culture and social interaction), and growth needs (people, self-worth, research performance). These are all believed to influence people’s behaviour and motivation to share their knowledge in the workplace. This model investigates five factors of knowledge sharing in higher education institutions (HEIs) which have been drawn from the literature that directly affect the knowledge sharing outcomes: (1) people; (2) culture; (3) organization; (4) economic status; and (5) technology. These five factors are examined in light of the two embedded theories: the Theory of Planned Behaviour and the Theory of Needs, as discussed in section 3.3 and section 3.4, respectively. Finally, the research model is examined in light of three contextual factors: Section 3.5.1 Management; Section 3.5.2 Infrastructure; and Section 3.5.3 Training. Based on the literature, these eight
factors are believed to influence research outcomes and the knowledge sharing effectiveness of a university.

### 3.2 Critical factors

The existing literature as discussed in Chapter 2 indicated that people, culture, organizational structure, economic status, and technology are among the critical success factors of sharing knowledge (Ajmal, Helo, & Kekale, 2010; Bhatt, 2001; Davenport, Delong, & Beers, 1998; Skyrme & Amidon, 1997; Wong, 2005) as they directly influence knowledge sharing outcome.

#### 3.2.1 People

As discussed in section 2.4.1 Chapter 2, people play a critical role in every aspect of knowledge management and knowledge sharing as only people can convert information into usable knowledge (Bhatt, 1998; McAdam & McCreedy, 1999; Oltra, 2005). People, through leadership and motivation, have shaped cooperation, knowledge creation, and knowledge sharing (Collins & Smith, 2006; Krogh, Nonaka, & Rechsteiner, 2012; Reinholt, Pedersen, & Foss, 2011; Xue, Bradley, & Liang, 2011).

#### 3.2.2 Culture

Culture is ranked as the second most important factor in relation to knowledge sharing effectiveness (Wong & Aspinwall, 2005). Section 2.5.3 discussed organizational culture as a shaper of the pattern of interaction between people in any organization. Culture also influences what knowledge is, which knowledge is worth managing, and how knowledge is distributed. For example, in a low trust culture, knowledge flow is constricted. More importantly, culture shapes knowledge sharing behaviour (David & Fahey, 2000). Culture also influences the level of job satisfaction and collaboration between people (Tong, Tak, & Wong, 2013). Therefore, organizational culture and collaborative culture are important conditions for knowledge to be shared between individuals and groups (Wong, 2005), and thus significantly impacts knowledge sharing outcomes.
3.2.3 Organization structure/policies

Previous studies have shown that there is a strong relationship between organisational structure and management policies, with a logical and less formal organisational structure enhancing knowledge sharing, as discussed in section 2.5.1 (Zheng et al., 2010). When the channels of communication between staff and management are simple and open, this will encourage staff to communicate and share their thoughts. A functional and comfortable work environment in which employees feel supported also enhances knowledge sharing outcomes. A less formalized structure will also help knowledge transfer between organizations to be more effective (J.-N. Lee, 2001). Successful knowledge management stems from organizational strategies and policies (AL-Hakim & Hassan, 2012; Zheng et al., 2010), therefore the better the strategies and policies, the higher the chance of knowledge management effectiveness, because organizational knowledge management is designed to support and facilitate organizational strategies (Greiner, Bohmann, & Krcmar, 2007).

3.2.4 Economic status

Economic status relates to salary and other incomes of individuals in an organization. In this context, economic status is examined in light of extrinsic motivation, such that staff members may expect to gain a benefit in overall income from sharing their knowledge. As discussed in section 2.4.2, individuals share their knowledge in order to obtain something in return (Barachini, 2009). A poor incentive system and a lack of extrinsic rewards contribute to the poor sharing of knowledge (Bartol & Srivastava, 2002; Nan, 2008; Sundaresan & Zhang, 2004; Wang & Noe, 2010; Wickramasinghe & Widyaratne, 2012). The economic situation of the staff member also affects the implementation of a knowledge management system and the implementation of knowledge sharing (Davenport et al., 1998). Furthermore, the economic situation of staff also influences knowledge sharing and collaborative behaviours. For example, if someone has a higher salary, they have a better overall economic situation therefore they tend to strive to satisfy
their higher level needs, such as self-actualization or growth, a condition which is ideal for the sharing of knowledge.

3.2.5 Technology

Section 2.5.4 discussed ICT and knowledge sharing tools as an important factor, which facilitates the sharing of knowledge. Nowadays, handwriting is no longer a major method for capturing and sharing knowledge, even though it remains an effective and simple method. ICT and computer software enable the efficient storage, sharing and capturing of knowledge. ICT is not only a means by which to manage and share explicit and tacit knowledge, it also helps tacit knowledge to be visualized via images, graphs, or videos, thereby reducing the difficulty of tacit knowledge transfer. ICT, through the Internet, has eliminated geographical and time zone differences. It also helps to minimize cultural differences when sharing knowledge between cultures (Alavi & Leidner, 2001; Young & Tseng, 2008). In relation to intellectual property, ICT can ensure that knowledge which is shared on the Internet is attributable to the author and can provide proof of the individual’s intellectual contribution to the organisation; furthermore, ICT makes the evaluation of staff performance easier (Zhang et al., 2012), thus ICT increases trust and encourages staff to share more frequently. Furthermore, ICT also helps staff to access and retrieve information from vast knowledge repositories, such as journal databases, allowing searching, indexing, and copying in seconds, thus saving time and effort. In short, ICT plays a vital role in knowledge management and knowledge sharing. It facilitates and encourages people to participate in sharing knowledge and it is a means to help people with knowledge creation, to share innovative ideas or to retrieve any type of knowledge quickly and in a secure manner.

3.3 Critical factors and the Theory of Planned Behaviour

This research explores the barriers that caused poor knowledge sharing in the Vietnamese higher education sector, which is reflected in the limited number of recent international publications and patents as well as the fact that university graduates are finding it increasingly difficult to find jobs because of their lack of skills, and knowledge in their chosen fields. This research focuses on
academic staff in order to explain knowledge sharing issues. This research model investigates how contextual and critical factors that influence the knowledge sharing behaviour of teaching staff. More specifically, the model examines how subjective norms, normative beliefs and perceived control influence staff behaviours in the higher education context through management, infrastructure, training, people, culture, organization, economic status and technology. Thus, the Theory of Planned Behaviour (TPB) is suitable for explaining the research findings and outcomes. Section 2.3.1 gave a detailed discussion of TPB as the major tool by which to explain people’s behaviour and intentions. This section discusses in more detail how TPB can be used to explain people’s behaviour through the contextual and critical factors listed above.

**People** are considered central to all actions and innovations. Therefore, it is undeniable that people are a critical factor in knowledge sharing outcomes. In the context of higher education in developing countries, where there is often a lack of basic requirements and modern infrastructure, staff attitudes and behaviour in relation to sharing knowledge are partly determined by their beliefs about the outcome of the sharing activities, such as: is this useful for me? How can I obtain a benefit from this activity? Is this mandatory or completely altruistic? Will my employer be pleased that I am sharing knowledge or will my employer thinks that other work is a higher priority? Thus, if staff hold strong positive beliefs about the outcomes, they will have positive attitudes toward their behaviours and will be ready to share knowledge. Therefore, they produce a positive sharing outcome. The people in this research, as previously stated, are teaching staff who have high qualifications, rich experience, in-depth knowledge and constructive behaviour.

A subjective norm, according to Ajzen (1991) is the perceived social pressure to engage or not to engage in behaviour is also bounded by culture. In this context, the major influence on the academic staff is the Confucius culture where there is a high regard for hierarchy, respect for seniority and the avoidance of direct debate to save face (Young, Kuo, & Myers, 2012). Whether staff should or should not perform knowledge sharing is dependent on their environment and
their view as to whether it is in accordance with their culture, for example, people will not talk openly in a culture of secrecy nor will they have open minds and will have low trust in a hostile environment. On the other hand, as organizational culture plays a crucial role in knowledge management (Donate & Guadamillas, 2010), the leaders of the organization can change organizational culture, thus the role of the leader in this context is very important in relation to organizational culture and the staff’s subjective norms regarding knowledge sharing.

**Organization policies** and structure also influence normative beliefs, control beliefs, and attitudes. The less hierarchical the structure, the greater the autonomy and leading by example, which encourages staff to display positive behaviour in relation to sharing knowledge. When leaders and key members of an organization show their willingness to share, staff will be influenced by this, which motivates them to comply and produce positive subjective norms. Organizational policies, such as incentives and rewards, also influence trust and an individual’s attitude toward sharing knowledge (Fathi, Eze, & Goh, 2011; Jeon et al., 2011) and thus positively impacts knowledge sharing effectiveness.

**Extrinsic motivation** that relates to monetary rewards or economic status includes the reciprocity factor. Bandura (1989) suggested that people with high-level skills, rich knowledge, and confidence, who work in a supportive organizational culture, appropriate organization structure, and technology, could successfully display the behaviour required to produce the outcomes. In education, knowledge is both a means and a product or outcome for staff to enhance their career, thus owning knowledge means that staff members will maintain their competitive advantage. Moreover, Radaelli et al. (2013) found that a fear of others who might free ride on the knowledge owner’s efforts negatively impacts attitudes to knowledge sharing. Therefore, before staff share their knowledge, they should consider with whom they should share, what, how and when to share and even how much knowledge they can share before they lose their competitive advantage. Moreover, acquiring knowledge requires time, effort, and money, while sharing
knowledge and experience also requires time and resources. Thus, knowledge owners must consider the trade-off involved in sharing knowledge and what might be gained.

TPB explains the relationship between technology and knowledge sharing outcomes through perceived behaviour control. Technology is undoubtedly a major tool in knowledge sharing and knowledge management. Ipe (2003) found that technology motivates and appeals to people, building trust and good behaviour, thus creating opportunities to share. In education, for example, knowledge sharing can be through a portal and if staff perceive that this is easy to use and useful, this will impact their attitudes and behaviour (Pynoo et al., 2012). In other words, perceived usefulness and ease of use of technology have an influence on the formation of attitudes and behaviour. Thus, technology influences people’s attitudes and behaviour. In a more general sense, individuals are more willing to share their knowledge with the support of technology if they perceive that it is easy to engage with and control. On the other hand, if technology is perceived as too complicated, unfamiliar, or if there are language issues, then technology does not facilitate knowledge sharing, rather, it negatively impacts behaviour, hence as a consequence, knowledge sharing becomes slow, ineffective or does not happen at all if there are geographical or time zone differences.

Therefore, by applying TPB to this research, it is possible to explain in detail the influence of people, culture, organization, economic status, and technology on knowledge sharing outcomes in the higher education sector in the Vietnamese context.

3.4 Critical factors and motivation theories (ERG and Maslow)

Section 2.4.3 revealed that a great number of researchers and scholars used the theory of needs and ERG theory as their key frameworks to investigate how needs and desires motivate knowledge sharing behaviour. This section discusses further, how ERG theory can be integrated in the research model in terms of people, culture, organization, economic status, and technology. The model helps to predict and explain knowledge sharing behaviour that is implied in the form of knowledge sharing outcomes and research performance.
The ERG theory implies that when staff have a low salary, an insecure job, or a poor health service, they will try to get more or improve their situation in one way or another in order to meet their needs. Thus, the motivation to share knowledge in this context is attached to the expected outcome, that is, either extra money or other material possessions in return for sharing, which is shown in the economic situation in the model. Therefore, from the perspective of ERG theory, knowledge sharing behaviour between staff is influenced by their needs, and sharing outcomes and activities are strongly related to the economic situation of staff.

It is clear that motivation is a major influential force on human behaviour, as previously discussed in section 2.4. There are two types of motivation that are frequently discussed: intrinsic motivation and extrinsic motivation. In the light of ERG, this study assumes that both types of motivation in higher education, and that influence people particularly, there is a link between extrinsic and intrinsic motivation, and both impact knowledge sharing effectiveness. Firstly, people are extrinsically motivated to do their job and participate in task-oriented activities in the workplace, in other words, they work to earn money to cover basic needs such as food, health care, travel and home costs. Secondly, if their basic needs are almost satisfied but not totally, people will strive to satisfy higher-level needs until most of their physical and part of their emotional needs have been met, then intrinsic motivation will be the impetus for people to perform to the best of their ability. Thus, in both cases, the motivation to share knowledge is important but is often dependent on cultural and religious values.

Overcoming cultural barriers in knowledge sharing requires significant effort from the leaders of an organisation. Every culture has its own norms and belief and thus, requires different ways of motivating people to share knowledge (Andriessen, 2006). Depending on the location and the religious and economic status of a country, there are different ways to encourage people to participate in knowledge sharing. Chennamaneni and Teng (2012) suggested that in order to create a positive workplace culture, the satisfaction of existence needs, such as a pay increase, a bonus, career advancement or job security, is important. In a culture such as a Confucius culture,
where the need for status and relationships is high, the majority of people will not share knowledge if they perceive a loss of face as the outcome of the sharing (Andriessen, 2006), therefore high tolerance, openness and fair treatment are important to encourage people to share their knowledge. Barachini (2009) emphasized that in every culture, people are not inclined to share knowledge for free, because every personal goal has a personal value which is intrinsic to their needs and desires and which resides at the core of their motivation. Thus, encouragement and rewards that are suitable to the specific culture and needs are important for knowledge sharing effectiveness.

Optimal organizational structures and policies are important enablers for knowledge sharing, as discussed in section 2.5.1. An organization should provide a good working environment that encourages staff to perform to the best of their ability. This includes transparent and fair policies, constructive criticism of new ideas, positive competition. Also, staff should be encouraged to take risks, and avoid simply maintaining the status quo in order to encourage creativity and innovation in employees (Arnolds & Boshoff, 2002). The organizational structure and policies should be designed to meet people’s need to grow, for example by providing open channels of communication between employer and employee as well as between colleague and colleague, career advancement opportunities, fair competition for career growth. Organizational structure and policies are highly correlated with job autonomy and job satisfaction which can contribute to the satisfaction of the employee’s needs and motivation (Ivancevich & Donnelly, 1975). Katsikea, Theodosiou, Perdikis, and Kehagias (2011) suggested that the centralization of an organization’s structure negatively impacted job autonomy and directly influenced an employee’s attitude, behaviours, motivation, commitment and performance. Organizational policies and structure have a significant relationship with the working environment and personal needs. Arnolds and Boshoff (2002) concluded that when a working environment is supported, top managers are primarily motivated by higher order needs, such as growth or self-actualization, and job autonomy is a key motivator for their needs, while rank and file employees are motivated by
relatedness and existence needs with monetary compensation which ERG and Maslow’s theory had proven. Thus, organizational structure and policies directly influence job performance and incentive and reward policies should be implemented for low-income employees to motivate them to meet their needs and increase their performance.

Researchers have demonstrated the relationship between pay and job satisfaction which impacts job performance (Bozeman & Gaughan, 2011; Heneman, Greenberger, & Strasser, 1988; Judge, Piccolo, Podsakoff, Shaw, & Rich, 2010; Judge, Thoresen, Bono, & Patton, 2001; Seongsu Kim, Mone, & Kim, 2008). In poor countries, working to avoid starvation is often necessary; therefore, there is a significant link between economic status or salary with job satisfaction and performance. Maslow (1943) and Alderfer (1969) emphasized that people’s motivation depends on the satisfaction of their needs. When lower needs have not been met, higher pay, or rewards lead to a higher level of satisfaction (Judge et al., 2010; R. Lee & Wilbur, 1985; Linz & Semykina, 2012; Malik, Danish, & Munir, 2012) thus, this can lead to high job performance. On the other hand, a comparison between high and low salary workers shows that low salary workers tend to have less job satisfaction which could lead to absenteeism, a high turnover and an intention to quit (Card, Mas, Moretti, & Saez, 2011; Diaz-Serrano & Vieira, 2005; Sharma & Bajpai, 2011). Therefore, the economic status of the employee strongly impacts job performance. In particular, employees in developing countries focus more strongly on a higher salary, bonuses, and job security. Hence, management should take this into consideration in order to encourage knowledge sharing.

Shepard (1977) asserted that technology enhances job effectiveness, which leads to employee satisfaction and positively impacts the final performance outcome. Similarly, Meyer (2006) concluded that there is a significant relationship between the use of technology, expertise and job satisfaction. On the other hand, Attar and Sweis’s (2010) findings indicate that investment in technology, especially modern technology, enhances an employee’s job satisfaction in terms of intrinsic motivation and their general perspective. In addition, technology contributes to the
enhancement of job autonomy in several ways, such as increased independence from supervision by allowing employees to use technology to work from locations other than the workplace and the encouragement of independent thinking in performing a specific job, thereby increasing job satisfaction and job performance. Moreover, the utilization of technology, especially information technology, reduces workloads, relieves other stressful factors associated with the daily commute to work, and therefore increases an employee’s general work satisfaction (Mariani, Curcuruto, & Gaetani, 2013). Finally, technology in the form of the Internet and other modern methods of communication help employees stay connected with their peers as well as enhances their feelings of perpetual connectedness with the workplace, and thus increases job satisfaction (K. B. Wright et al., 2014). Thus, technology has a significant impact on employee job satisfaction and job performance, leading to the conclusion that investment-appropriate technology in research and teaching will increase research performance and thus enhance knowledge sharing effectiveness. However, an over-reliance on technology has a negative effect on work-life conflict and reduces job satisfaction (Danziger & Dunkle, 2005; K. B. Wright et al., 2014).

3.5 Contextual factors of sharing knowledge

Knowledge sharing effectiveness is also influenced by external factors such as organizational climate and organizational structure. Literature has indicated management, infrastructure and training factors are three prominent factors that affect knowledge sharing the most (Chen, Huang, & Hsiao, 2010; King & Marks, 2008; Tohidinia & Mosakhani, 2010; Wang & Noe, 2010). Details of each factor is discussed below

3.5.1 Management

A management strategy has an influence on people and processes, which, in turn, have an impact on knowledge sharing. Effective management results in the organisation having a stronger competitive advantage (Erickson, Magee, Roussel, & Saad, 2012). An appropriate management approach will help to identify, locate, and appoint the best individuals to the most appropriate
positions (or the right people at the right place and at the right time (NASA Knowledge Management Team, 2002) in order to maximize employee potential and capacities. Management effectiveness will help to foster the willingness of individuals to cooperate and create new knowledge (Kamara, Anumba, & Carrillo, 2002). Thus, effective management and leadership act as a cohesive agent between people to enrich trust, facilitate, and motivate people in their work.

Management influences organizational culture. As discussed in section 2.5.3, national culture cannot be changed but the majority of national cultures impact individual interaction and action, promoting openness and collaboration. Organizational culture on the other hand, can be changed or modified, based on the view of the organizational leaders, thus organizational culture supports and facilitates knowledge sharing (Boh et al., 2013; Vaara et al., 2012). A manager can create a knowledge sharing culture that encourages employees to participate and collaborate in creating new knowledge and values (Ling, 2011; Long, 1997). Organizational culture is composed of two parts: one for solving problems and the other for the avoidance of anxiety (Schein, 1984), thus the role of management is to solve problems in an effective manner while minimizing risk and motivating employees to work effectively. Furthermore, management supports organizational culture to sustain a competitive advantage as well as organizational effectiveness in terms of sharpening people’s behaviours. Thus, effective management will facilitate a better culture of sharing where people can trust each other and increase their level of openness and willingness to collaborate.

Section 2.5.1 discussed how management constructs the organizational structure, which influences both information flow and employee interactions. Cross, Nohria, and Parker (2012); Daft (2010) suggested that the more complex the organizational structure, the more difficult the information flow and the weaker the relationship between employees. Management policies create either autonomous or bureaucratic organizations. In Western countries, most employees are given maximum autonomy to perform their tasks (L. Johnson, Radesky, & Zuckerman, 2013). In contrast, in Eastern countries, for example in Vietnam, little autonomy is given and thus, it
takes longer for employees to complete a similar task compared to Western countries. Hackman and Oldham (1976) concluded that higher job autonomy results in higher motivation to do the job, and thus the chance of the job being implemented successfully and on time manner is higher than job which has less autonomy granted. Langfred and Moye (2004) indicated that a task with greater autonomy often leads to higher performance, one of criteria of being high performed of the task is that it is completed within a specific time frame. Thus, job autonomy is critically attached with task completion rate. In Vietnam, most schools and universities are state-owned organizations. Therefore, any decision made by these organizations must be approved by a higher level such as the Ministry level. This causes long delays and is management by bureaucracy, as discussed in section 3.7 and 3.8. Management also decides on the level of fragmentation of the organization or overlapping management, which can result in wasted time and resources, demotivated employees, and importantly, a lack of cohesion and unity, which has a negative impact on organizational learning (Argote, 2012; Argote & Miron-Spektor, 2011).

The relationship between management and the economic status of the employees is one of the most important and complex issues, as management and the individual economic status of employees both impact the effectiveness and efficiency of the organization (M. Anderson & Sohal, 1998; Hitt, 2011; Rumelt, Schendel, & Teece, 1991; Wheelen & Hunger, 2011). First, management influences the salary policy, as successful management results in high revenue and strong cash flow, and as a result, employees are likely to receive a higher salary and vice versa. Secondly, successful management leads to a highly efficient staff, where employees are more inclined to demonstrate their potential and high productivity. Employees are allowed to work in a streamlined process in an innovative environment and have greater involvement in organizational decision-making processes, and receive greater support from senior management, which leads to higher work satisfaction. Thirdly, successful management encourages employees to maximize their capacity through the incentive of promotion, which results in an increased salary and benefits to match the employee’s ability and contribution. Financial rewards or a promotion to a
higher position ensures that employees will feel satisfied in the work environment and are dedicated to the organisation.

The management role is constrained by the technological capability of the organization (Pavitt, 1990), while simultaneously, appropriate technology can help the organization manage its operations and strategies more effectively. On other hand, management influences the use of technology in terms of what type of technology is the most appropriate to support the business operations, and how employees can utilize technology effectively and effectiveness (Erickson et al., 2012). The relationship between management and technology is also reflected in the ability to forecast and assess technological change in order to sustain a competitive advantage (Porter et al. 2011). In higher education, technology is important to assist teachers transfer knowledge more effectively with tools such as video conferencing, or distance education. Technology can help researchers find results more quickly and accurately with high tech equipment in laboratories or analytics software, such as SPSS or NVIVO.

A summary of the relationship between management and other critical factors that influence knowledge sharing outcomes is shown in Figure 3.1 below:
Therefore, this research suggests that management is a fundamental factor and is the prerequisite condition for knowledge sharing to be implemented successfully in an organisation. Firstly, management is responsible for allocating the right people to the right place. Secondly, management impacts the flow of information, the organizational hierarchy, and the way as well as the degree of interaction between staff. More importantly, management decides on the incentive system, which influences staff’s motivation to work and to share knowledge.

### 3.5.2 Infrastructure factors

As discussed in section 2.4.5, infrastructure is an enabler for sharing knowledge. Specifically IT infrastructure is one of the major enabling factors for knowledge management and sharing (J. H. Choi et al., 2014; S. Y. Choi et al., 2010; Skyrme, 2007). Apart from performing the functions of storing, retrieving, and capturing knowledge, IT infrastructure, especially knowledge transfer tools can support management to promote behaviour that motivates people to share knowledge effectively throughout the organization (Rasli et al., 2004).
Not only are machinery and other physical structures and facilities important infrastructure for knowledge sharing effectiveness, human resources or people is a critical success factor for the whole knowledge sharing process. In other words, employees in an organization are considered the most important asset and a fundamental component in an organisation gaining a competitive advantage, as employees are a key strategic resource and a key player in organizational design, development, and delivery (Bartlett & Ghoshal, 2002; E. D. Brown, 2011; P. M. Wright, Dunford, & Snell, 2001; P. M. Wright, McMahan, & McWilliams, 1994). On other hand, it is obvious that an organization with superior infrastructure will attract more talent than an organization, which has inferior infrastructure; similarly, an organization in a large city will attract more talent than an organization in a rural area. Thus, there is a strong relationship between organisational infrastructure and people.

IT infrastructure is an influence on and is influenced by culture (Png et al., 2001). IT infrastructure, such as websites, networks and the Internet connect people, places and things, thereby reducing the differences between cultures, enhancing communication and promoting knowledge sharing, as communication is the most important factor in the facilitation of knowledge sharing between people of different backgrounds and culture (Kathiravelu, Mansor, & Kenny, 2013; Tohidinia & Mosakhani, 2010; Yua, Lub, & Liu, 2010).

Organizational structure and infrastructure, in this context, is the creation and establishment of a set of roles for each employee and the development of teams with appropriate skills and knowledge to perform knowledge-related tasks (Davenport et al., 1998; Wong, 2005). Thus, organization and infrastructure also involve the employment of the right people in the right place. Infrastructure and the economic status of the employee are also interrelated. Organizations that have a superior infrastructure do not only attract more talent, they are highly likely to generate more revenue than other organisations of the same scale but with poorer infrastructure which often results in reduced performance and outcomes. Therefore, a better infrastructure will
contribute to higher economic growth and financial performance (Czernich, Falck, Kretschmer, & Woessmann, 2011; Esfahani & Ramírez, 2003; Sobola & Klein, 2009).

Lastly, organisational infrastructure and IT infrastructure facilitate information technology by providing channels for communication (Earl & Feeny, 2000). IT infrastructure can provide access to knowledge resources, regardless of time and location constraints. Apart from the functions of storing, retrieving, and capturing knowledge, IT infrastructure, especially knowledge transfer tools, can assist management to promote behaviour that motivates people to share knowledge effectively throughout the organization (Rasli et al. 2004). Infrastructure, including IT people, computers, telecommunication facilities, buildings, and roads. All of which are high fixed costs, have a long economic life and a strong link to economic development (Moteff & Parfomak, 2004) support information technology (IT) which is changing rapidly (Agboh, 2000; Benamati & Lederer, 2001), thus infrastructure has a close link with technology as any change in information technology requires the appropriate infrastructure to support it.

The relationship between infrastructure and other critical factors is summarised in Figure 3.2 below:
Therefore, this study suggests that infrastructure is a key success factor for knowledge sharing, as it facilitates the knowledge sharing process, it has an influence on culture, it connects people and also provides human resources for better knowledge management and sharing.

### 3.5.3 Training factor

Training and education play a key role in knowledge management and knowledge sharing (Wong, 2005). Training and education directly influence the quality of employees, culture, organizational effectiveness, economics status, and technology. Frequent training is an effective way for employees to attain new knowledge, both explicit and tacit (Reychav & Weisberg, 2010) and to learn specific task-oriented knowledge and skills, and acquire values and attitudes conducive to knowledge sharing (Johannessen & Olsen, 2003). Training and education provide an employee with a better understanding of the concepts of knowledge management, team building, problem solving skills and creativity, which lead to the success of the knowledge management strategy (Wong, 2005). Training helps an organization improve its performance and helps it to achieve organizational learning, which has become key in the attainment of a
It is necessary to distinguish between organizational learning and a learning organization, because there is confusion between the two and researchers use them interchangeably (Fiol & Lyles, 1985; Gorelick, 2005; Ortenblad, 2001). Organizational learning refers to changes in an organization as an organization acquires new knowledge or experience and organisational knowledge, such as routines, procedures, or documents is stored in the memory of organization (Argote & Miron-Spektor, 2011), while a learning organization refers to individuals as learning entities, where an organization provides an environment in which to facilitate individual learning (Ortenblad, 2001). Garvin, Edmondson, and Gino (2008) also emphasize that in a learning organization, individuals continuously create, acquire and transfer knowledge which helps an organization adapt to environmental change. Therefore, this model emphasizes organizational learning through training and education, which helps an organization convert experience to knowledge, thereby enabling it to achieve its target easily, as well as guide the behaviour of employees to promote the ongoing adaptation of the organization (Argote, 2012; Edmondson & Moingeon, 1998).

Absorptive capacity is a critical success factor in knowledge sharing, as discussed in section 2.6.5. Therefore, in order to improve absorptive capacity, training, and education can improve problem solving skills, update new knowledge, and integrate and make knowledge become useful. Training and education is also an effective tool in facilitating culture shift (Kissack & Callahan, 2010), thus training can help to reduce cultural barriers in sharing knowledge, such as minimizing the power distance created by high-context cultures and face saving, and increase cohesion, participation and morale (Linnenluecke & Griffiths, 2010). This, in turn, promotes and creates a knowledge sharing culture in an organization. Therefore, training and education provide opportunities to create a motivated and energized work environment that encourages employees
to be committed to their job. Training also plays a role as a facilitator for the continuous creation, collection, use, and reuse of personal and organizational knowledge (Ahmed, Lim, & Loh, 2007). Training provides employees with essential skills to deal with daily work context, in education it could help to improve research and knowledge sharing skills. However, training sometime is failed as the matter of inappropriate motivation, organizational culture, organizational structure, and characteristic of human resource development professional in the organization (Eddy, D'Abate, Tannenbaum, Givens-Skeaton, & Robinson, 2006; Grohmann, Beller, & Kauffeld, 2014; Hutchins, Burke, & Berthelsen, 2010). Bunch (2007) stated that if the values, beliefs, and assumptions acquired by the employee through the training are not transferred to the workplace, then training has failed. The relationship between training and other critical factors is illustrated in Figure 3.3 below:

![Figure 3.3 Contextual Training factor and other critical factors](image)

This research confirms that training is an important factor in effective knowledge management and knowledge sharing as training and education help employees obtain new knowledge, improve their absorptive capacity, and also improve their behaviour and attitude towards learning.
and sharing knowledge. Furthermore, training and education help minimize cultural barriers. More importantly, training, either formal or informal, result in better organizational learning, thus knowledge sharing effectiveness will be improved.

3.6 The research model

This research proposes a model that shows the relationship between contextual factors and critical factors that together influence knowledge sharing outcomes, as shown in Figure 3.4 below. The model is constructed based on the Theory of Planned Behaviour and the Theory of needs, from there five critical factors including people, culture, organization, economic status and technology, and three contextual factors including management, infrastructure, and training are carefully examined. The model includes factors complex and interconnected, with dynamic feedback loops and two ways interactions. These will have a positive impact on the critical factors and sharing/research outcomes and vice versa. The sharing behaviour was measured using subjective norms and normative beliefs are represented in the culture factor.

The confidence of the sharer, sense of self-worth are represented in the people factor. Attitude toward the behaviour is represented in the culture, organizational structure/policies, and economic status factors. This represents a complicated situation of staff in this transition economy in which it part of command and control economy where government decides how goods and services are distributed. It is also part market economy where supply demand as well as price of goods and services is determined by free market. In addition, the impact of non-transparent environment also influences attitude of staff toward knowledge sharing behaviour.

Finally, trust and perceived behavioural control are represented in people, culture, and technology factors. On the other hand, motivation to share knowledge is embedded in both contextual, critical factor as well as the sharing outcome. Specifically, the highest level of motivation is growth. This need is decided through training, infrastructure, management, people, and culture factors. For example, high quality trained staff often tend to reach self-actualization as their target rather than focus on basic needs. Relatedness is embedded into people, culture,
organizational structure/policies factors as it reflects love, interaction, affection, and competition in an organization. Finally, Existence is embedded in economic and people factors, in that where people are struggling with their poor economic situation then their desire to satisfy basic needs is the most important, thus all will impact on knowledge sharing outcomes.

The model is illustrated in Figure 3.4 below:

![Figure 3.4 The research model](image_url)

### 3.7 Conclusion

The research model shows the causal relationship between contextual factors, critical factors and knowledge sharing outcomes through behaviour and perceived usefulness and reciprocity of academic staff in Vietnamese higher education. This chapter presented five critical factors and three contextual factors that are believed to impact the sharing knowledge effectiveness that might be reflected through international publications, patents and graduate quality. The model indicates that there are relationships between the critical factors: people, culture, organizational structure, economic status and technology, which create sophisticated interaction for knowledge
sharing outcomes. Thus, through this model, the research is able to unpack different layers of knowledge sharing issues that Vietnamese higher education is currently facing. The model could be fundamental for further study on knowledge sharing issues in Vietnam and possibly, for other developing countries, which have similar conditions to the Vietnamese context. Further details of how this model is explored are presented in the next chapters. The methodology chapter is presented next in order to explore and test the research model.
CHAPTER 4: RESEARCH METHOD

4.1 Introduction

This study adopts a mixed method approach to investigate the perceptions, behaviour, and issues of university staff on sharing knowledge in universities. Chapter 4 explains the research design and the steps in its implementation to investigate knowledge sharing issues in an academic environment, within and between departments, of universities in the north of Vietnam. This chapter begins with a justification for the adoption of a mixed method. Following this, questions to deal with mixed method research, the choice of participants, and the procedures for each phase of qualitative and quantitative data collection are presented.

4.2 Theoretical research approaches

Sarantakos (2005, p4) stated that social research is “about discovery, expading the horizon of the known, confidence, new ideas and news conclusions about all aspect of life”. In order to achieve above purposes researchers used a variety of methodologoies that guide the research, the set of beliefs that decide procedures of research methodology are ontology and epistemonlogy (Alvesson & Skoldberg, 2009; Neuman, 2011; Sarantakos, 2005).

Creswell (2013, p.6) used the term “worldview” as general philosohpical orientation about the world and the nature of research that guide the researcher, thus, according to the author, the terminologies such as worldview, ontologies, epistemologies, research methodologies, paradigms are used interchangebly. On the other hand. Neuman (2011) and Sarantakos (2005) defined that ontology influences methodology in terms of what the research is supposed to study about, while, epistemology influences methodology in terms of what counts as a fact and where the knowledge is to be sought, or how do we know what we know. Finally, methodology is the nature of research design and methods to gain knowledge, finally, research is the execution of research designs.

In general philosophical assumtions play a critical role for any research enquiry, that enable the researcher is positioned in a specific stand point to explore knowledge. Theoretical construction
of research or research paradigms that contains ontological, epistemological and methodological prepositions, is a basic orientation to theory and research (Neuman, 2011). Research paradigms either contain two approaches: positivism and symbolic interactionism (Sarantakos, 2005). Or three approaches: positivism, interpretism, and criticism (Neuman, 2011), or: (post-)positivism, social constructivism, critical realism (Alvesson & Skoldberg, 2009).

Research that follows methodological postivism approach takes ontology and epistemology as realism/objectivism and empirical stand point, therefore it is often attached with quantitative methodology and quantitative data including experiments, surveys and statistics. On other hand, methodological symbolic interactionism or social constructionism (interpretism) takes ontology and epistemology as constructionism and interpretism stand point, and therefore, it is attached with qualitative methodology and qualitative data as participant observations, interviews, field research, grounded theory, and case studies. Methodological critical realism or post-positivism that mixed ontology and epistemology principle. Therefore, it emphasizes on multiple measures and observations in order to get a better views of what is happening in reality, thus triangulation across multiple methods or mixed method can be used for this approach (Alvesson & Skoldberg, 2009; Mingers, Mutch, & Willcocks, 2013; Zachariadis, Scott, & Barrett, 2013). Mixed method is also regarded as the third research paradigm can also help bridge the distinction between quantitative and qualitative research (Onwuegbuzie & Leech, 2005). This study adopts mixed method research, in which it mainly emphasizes on social constructed nature of reality with interpretive epistemology that take open ended questions for interviews and group discussions as main sources to gain insight knowledge. In addition, the study also follows postivist approach that takes objective and empirical views through the survey technique.

4.3 The rationale for choosing a mixed method approach

This study explores the obstacles that prevent effective and efficient knowledge sharing in the context of Vietnam’s higher education sector which leads to the poor ranking of universities, the poor rate of international publications and the poor skills of graduates. It does so by examining
the perceived benefits and the issues of sharing knowledge among academic staff along with suggestions for changes to management and collaboration practice which might help to improve the quality of knowledge sharing and international scientific publications. In the context of this research, the researcher used both qualitative and quantitative methods to collect and analyse data as follows: (1) a survey with predefined questions in the form of a questionnaire; (2) a focus group discussion; (3) individual interviews. Both qualitative and quantitative methods have their own strengths and weaknesses and the “goal of mixed methods research is not to replace either of these approaches but rather to draw from the strengths and minimize the weaknesses of both in single research studies and across studies” (R. B. Johnson & Onwuegbuzie, 2004, p.14)

There are several limitations to using a mixed method approach: it is more work, it is more time consuming, and it requires more experience in multiple methods and approaches (Creswell & Clark, 2007; Ivankova, Creswell, & Stick, 2006; Johnson & Onwuegbuzie, 2004). However, the aim was to obtain general views on knowledge sharing in Vietnamese higher education, together with seeking to understand individual perceptions of the benefits of and obstacles to knowledge sharing activities. Therefore, one method alone cannot meet these two requirements, thus a mixed method is the best research design. In the following sections review in detail the strengths and weaknesses of each of the quantitative and qualitative methods as well as the rationale for using a mixed method and the steps involved in the data collection and analysis process.

### 4.3.1 Quantitative approaches advantages and disadvantages (QUAN)

The quantitative data collection and analysis method, like other methods, has its own strengths and weaknesses. R. B. Johnson and Onwuegbuzie (2004) summarised the strengths of this data collection method. Firstly, it is a useful method for obtaining data that allows quantitative predictions to be made; secondly, it is a relatively quick and simple method by which to collect data, such as telephone interviews or online surveys; thirdly, data analysis is less time consuming by using statistical software such as SPSS or SAS. This method can provide precise, quantitative, and numerical data and importantly, the research results are less biased. It has a high level of
credibility, and is more reliable than data collected by the qualitative method (Carr, 1994; Velez, 2008). On the other hand, R. B. Johnson and Onwuegbuzie (2004) argued that the main weakness of the quantitative method is that it does not provide an in depth overview of the problem compared to the qualitative method. Secondly, the knowledge produced from this method may be too broad, abstract and general for direct application in a specific context. Thirdly, this method mostly deals with numbers, is difficult to read and not all researchers actually like it (Velez, 2008).

Thus, the quantitative method can be used to examine a larger population and obtain results to prove whether the stated hypotheses are confirmed or rejected by using exploratory factor analysis. It is useful for studying a larger sample size and to confirm or reject given statements. This method is high in reliability and credibility as there is less bias. In addition, several verification tests can be conducted, such as Cronbach’s alpha test, Kaiser-Meyer-Olkin (KMO) and Bartlett’s Test of Sphericity, the correlation test, and the coefficient test (Santos, 1999; Tavakol & Dennick, 2011; Yusoff, 2010), thus, exploratory factor analysis was chosen as the unique analysis method for this study.

4.3.2 Rationale for using the Quantitative method

For the quantitative phase in this research, the goal is to identify the staff’s perceptions on the benefits and difficulties of sharing knowledge in their universities. Emphasis was placed on the attitude and behaviour of staff in relation to sharing knowledge in order to improve the quality of teaching and the quality of research with the specific aim of enhancing their university’s reputation by increasing both the quality and quantity of their international publications.

4.3.3 Qualitative method advantages and disadvantages

Similar to the quantitative data collection and analysis method, the qualitative method also has its own strengths and weaknesses. R. B. Johnson and Onwuegbuzie (2004) indicated that qualitative research is useful for studying a phenomenon or complex phenomena in depth. Secondly, this
method enables the researcher to identify how the contextual and setting factors relate to the phenomenon of interest. Thirdly, the method can describe rich information including feelings, emotions, events, interactions, and the insider’s viewpoint which the quantitative method cannot interpret. More importantly, the qualitative method is considered to be a more suitable approach to conducting social science research (Tewksbury, 2009) as qualitative research focuses on life-worlds and investigates behavioural routines, experiences, emotions or natural settings (Berg & Lune, 2012).

The qualitative method, however, has some limitations. As R. B. Johnson and Onwuegbuzie (2004) and Velez (2008) stated, knowledge produced through the qualitative method may not be able to be generalized to other people or other settings because the study might use a unique case, therefore its credibility might be lower. Secondly, it is more difficult to test hypotheses using this method. Thirdly, different researchers might interpret the same data differently and obtain different results. Fourthly, it is time consuming to collect data as the interviews and the focus discussion groups must be scheduled at a time that is mutually convenient to both the researcher and the participants. It is also time consuming to analyse the overwhelming amount of data which could be collected, and this may result in the research becoming poorly focused and ineffective (Carr, 1994).

Thus, the qualitative method has more advantages when the researcher investigates an issue with a narrow scope, as the issues will be examined thoroughly and the researcher can observe the actions and emotions of the participants during the discussion and interview, enabling the issues to be more clearly explored. Thus, by integrating the two research methods, a mixed method approach can help the researcher reduce the disadvantages, enhance the advantages, and produce reliable data for analysis.

4.3.4 Rationale for using the Qualitative method

In the qualitative phase of this research, the multiple case study approach was implemented in order to collect data through focus group discussions and semi-structured interviews in order to
unveil the critical internal and external factors that influence the staff’s knowledge sharing attitude. These internal and external factors were identified as major predictors of staff behaviour and attitude toward sharing knowledge and collaborating in teaching and research.

4.4 Mixed method

Carr (1994) stated that if integrate both the qualitative and quantitative methods in a research study, they will complement each other and the weaknesses of each method will be offset. The mixed method approach can neutralise or even cancel out certain disadvantages of each method if each method is implemented individually (Creswell & Clark, 2007; Creswell, Clark, Gutmann, & Hanson, 2003; Teddlie, 2011; Yin, 2006). R. B. Johnson and Onwuegbuzie (2004) summarised the strengths and weaknesses of the mixed method as follows:

In terms of the strength of the mixed method, a word, picture, or emotion can add meaning to numbers. Secondly, the method can synthesize text and numbers easily to describe phenomenon. Thirdly, the method can answer a broader and more complete range of research questions because the researcher is not confined to a single method or approach. Fourthly, the results of the quantitative method can be used to develop the second phase of data collection via the qualitative method and vice versa. In addition, the results of the mixed method approach can be used to increase the generalizability of the result (Jick, 1979; Velez, 2008).

In terms of weaknesses, implementing a mixed method also presents certain difficulties, such as, it is more expensive in terms of financial costs and more time consuming as researchers have to conduct two different phases of data collection and analysis, and thus it is difficult for a single researcher to carry out a mixed method approach (Velez, 2008). Secondly, it is difficult if a researcher has to interpret conflicting results (May, 2010; Wagner et al., 2012).

Despite these challenges, the mixed method approach is a good method for researchers. Collins, Onwuegbuzie, and Sutton (2006) listed a number of reasons for choosing the mixed method as the most appropriate, based on the literature from 1959-2005. The authors classified these into
four groups of advantages: better participant enrichment, high instrument fidelity which maximizes the usefulness of the instruments, good integrity due to the use of a variety of validity methods to avoid bias, and significant enhancement of data interpretation when using both the quantitative and qualitative method.

It is crucial that researchers are able to recognize the strengths and weaknesses of each research method so that they can carefully plan to take advantage of each method, and at the same time, minimize the weaknesses, thereby achieving the goals and objectives of the research. Hence, the mixed method is the most appropriate method for this research in order to explore more deeply the knowledge sharing issues in the Vietnamese higher education sector while preserving the generalization of the research. The researcher commenced the data collection process by distributing the questionnaires to the participants, after which focus group discussions and individual interviews were held with selected participants to investigate the issues in further depth.

This study aims to integrate the results of the two data collection phases during the discussion of the outcome of the whole study, therefore integration of the data during the discussion stage will clarify the results and eliminate any bias which might occur. More importantly, the mixed method examines the phenomenon in an exploratory way. In this study, the qualitative method uses open-ended questions and semi-structured interviews, while the quantitative method uses exploratory factor analysis to determine the critical factors, thus the integrated results of both methods is an appropriate way to answer the research questions.

4.5 Theoretical perspective

This study uses a concurrent data collection method and the theoretical perspective is explicit, in other words, both qualitative and quantitative data is collected at the same time (Creswell et al., 2003). The theoretical contexts of this study are several: Maslow’s Theory of Needs (Maslow, 1943) and Szulanski’s Theory of Absorptive Capacity (Szulanski, 2003). Together with the Theory of Planned Behaviour (TPB) (Ajzen, 1991) and the Existence, Relatedness and Growth
theory (ERG) (Alderfer, 1969) in order to investigate the motivation and issues related to sharing knowledge and sustaining academic excellence in higher education. Under the lenses of these theories, the culture, lifestyle, social and political issues are clearly visible. From these perspectives, the issues of sharing knowledge are unveiled and provide a better view on the current context of higher education in a less developed country.

4. 6 Implementation

This research uses convergent parallel mixed method design in that the researcher collects and analyses qualitative and quantitative data separately. Results from two processes are then compared, contrasted and merged during overall interpretation process (Creswell & Clark, 2011). Thus, the researcher collects data simultaneously as the constructs have been previously established in the literature. The data collected in the questionnaires were complemented with rich interview data, adding meaning to the survey responses.

The content of the questionnaires was uploaded online and used a Google document form to deliver the question contents and obtain feedback from the participants. A list of the participants’ emails was compiled from the participants’ university websites. The researcher emailed each participant to introduce himself and clearly state the purpose of the study. A consent form was also emailed to the participants so that they would understand the purpose of the study and their right to participate. After this, focus discussions and individual interviews were organised. The focus groups were conducted at three different locations for the convenience of the participants.

In relation to where and when the interviews would take place, the researcher maintained contact with each participant, in case the time or venue needed to be changed. In addition to the web-based survey, paper-based questionnaires were also distributed to those participants who were not able to use Information Communication Technology (ICT), especially the Internet and emails, as not all Vietnamese teaching staff have access to a computer or the Internet (Peeraer & Petegem, 2012), and some do not have an adequate level of computer literacy (L. V. Nguyen, 2011). The researcher selected one or two people in each department as the contact points and gave them a
number of questionnaires for distribution to other people in their departments or their friends from other universities. Upon completion, the questionnaires were returned in a sealed envelope for collection.

The rationale for this is based on the research design aim to converge the results from different and independent stages, from each phase of the data collection to the result.

### 4.6.1 Research population

Creswell and Clark (2011) indicate that sampling and data collection are important in a convergent design mixed method. They state that there are four major elements which need to be considered: (1) who will be selected for the two samples; (2) the size of the two samples; (3) the design of the data collection questionnaire; and (4) the format and order of the different forms of data collection. The following paragraphs provide details on each element.

Further, Creswell and Clark (2011) suggested that if the purpose of the researcher is to compare or relate two sets of findings about a topic, then selecting the same individuals for both the qualitative and quantitative data collection is a good choice. If the researcher would like to synthesize information on a topic from different participants, then different individuals in the quantitative and qualitative data collection can be used. The purpose of this study is to synthesize the findings from both methods. Therefore, it is not necessary to have the same individuals in both the qualitative and quantitative data collection stages. In this study, different individuals are chosen for the collection of the different types of data. The reason for this is the number of interview and focus group participants was limited, and a small sample size would lead to bias, lack of rigor and insufficient information to be generalized. Therefore, the data collection should be expanded on a larger scale. Moreover, collecting data from different samples in this case will help to synthesize the information on knowledge sharing issues from different participants.

The data collection was conducted mainly at six large universities in Hanoi for the focus groups and interviews. However, as the scope for the quantitative data was larger, the venues for the data
collection were expanded to more than 30 universities. As all universities in Vietnam are controlled by Ministry of Education and Training (MOET) and have the same structure in terms of human resource management, academic and career development as well as teaching curriculums, around 30 universities was deemed sufficient for the quantitative data collection.

A diverse range of participants took part in the discussions and answered the questionnaires, from newly recruited lecturers with one year of teaching experience to retired lecturers, from assistant lecturers and senior lecturers to professors with many years of experience. The participants also held varied roles, such as managers and heads of research in order to obtain a mixed view and comprehensive perspectives on knowledge sharing issues in universities.

4.6.2 Sample size of both the qualitative and quantitative data collection

In this study, the sample size for the qualitative and quantitative data collection was different. Creswell and Clark (2011) suggest that a good option for the mixed method with convergent analysis is for the two samples to be different sizes. The authors also emphasized the size of the qualitative sample is usually much smaller than the quantitative one in order to obtain an in depth qualitative exploration and also maintain a rigorous quantitative examination of the topic.

For the qualitative data collection method, the design included three focus groups comprising 10 to 15 participants, and of the one-on-one the interviews, at least six interviewees were required. This is in accord with the thinking of Giorgi (2009) and Englander (2012) who both stated that the number of interviewees could be three, five, or even many, because the purpose of a qualitative study is to identify how many times a phenomenon occurs in the descriptions. As the total number of participants for this qualitative method was in excess of 50, this is considered a sufficient sample size (Englander, 2012).

In contrast, in quantitative research, the purpose is to generalize to the population at large, so the sample size does exert a great influence on the results of the analysis (C.-J. Chen & Huang, 2007; Fabrigar & Wegener, 2011) however, the sample size should not be too small (Comrey & Lee,
In this study, the researcher finally attracted 250 respondents after sending a total of 500 questionnaires and emails.

4.7 Research Design

The concepts related to sharing knowledge, including benefits and obstacles, attitudes and behaviours, and self-worth were addressed in the questionnaires and were measured on a 5-point Likert scale. In the interviews and focus groups, open-ended questions on how knowledge sharing currently occurs in higher education in Vietnam were explored. The data collection was differentiated into two data sets, collected independently and in different forms. For the qualitative phase, data was collected through the open-ended questions during the interviews and focus group discussion. For the quantitative phase, the data was collected through the questionnaires with predefined questions. The final rate for the survey was 258 out of 500.

This research focuses on exploring the research issues discussed in the literature chapter, section 2.8. Universities are currently facing problems at the macro level, such as management approaches and government policies and also at the micro level, such as daily living costs, family issues and workloads at universities. These issues were identified as instrumental in answering why Vietnamese higher education did not perform well at both the domestic and international level, in such aspects as ranking and publication papers.

The data, collected during fieldwork in Vietnam between September 2011 and November 2011, are used as the main source of information. In addition to the data gathered from the main case studies, the data collected from the additional provincial Universities are also included in the data analysis, as well as data from school reports, from MOET and from the universities’ websites, all of which are integrated in the discussion in the thesis.

Apart from main data source to collect evidences to answer the research questions as shown on Table 4.1 below, supporting data sources also play a critical role in support and clarification as well as comparison source to answer research question thoroughly. For example, in order to
explore further into of what and how factors that promote knowledge sharing, researcher can pick information from what participants have discussed and ask participants for further explanations. The researcher also accessed to the universities’ official website where they publish reports that state strengths and weaknesses in term of knowledge sharing and research publications.

Table 4.1 shows the main and supporting data sources used to investigate the research questions.

<table>
<thead>
<tr>
<th>Research questions</th>
<th>Main Data Source</th>
<th>Supporting Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- What are the key factors that promote knowledge sharing in Vietnamese higher education institutions (HEIs)?</td>
<td>Questionnaires</td>
<td>Interviews and focus groups</td>
</tr>
<tr>
<td>2- What are the major obstacles that hinder knowledge sharing in Vietnamese HEIs?</td>
<td>Questionnaires</td>
<td>Interviews and focus groups + secondary data sources</td>
</tr>
<tr>
<td>3- Of the key knowledge sharing determinants in questions 1 and 2, what are the best predictors of knowledge sharing issue in Vietnamese HEIs?</td>
<td>Focus groups; interviews</td>
<td>Questionnaires + secondary data sources</td>
</tr>
<tr>
<td>4- To what extent can MOET and the Vietnamese government improve knowledge sharing strategies and knowledge sharing activities in universities?</td>
<td>Interviews and focus groups</td>
<td>Questionnaires + secondary data sources</td>
</tr>
</tbody>
</table>
The procedure used for collecting both qualitative and quantitative data is illustrated in Figure 4.1 below.

### 4.7.1 Focus group and interview protocol development

In order to elaborate the results from the quantitative method, 13 open-ended questions were deployed which focused on exploring the six major factors: sharing benefits, economic status,
motivation, management, the role of the government and cultural influences. For the interview protocol, the interviewer introduced himself, explained the purpose of the interview, and reminded the participants that their answers were confidential and anonymous and that they could withdraw from the interview at any time. Also, three probing questions were added to investigate why the quality and quantity of the international publications of Vietnamese researchers in various universities were so low.

4.7.2 Qualitative phase

Research design

In this study, multiple case studies were applied for collecting and analysing the data in the first qualitative phase. These multiple case studies aimed to unveil the critical issues related to knowledge sharing practices and enable people to express their opinions freely. The unit of analysis was university staff ideas that convey a single item of information (thematic unit) which were carefully recorded and analysed to extract the reoccurring themes. In relation to the research questions, there were thirteen sub-questions to deploy in the focus group discussions and interviews. The responses of each focus group and interviewee to each specific question were grouped together, after which the repeated sentences or phrases with similar meanings were recorded as themes. In the data analysis phase, the researcher used the thematic analysis approach to analyse and answer the research questions.

Case selection

To encourage the free expression of opinion, the focus groups were stratified by age and rank to avoid cultural reluctance to speak during the discussion (Hofstede & Hofstede, 2005). The first focus group was arranged for younger staff, and the second and the third focus groups for the older staff. Participants were selected by age and rank in their university and were advised via telephone as to the venue location, the date, and time of the discussions. For the interviews, the
selection of the participants focused on managers and leaders’ opinions in order to obtain broader views and information on the strategies currently being implemented.

4.7.3 Qualitative data analysis

Each focus group discussion and interview was recorded by an audio recorder with capacity up to 16 hours and saved in MP3 format. Data were then transcribed verbatim using Microsoft Word in the Vietnamese language, and was coded by hand to determine the emerging themes. Then these themes were translated into the English language, the whole process taking approximately 6 months to complete.

The steps in the qualitative data analysis process are summarised as follows: (1) Sorting and classifying the answers from the focus discussions to the thirteen questions; (2) Preliminary exploration of data by reading through the transcripts, identifying the salient issues, numbering the paragraphs; (3) Coding the data by segmenting and labelling the text, marking the reoccurring text using paragraph numbers; (4) Sorting codes into categories or themes; (5) Combining or splitting codes in order to identify meaningful issues; (6) Sorting categories; (7) Undertaking cross-case analysis; (8) Drawing a diagram to illustrate the relationship between themes and comparing this to the research model.

4.7.4 Quantitative phase

Data collection in the quantitative phase was from both paper based and online survey forms, managed by Google documents. After 100 responses were received, data was put into a form for analysis. The researcher repeated this step for every 50 responses which were added until saturation.

The cross-sectional survey design was implemented. As the survey instrument was self-developed, a pilot test was conducted on five university lecturers who were randomly selected in order to obtain feedback on the clarity and the structure of the questionnaires, as well as the average time required to answer all the questions. The survey aimed to deal with factors that
impact on sharing knowledge behaviour: subjective norm, extrinsic motivation, expected action, social network ties, knowledge self-efficacy.

4.7.5 Quantitative data analysis

The first step in this process involves integrating data from both sources: Paper based and online survey, data then was merged into a single Microsoft excel spreadsheet file named as Survey_Responses_Result.xls. Data was checked for consistency for example some respondents might write: Hanoi National University as their working organization, others wrote: Vietnam National University, Hanoi. Data also was checked for empty cells if they were found then the whole record were deleted. In fact, there were two files existed to compare if there is any significant different between the file with no empty cell and the original file.

The second step involves coding variables so that program such as SPSS can understand, see table 6.2, Chapter 6. Data was uploaded into SPSS program, all variables (Questions) were then renamed according to the factors’ name, for example, SN1 is one variable that belongs to Subjective Norms factor. This study applies Exploratory Factor Analysis (EFA) method to examine the relationship between factors that lead to positive or negative sharing behaviours and outcomes. The reasons why this thesis uses EFA rather than Principle Component Analysis (CPA) or other method are discussed in chapter 6. The result of this analysis is merged with result from qualitative method to have an overall outcome of the thesis.

4.7.6 Reliability and validity of the study

Reliability refers to the accuracy and precision of a measurement procedure (Thorndike & Thorndike-Christ, 2010). Reliability and validity are important factors in helping to reduce errors that may be made by the researcher in the collection and analysis of data. These factors are increasingly important for the quantitative method as the research instrument and measurements need to be validated and reliable (Ivankova, 2004). The quantitative part of this research used questionnaires as a tool for the data collection. In order to maintain consistency and a high
standard, the questionnaires were written in both the English and Vietnamese language so that a Vietnamese participant who could speak English was able to refer to both languages in order to understand the questions more clearly. The questionnaires and discussion questions were first sent to the academic language staff to check for meaning and syntaxes. A pilot test was implemented by sending the questionnaires to 5 university staff. Possible misunderstandings were eliminated and the retest was repeated until no errors occurred. The reliability was expressed by Cronbach’s alpha as discussed in Chapter 6 on the quantitative data analysis in section 6.8.2.

For the qualitative phase, verification of the data collection process was undertaken in order to eliminate errors and bias. Verification refers to the mechanisms used during the process of research to incrementally contribute to ensuring reliability and validity (Morse, Barrett, Mayan, Olson, & Spiers, 2002).

This study had applied qualitative verification strategies to ensure that errors and bias can be minimized. Firstly, sample is appropriate as participants are best represented. They are university lecturers and researchers who have certain knowledge about the topic. Secondly, the collecting and analysing data concurrently, there is a need to satisfy saturation, sampling sufficiency, the concurrent collection and analysis of data and to ensure that the method of collecting data is coherent with the research questions. In order to identify saturation, the researcher commenced the analysis of the survey data after receiving 100 responses and continued this analysis upon receipt of every 50 responses until no change was observed, after which the collection of the survey data ceased. For the qualitative data, the researcher continued to organize discussions and interviews until nothing new emerges, at which time the process stopped.

In addition, this study employed participant validation approach by returning to respondents and asking them to validate interview transcripts, interpretation of data, and coding themes. After two months since the results were sent for validation, the feedback were received positively, participants also add some useful comments and clarifications of their opinions.
4.7.7 External validity

In this study, the scale of the research focuses on universities in the north of Vietnam where more than half the universities in the country are located (According to the MOET report in 2012, 214 of 353 schools are in the north of Vietnam).

In research, external and internal validity are important because they determine whether the outcome of the research is reliable and can be generalized. To achieve this goal, the researcher needs to eliminate or minimize the possible errors that can occur during data collection and analysis, such as bias or an insufficient data sample.

4.8 Research procedures

After receiving the grant to conduct the fieldwork, the researcher began implementing all the necessary steps in order to obtain sufficient data within a given time frame.

Step 1: Collect names and addresses of respondents. This process was done in the following sequence:

- The researcher produced a written request at each University for permission to access the contact details of university staff and to invite participants to attend interviews and focus groups. The written request was approved and signed by the rector of each university. In this document, the researcher stated the purpose of collecting the data for research, and provided a guarantee that no sensitive information related to the university would be collected. The participants were also informed that after the invitations and questionnaires had been sent to the participants and when the data collection process had been completed. All addresses and other related personal details would be deleted.

- The researcher presented the Rector’s permission to collect information from the participants to the Human Resource Manager or the head of the training department at each university.
Step 2: Questionnaire surveys, invitations to focus group discussions, consent forms and withdrawal forms were printed and sent to the respondents according to the list provided by each university. An online questionnaire was developed on Google documents to attract wider participation.

Step 3: Various documents were sent to the participants, namely a letter introducing the researcher and the research goals, the participation information sheet, the questionnaire, the questions for discussion and the withdrawal of consent form were posted by reply paid envelopes. The researcher included the comment, “I would be grateful if you could complete this survey within 5 days of receiving this letter” to remind respondents about the urgency.

Another group of recipients was emailed to invite them to participate in an electronic survey. To ensure the email was not inadvertently stored in the spam folder, the researcher emailed this group twice. The first email contained no link to the online survey. Rather, it explained the research purpose to the recipients and informed them that they might find a second email in the spam folder as the second email contains a link to the survey. A summary of these activities is given in Table 4.2:
Table 4.2 Summary of data collection activities

<table>
<thead>
<tr>
<th>Activities</th>
<th>Date from</th>
<th>Date to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obtain details of selected participants</td>
<td>19/9/2011</td>
<td>23/9/2011</td>
</tr>
<tr>
<td>+ Prepare mail to send to the participants who agreed to answer the questionnaires (print, copy, stamp)</td>
<td>26/9/2011</td>
<td>30/9/2011</td>
</tr>
<tr>
<td>+ Send mail and emails to participants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ Contact selected participants for the focus group.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ Contact the person who is in charge of booking rooms for the first focus group.</td>
<td>3/10/2011</td>
<td>7/10/2011</td>
</tr>
<tr>
<td>+ Select a venue for the first focus group.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ Conduct the first focus group.</td>
<td>10/10/2011</td>
<td>14/10/2011</td>
</tr>
<tr>
<td>+ Collect the returned surveys.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ Pre-analysis of data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ Contact the selected participants for a second focus group.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ Contact the person who is in charge of booking rooms for the second focus group.</td>
<td>17/10/2011</td>
<td>21/10/2011</td>
</tr>
<tr>
<td>+ Select a venue for the second focus group.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ Conduct the second focus group.</td>
<td>24/10/2011</td>
<td>28/10/2011</td>
</tr>
<tr>
<td>+ Collect the returned surveys.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ Pre-analysis of data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ Contact the selected participants for a third focus group.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ Contact the person who is in charge of booking rooms for the third focus group.</td>
<td>17/10/2011</td>
<td>21/10/2011</td>
</tr>
<tr>
<td>+ Select a venue for the third focus group.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ Conduct the third focus group.</td>
<td>31/10/2011</td>
<td>04/11/2011</td>
</tr>
<tr>
<td>+ Collect the returned surveys.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ Pre-analysis of data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ Collect the returned surveys.</td>
<td>5/11/2011</td>
<td>10/11/2011</td>
</tr>
<tr>
<td>+ Return to La Trobe University.</td>
<td></td>
<td>11/11/2011</td>
</tr>
</tbody>
</table>

Step 4: Focus group discussion process

Three focus group discussions were held. Prior to organising these groups, the researcher contacted each participant by telephone. To encourage the free expression of opinion, the researcher stratified the participants in terms of age and rank in their university. Before each discussion, the researcher spent 30 to 40 minutes explaining the important concepts relating to knowledge management and summarised the achievements of knowledge management in the world, particularly in higher education in general and Asian higher education, in particular.
The first focus group of seventeen participants, aged between 22 to 35 years old, was held on 5 October 2011. The rationale for this is that young people tend to be easy to approach, as they are active, eager to learn, and full of ambition. The discussion lasted for 2 hours and 55 minutes.

The second focus group discussion comprised nine participants who were high ranking and older staff and lasted two hours. In this discussion, the participants discussed the issues both at a macro and micro level.

The third discussion comprised a mixed group of younger and older staff in order to identify how younger and older staff gave their opinions in the context of age difference. The researcher also aimed to investigate and compare the findings of this group with the other two in terms of both arguments and opinions. The discussion lasted 2 hours.

*Step 5: Interview process*

In parallel with the group discussions, face-to-face interviews were also held with high ranking staff that were currently the head of a school or department. Before the interviews, the researcher contacted the interviewees by telephone to introduce himself and explain the purpose of the research, and the impact and the role of the researcher in the project. The interviewees also were told about their right to participate and their right to request a copy of the transcript of their interview, and that the content of the interviews would be confidential. All interviewees were sent semi-structured questions before the interview was held.

All the interviews were held in the interviewees’ offices. Before starting the interview, the researcher explained that the interviewees would be asked the questions which had been sent to them in the same order. They were also told that they the right not to answer a particular question. The researcher also explained that all the conversations would be recorded and translated verbatim.
During the interview, the researcher used probing and prompting questions in order to explore issues further, and to clarify concepts and ideas. The average time for the interviews was 1.5 hours to answer 13 questions.

4.9 Data coding process

All data collected from the interviews and group discussions were translated verbatim. Next, the researcher grouped the answers given by the focus groups and the interviews by question. There were 13 questions (which had been expanded from the original four research questions) to be answered in the focus group discussions and the interviews. Then the researcher read through all the questions to identify words, phrases or sets of words that were frequently used by participants. The participants might not express in the exact same way these words, sets of words, or phrases, but the meaning was almost the same. The data was also classified into themes as shown in the table. All the paragraphs were numbered in order to locate the information easily. Any information that appeared irrelevant to the study was discarded. This qualitative data analysis was done manually for the study. Details on how the themes were coded can be seen in Appendix 4.

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
<th>Example</th>
</tr>
</thead>
</table>
| Managers | Change management | "The university should set up clear objectives, be more specific, and give priority to knowledge sharing."
| Management issues (MGT) | Management problems, non-management policies, the systems of top-down direct, inflexible | "Scientific management and reality should work together to deal with problems in reality."
| | Top-down management and bureaucracy has inaccurate information, it is too far from reality, which leads to inappropriate management criteria."
| | A very sound process and bad management will be invalid."
| | "How to multiple knowledge shares and develop an open sharing community."
| | "A manager recruits staff based on a money relationship, therefore, those staff are unable to share knowledge, as their skill and knowledge does not match their position."
| | "Encourage people to share knowledge, it is necessary to issue a sharing regulation to the organization, department, unit and down to each individual person as well as to monitor and evaluate the sharing process."
| | "To get knowledge, the problem does not lie only on the knowledge itself but also on the management system, so it creates a lot of implicit procedures for the employees."
| | "Information flow from the higher to the operational level is not completely linked. A person who needs information about technical support does not know how to get information from whom to get help."
| | "I believe that the departure point is not as important as the focus on the younger generation, to change their mind and perspective on the way to process knowledge."
| | "One of the most important steps in changing management and policies is to 'have a good relationship' with the users, i.e., in order to understand their needs, so that changes will fit them."

Figure 4.2: An example of data coding
4.10 Summary of data analysis procedures

The process of conducting data analysis is summarised in Table 4.3. The data analysis procedures were adapted from Creswell’s mixed method (Creswell & Clark, 2011).

<table>
<thead>
<tr>
<th>Qualitative Procedures</th>
<th>General Procedures in Data Analysis</th>
<th>Quantitative Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Organizing documents</td>
<td>Step 1: Preparing the data for analysis</td>
<td>+ Combining the results from the paper-based survey, and the web-based survey into the same format.</td>
</tr>
<tr>
<td>+ Organizing audio files, named as sequence order of the events</td>
<td></td>
<td>+ Cleaning the database, omitting invalid responses.</td>
</tr>
<tr>
<td>+ Transcribing verbatim text in MS word files</td>
<td></td>
<td>+ Coding data by assigning numeric values.</td>
</tr>
<tr>
<td>+ Preparing the data for computer analysis</td>
<td>Step 2: Exploring the data</td>
<td>+ Establishing codebook.</td>
</tr>
<tr>
<td>+ Reading through the data</td>
<td></td>
<td>+ Visually inspecting data.</td>
</tr>
<tr>
<td>+ Developing codebook</td>
<td></td>
<td>+ Conducting a descriptive data analysis.</td>
</tr>
<tr>
<td>+ Highlighting outstanding ideas</td>
<td></td>
<td>+ Inspecting for general trends and distribution for every 50 responses received.</td>
</tr>
<tr>
<td>+ Organising data obtained from each focus group discussion and interview and combining the data gathered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ Coding the data and translation it from Vietnamese into English</td>
<td>Step 3: Analysing the data</td>
<td>+ Drafting analysing data on Google document form.</td>
</tr>
<tr>
<td>+ Assigning labels to codes</td>
<td></td>
<td>+ Analysing data to answer research questions.</td>
</tr>
<tr>
<td>+ Categorising codes into themes</td>
<td></td>
<td>+ Reporting inferential test, effect sizes, and confidence intervals.</td>
</tr>
<tr>
<td>+ Identifying interrelating themes</td>
<td></td>
<td>+ Using SPSS to perform data analysis.</td>
</tr>
<tr>
<td>+ Conducting manual analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ Representing the findings in the discussion of themes.</td>
<td>Step 4: Representing the data analysis</td>
<td>+ Representing results in the statements of results.</td>
</tr>
<tr>
<td>+ Representing the relationship between themes</td>
<td></td>
<td>+ Providing results in tables and figures.</td>
</tr>
<tr>
<td>+ Representing visual model, figures, and tables</td>
<td>Step 5: Validating the data</td>
<td>+ Validating and checking the reliability of scores from past instrument use.</td>
</tr>
<tr>
<td>+ Using reviewer standard</td>
<td></td>
<td>+ Establishing validity and reliability of current data.</td>
</tr>
<tr>
<td>+ Conducting a peer review, and member checking</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The process and content were in compliance with the regulations of the university’s Human Ethics Committee, Research Ethics and Integrity Unit and permission was obtained from the university’s Human Ethics Committee.

4.11 Conclusion

A mixed methodology is appropriate for this study as it combines the strengths of both the quantitative and qualitative methods. More importantly, it is suitable for the research context of Vietnam as discussed previously. Therefore, this method was chosen to interpret data in nature by
looking at the rich meaning of both quantitative and qualitative data in order to obtain the respondents’ genuine views in that context. The use of quantitative data analysis in this study is used to test the qualitative evidence against the Theory of Planned Behaviour and the Theory of ERG. The chapter has presented the sequence of steps that the researcher undertook, including a description of each phase of the quantitative and qualitative method, the coding process, and testing the reliability and validity of the data collection. The next chapter presents discussion of the qualitative data and the themes that emerge from the analysis.
CHAPTER 5: DATA ANALYSIS AND RESULTS FOR QUALITATIVE DATA

5.1 Introduction

This chapter presents a descriptive analysis of the collected qualitative data. The data were retrieved from the in-depth interviews and group discussions and provide a clear understanding of the knowledge sharing issues in universities in Vietnam. This study applies the thematic analysis approach to analyse and present data. All the quotes were translated from the Vietnamese language. The themes and subthemes, which emerged from the analysis, is classified and listed in a table as presented in Appendix 4. A total of ten themes are presented in the final short list. The structure of this chapter is as follows: Part A provides a summary of the demographic statistics of the participants, and Part B presents the result in the following order: management issues, infrastructure, training, people, culture, organization, economic status, technology, corruption, and leadership issues. Thirteen open-ended questions are discussed to answer the following research questions:

1- What are the key factors that promote knowledge sharing in Vietnamese higher education institutions (HEIs)?

2- What are the major obstacles that hinder knowledge sharing in Vietnamese HEIs?

3- Of the key knowledge sharing determinants in questions 1 and 2, what are the better predictors of knowledge sharing issue in Vietnamese HEIs?

4- What measures can be supported by MOET and the Vietnamese government to improve knowledge sharing strategies and knowledge sharing activities in universities?
5.2 Reporting results

The discussions and interviews, as detailed in section 4.7 in chapter 4, were conducted until no new themes/ideas emerged. This occurred during the third group discussion, even though the place and the participants were very different from the first two discussions. Therefore, the researcher noted that data saturation had occurred. This is supported by the proposition of Morse, Barrett et al. (2002) that data saturation will ensure replication in categories, replication verification and comprehension and completeness.

Demographic statistics of the discussion group

As described in section 4.6 in Chapter 4, the first group consisted of 17 participants, the second group 9 participants and the last group 19 participants. There were six in-depth interviews, however, only the first three interviewees were fully engaged in answering the questions. The remaining three interviewees either repeated answers given by the previous interviewees or refused to answer most of the questions by promising to answer by mail, but in the end, the researcher did not receive their reply. A demographic summary of the participants is given in Table 5.1 below:

<table>
<thead>
<tr>
<th>Academic ranking</th>
<th>Number of participants</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor</td>
<td>10</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Master</td>
<td>22</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>PhD</td>
<td>12</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Professor and higher</td>
<td>7</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>51</td>
<td>25</td>
<td>26</td>
</tr>
</tbody>
</table>

A further six in-depth interviews were conducted separately with participants who are currently managers or leaders in a university. The first interview was with the head of the training department who is also a chief executive officer in an organization which provides soft skills training to universities and businesses across the country. The second interviewee is the head of a
science research department. The third interviewee is the head of a training unit in a well-known university. The fourth interviewee is the head of a research unit who has published several international articles. The fifth interviewee is the Vice-Rector of a high-ranking university in Vietnam. The last interviewee is the head of a research centre in a private university.

The data collection took place from September to November 2011. The average time for each group interview was 2.5 hours with a 15-minute tea break, and each interview lasted for 1-2 hours.

**Thematic analysis**

Ten major themes were identified after analysing the data, as shown in Table 5.2 below.

<table>
<thead>
<tr>
<th>Themes</th>
<th>Subthemes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contextual factors of knowledge sharing</strong></td>
<td></td>
</tr>
<tr>
<td>1 Management</td>
<td>Bureaucracy, Asking and giving policies, Management and culture of sharing, Management and organizational support</td>
</tr>
<tr>
<td>2 Infrastructure</td>
<td>Infrastructure</td>
</tr>
<tr>
<td>3 Training</td>
<td>Issue of evaluation, Absorptive capacity, Lack of resources, English proficiency</td>
</tr>
<tr>
<td><strong>Critical factors of knowledge sharing</strong></td>
<td></td>
</tr>
<tr>
<td>4 People</td>
<td>Individual benefits, Work overload, Intellectual property rights and copyright</td>
</tr>
<tr>
<td>5 Culture</td>
<td>Saving face, Big picture and achievement chasing syndrome, Lack of trust</td>
</tr>
<tr>
<td>6 Organization</td>
<td>Work environment, Waste of talent, Evaluation standard</td>
</tr>
<tr>
<td>7 Economics</td>
<td>Economic status</td>
</tr>
<tr>
<td>8 Technology</td>
<td>Library access, Technological readiness and support</td>
</tr>
<tr>
<td><strong>Emergent themes</strong></td>
<td></td>
</tr>
<tr>
<td>9 Corruption</td>
<td>Trading degrees, Buying power and position, Causes of corruption</td>
</tr>
<tr>
<td>10 Leadership</td>
<td>Lack of democracy, Lack of autonomy</td>
</tr>
</tbody>
</table>
There is a relationship between the themes, such as economic status, leadership and culture derived from management, and technology which needs support from the infrastructure. The framework for organizing the discussion of the data analysis is shown in Table 5.2.

5.2.1 Management

With regard to management issues, most participants pointed out that universities and MOET need to find ways to overcome the problems in order to improve the quality of staff and the quality of graduates. Management practice impacts almost every aspect of organizations and contributes to the organization’s failure or success. As shown in the following sections, two issues were most frequently mentioned by the participants: bureaucracy and a lack of autonomy which impacts people and organizational effectiveness and specifically, the knowledge sharing behaviour of the employees in organization.

5.2.1.1 Bureaucracy

During the discussion and the interviews, the participants mentioned the rigidity of tasks designed by the government and MOET, including the fact that communications always had to be implemented through paper work with top down directions and bottom up reporting. Senior management’s lack of a sense of what the staff were actually thinking and feeling created barriers between them. More importantly, bureaucracy and poor management leads to a waste of talent, as it does not encourage people to engage in problem solving, to pursue their own thinking, or to take risks. Therefore, their ambition for innovation is gradually lost, and more importantly, it has a negative impact on staff behaviour: “A very smart person under bad management will be invalidated” (Focus group 1, Informant 4).

Bureaucratic management was identified as a major issue that hindered people from thinking broadly and innovatively and it made the work environment more difficult: “Scientific management in Vietnam currently is separated from reality, and does not follow the rapid
changes which are necessary due to globalization, in terms of technology and management” (Focus group 1, Informant 5).

This comment received full agreement from all participants in the discussion. Lecturers and researchers who want to participate in research or a research project must spend a lot of time and effort in order to have their paperwork approved. This requires many signatures from authorizers at different levels, a process which is referred to as a Standard Operating Procedure (SOP). Most of the regulations in the SOP were copied from Russian science research processes decades ago.

In addition, there is no transparency in the selection of a successful applicant for funding, for example, higher ranking staff such as professors are more likely to receive approval for a project than lower ranked staff, regardless of how good their project plans are.

Bureaucratic management is based on paper work and a complex hierarchical operating system which is rigid and therefore lacks flexibility, does not support trust, demotivates employees and as result, leads to biased reporting:

“Management in Vietnam is a top-down approach, therefore a leader only reads reports, but reports from the bottom do not always reflect reality and it becomes a disaster and disease in our system... for example, it might exaggerate achievements or contain faulty reporting” (Interview Informant 1).

Thus, bureaucratic management has inherited many deficiencies from copying the Russian or China model which has a central planned economy which influences the organizational culture and organizational structure as well as organization’s operational procedures (Dosch & Vuving, 2008; Vann, 2006). Bureaucracy and fragmented management have created a huge impediment for people in universities from pursuing research and innovative thinking due to a mass of rigid procedures that they have to follow as mentioned by the following Informants:

“Sharing knowledge in a research environment is challenging as one project is managed by many levels and parties... The Ministry of Science and Technology is one
management point... MOET is another point... recently the government established a new board called the State Project Management Board which is another management point...the University of Social Science and Humanities is also another a management point. Therefore, it is too fragmented to manage a research project, and it hampers the sharing of knowledge” (various Informants).

Bureaucratic management is seen as negatively impacting the perceptions of people in relation to self-control and self-esteem as they believe that they have no control over their work

“The system of top-down command and control, and bottom-up reporting creates inaccurate or distorted information which leads to inappropriate management criteria” (Focus group 2, Informant 3).

Bureaucratic management not only creates a significant barrier for innovation, it also creates a system of asking permission before doing anything, “It is difficult for researchers to obtain approval for research projects because of the bureaucracy of the administrative system and because of give-and-take mechanisms” (Focus group 3, Informant 8).

Many agreed that sharing knowledge in organization is heavily reliant on the management regulations and practices that place more emphasis on the knowledge sharing intention of academic staff:

“Humm, to get knowledge, the problem is not only in relation to the knowledge itself but also the management system, as it creates a lot of unpleasant procedures for knowledge receivers” (Interview Informant 3).

Thus, as can be seen from the responses of the Informants, bureaucracy is considered to be a significant obstacle to innovative ideas, knowledge improvement and knowledge sharing in universities. Another issue relating to management is the lack of autonomy and also, asking and giving policies are considered a major obstacle for knowledge creation and sharing which will be discussed in the next sub-section.
5.2.1.2 Asking and giving policy

Bureaucracy is often accompanied by a lack of autonomy, particularly in terms of decision making in relation to the hiring and firing of personnel, which has an adverse impact on the motivation to share knowledge. A lack of autonomy in terms of financial resources has led to an “ask and give” mechanism. Ask and give mechanism refers to two-way relationship between superior and subordinate where subordinate usually seeks permission from superior to do a particular work or to seek funds for a project, and superior has power to allocate who get what and who does what. This has also led to corruption and taking bribery due to people has to pay some amount of money to superior in order to get favourable decision, and as a consequence, it has had a huge impact on knowledge sharing abilities and the quality of education and scientific publications. Firstly, an asking and giving policy creates passivity where people tend to wait for a grant rather than conducting active research. “An ask and give mechanism for research funds does not encourage people” (Interview Informant 3).

An asking and giving policy, as explained by the Informants, gives priority and favour to people who are related to or pay bribes to the person who is in charge of managing or distributing funds or who has power to allocate resources. This asking-giving mechanism has created unfairness in the distribution of funding, according to interview Informant 2:

“The Ministry of Finance and the Ministry of Science and Technology funds scientific research based on what criteria in order to allow 50 billion VND for the National University or 100 billion VND for the Social Institution….what is this based on…the number of projects or what?”

This statement indicates that many researchers and project managers are confused with management policies, especially funding allocation from the ministry. This creates an uneasy feeling for lecturers who would like to enrich their knowledge through scientific research. It is important to know that many researchers only conduct scientific research and produce
publications if they receive funding for their projects, otherwise they will focus on other methods of earning an living rather than improving their knowledge.

In relation to barriers for sharing knowledge and decision-making, the participants all condemned the asking and giving policy as being the cause for delaying the sharing of knowledge at the right time and at the right place, as every decision has to wait for approval. As interview Informant 3 said:

“There is a significant difference between the business sector and the education sector. While the business sector has autonomy over their decision-making, the education sector seems to struggle with policies, which means there is a lack of flexibility...an ask and give policy.

Improving knowledge sharing efficiency requires flexible management. Focus group 2, Informant 5 gave her opinion:

“I think the most effective management style is one which offers top-down support and transparency, while a bottom-up approach encourages initiative and action. Unlike our current management style, which revolves around the asking and giving mechanism...this means you have to ask for and wait for approval and the time from initially proposing a request until you get permission or grant funding often takes ages”.

Informants also suggest ways to change management, for example:

“I believe MOET and the Ministry of Science and Technology evaluate researchers’ capacity based on the number of projects they have completed their relationship with people in the two ministries and the asking and giving mechanism. However, this will not motivate real researchers to participate and share. I think we need to have an impact factor to evaluate projects and allocate funding. A project with a lower impact factor should attract less funding than one with a higher impact factor” (Interview Informant 2).
Thus, staff feel it is necessary to have greater support and more autonomy in doing research. This means managers in universities and MOET need to carefully re-examine the current policies to ensure that staff and universities have more autonomy in their decision making, particularly in how they conduct research and choose the topic of their research. In terms of research funding, MOET and universities need to examine the feasibility of research based on quality or a set of impact factors, as mentioned by Informant 2. Funding purely based on the high profile of the researcher should be abandoned for several reasons. Firstly, abandon to encourage younger staff members to participate in research. Secondly, in Vietnam, a high research profile might not be a true reflection of the real quality of the researcher as it is possible that they might have been promoted through corruption or it may be possible that high profile researchers, in the latter stages of their career, will lack ambition as they have already achieved their desired academic ranking.

5.2.1.3 Management and culture of sharing

As discussed by the participants, knowledge sharing does not occur automatically in an organization. It also does not happen in a vacuum but is influenced by psychological factors and factors related to organizational culture (David & Fahey, 2000; Yu, Lu, & Liu, 2010). Management practices that support and encourage people to share what they have plays a key role in the development of a knowledge sharing culture in an organization as interview informal 3 said: “if other people participate in sharing their knowledge, I will also participate as I do not want to be selfish by only receiving but not giving”. Creating a culture of knowledge sharing in an organization is necessary as this is the only way that employees can participate in this behaviour without losing face and managers play a key role in knowledge sharing behaviour.

“Managers should create their own culture of sharing, because their management culture is an example for the whole organization to follow, once a manager is ready to
share his/her knowledge then other staff will be ready to do so” (Focus group 2, Informant 4).

As emphasized by the Informants, managers should lead by example in relation to the creation of an organizational culture of sharing knowledge and more importantly, they expect that managers should listen to what the employees want:

“For knowledge sharing to be successful, it should first and foremost start with managers. A culture of knowledge sharing should be developed enabling learning to occur from managers down to staff. Staff might think that they will lose their competitive advantage if they share their experience, but if managers are able to learn, they will know how to solve problems and encourage staff to share. A bad apple tree does not yield good apples” (Interview Informant 3)

Informant 3 used an analogy to imply that, in any organization, human resources and management practices are important in the development of that organization. If there is to be effective knowledge sharing, for example, publishing articles in high-ranking journals, the role of leaders and management practices are important as effective leaders and effective management practices will yield better knowledge sharing outcomes. Leaders should lead by example by publishing articles and encouraging employees to do so. In addition, management should assist the employees with processes as well as rules and regulations to guide them to complete their tasks.

Creating a knowledge sharing culture in any organization is a win-win situation in which staff learn from each other. Therefore, an organization can develop steadily through organizational learning, as every person has opportunities to learn. Many Informants from the group discussion agreed that creating a knowledge sharing culture in universities would help both the individual and the organization sustain a competitive advantage through learning and self-improvement. This is exemplified by the following quote from focus group 1 Informant 3: “Sharing will not only help one person but all the organization will benefit and create a learning organization
which will encourage people to learn more. A learning organization is an important criterion for knowledge sharing (Garvin, Edmondson et al. 2008) and it also facilitates lifelong learning within the individual: “Sharing knowledge will ignite the desire for lifelong learning, both at a personal and organizational level” (Interview Informant 2). Therefore, promoting a culture of learning is important and the key change is management, as good management will support the organizational culture and the learning culture in an organization, thus this will sustain a competitive advantage:

“In an organization, we should always create a culture of learning but this is more important in universities as knowledge is not stable, it is dynamic and needs to be revised or updated to suit modern times.” (Interview Informant 3)

Thus, it can be said that the issue of sharing knowledge can be solved by promoting a sharing culture. Managers are the best people to do this as they play an important role in shaping organizational culture, but they are not the only influence.

Management decides on the organizational structure and policies. Therefore, management can have a great influence on knowledge sharing effectiveness. Support from managers and teams is important, not only to encourage people to share knowledge or debate issues that the organization may encounter, but also to help to retain dynamic and talented staff.

Focus group 3, Informant 12 concluded:

“If managers are willing to listen to staff and learn new knowledge from them... if more experienced staff are willing to gain new knowledge and ideas from younger staff and vice versa, by doing this, knowledge sharing among members of the organization will be accelerated and more talent will be attracted to the organization”.

Supporting knowledge sharing in the organization creates opportunities for staff to learn from each other, regardless of their position or age difference, and benefits the organization. As focus group 1, Informant 10 said:
“Learning from each other in an organization is the best way to sustain a competitive advantage. More importantly, learning should not only consist of young people learning from older people but also older people learning from the young generation as well. A sixty-year-old person should learn from a sixty-one-year-old person and vice versa”.

All Informants agreed that, in relation to seeking support from managers and management in terms of encouraging employees to share knowledge, it was important to ensure there was equality for all with no discrimination in terms of age or academic title.

As focus group 1, Informant 15 said:

“We would like to develop and sustain a real lifelong learning community in my universities, where we would like to learn how to sustain learning skills. These communities are absolutely voluntary. From them, we have found passion for research and sharing knowledge takes place with colleagues, regardless of age or academic title”. (It should be noted that this Informant works for two universities and is included in both universities’ payroll systems).

Support from teams and managers are important in any organization but many young academic staff feel that this is missing. In the discussion, the participants indicated that many young and talented staff had studied overseas where they had learnt and absorbed new skills and knowledge. They would like to share and apply this in their teaching and research, however they faced paramount difficulties such as jealousy from others who were not able to share, management policies and older people who were afraid of change, as expressed by interview Informant 2:

“The major problem is changing the culture of management. You want to retain talent, but you are always obstructing them, insulting them by not allowing them to apply new knowledge …once people realize that the organization does not support their ideas, they will go”.

In relation to losing talent from the education sector to other sectors, the Informants were concerned about the organizational policies on how to retain talented people, otherwise the quality of education would deteriorate, and the nation would be at risk, especially if the government is pursuing a knowledge economy that provides highly qualified knowledge workers. Thus, retaining talent and encouraging or mandating knowledge sharing is essential.

Focus group 2, Informant 8 emphasized, “Once we have sent a person to get new knowledge or training, an organization needs a compulsory policy that staff must share or report what they have learned”.

Many Informants concluded that current management policies in universities are not sufficient to retain talented people. In addition, the low level of transparent management leads to unfair competition in organizations, for example, talented staff may not know how to please managers and as a result, are ill-treated whereupon many will either leave for other sectors or simply accept this poor treatment and consequently, lose their motivation. That is why the quality of knowledge sharing and knowledge creation in Vietnam’s higher education is the lowest in Southeast Asia.

Focus group 2, Informant 3 revealed that:

“We sent people overseas to get new knowledge but they do not want to return because we do not have appropriate policies to retain or attract talent. Not only is the salary so low that it is not enough to satisfy basic needs but also an attitude of envy and selfishness exists in almost every organization”.

The issues of management combined with economic issues have created more difficulties for staff who are trying to enhance their careers.

Interview Informant 2:

“We do not have enough funding to conduct a lot of research. Furthermore, the departmentalization of management and the mechanism of “begging from the bottom and
Thus, Vietnam’s higher education sector is currently facing difficulties in ensuring academic excellence and management issues have proven to be a significant issue that needs to be solved in order to improve knowledge creation and sharing. Bureaucratic management and limited autonomy has deterred staff from engaging in creativity and innovation and has reduced their motivation to share knowledge. The lack of a sharing culture, incompetent managers and an inappropriate level of support in the area of motivation, funding and basic infrastructure (which will be discussed in the next section) has led to the loss of talented staff and as a consequence, the quality and quantity of research publications has reduced as has the quality and number of graduates.

5.2.2 Infrastructure

Vietnam is a poor country in South East Asia, with a GDP per capita which is only slightly higher than its neighbours including Laos, Cambodia and Myanmar (ISSC and UNESCO, 2013; Schwab, Sala i Martin, & World Economic Forum, 2013). As such, investment in ICT and laboratories and research funding is very limited. In addition, there are few universities among the 420 higher education institutions in Vietnam which are able to afford access to journal databases for researchers and teachers. Even then, the few universities, which do offer this service for their staff, do not pay for this themselves, rather, they receive funding from international organizations, such as the World Bank, UNICEF or ADB. The major problems are inadequate library infrastructure and the expense associated with accessing journal databases. The lack of infrastructure, innovation, and technological readiness are the most problematic factors for doing business in Vietnam (Schwab et al., 2013)
Focus group 1, Informant 12:

“The library is the spirit of a university but many of our universities do not even have one... E-libraries are developing so slowly and the information is poor.... This is why many lecturers and researchers are hungry for information and knowledge”.

Supporting the statement of Informant 12 above, focus group 1, Informant 5 provides information in relation to the lack of reference books which resulted in poor knowledge updates and knowledge sharing among academic staff.

Focus group 1, Informant 5 said:

“We lack reference books. We do not even have a small library in our university that meets international standards. How can staff improve their knowledge from books or other print materials?”

Infrastructure is a basic requirement, not only for economic development but also for education and scientific research in order to boost the national economy. Technological readiness is one of the efficiency enhancers for science and economic development (Schwab et al., 2013). Both infrastructure and technology in Vietnam are insufficient or poor and backward.

Interview Informant 2:

“The working environment in a university does not support knowledge sharing.... Not only is this due to the organizational culture, the management culture also causes problems in addition to the infrastructure and technology”.

In a country with scarce resources, such as Vietnam, only young staff are able to use and apply new technologies, having learnt to do so overseas. As a result, there is envy between older and younger staff, and as a consequence, the modernization of infrastructure and equipment is slow. This contributes to hindering staff from updating and sharing knowledge.
Interview Informant 4:

“Because updating new technologies is expensive... and only younger staff are able to use this....therefore, managers are afraid of letting young staff use equipment which older staff are not able to use”.

Insufficient and poor infrastructure also contributes to separating lecturers from their colleges, units and universities, thus poor communication not only isolates people but also deters a knowledge sharing culture, especially an online sharing culture.

Interview Informant 3:

“I realize that universities are absolutely isolated from departments or units...from my experience in my university.... I really do not know what our scientists in my school have achieved this year, how many seminars or international achievements... from whom should I seek help and where online?”

Insufficient infrastructure in conducting research and giving lectures has created a huge hurdle which prevents academics from achieving desirable outcomes. One reason for poor infrastructure, as identified during the discussion, was the lack of funding support from the government and also the fact that universities do not have a strong financial status.

Interview Informant 5 concluded that:

“In order to share knowledge, first there must be research and the acquisition of information, but funding to conduct research is very limited, hence, we cannot conduct experiments or travel overseas to collect data. I think this is a problem which needs to be solved as quickly as possible”.

Economic issues lead to poor investment in infrastructure, and poor infrastructure is not conducive to improving the country’s economy. Poor infrastructure obviously deters scientific research and teaching, but it also causes other issues in the pursuit of new knowledge, such as
dishonest and fabricated data (although dishonest and fabricated data does not only happen under circumstances of poor infrastructure).

Focus group 3, Informant 14:

“In my opinion, the scientific work we produce is low in quantity and quality.... Researchers who are undertaking a research project have limited knowledge... sometimes they only copy from previous research... no new knowledge is explored or created... no reference books or articles are written in English....besides they do not have much funding with which to dig deeper in research”.

Thus, as discussed by the participants, insufficient infrastructure in higher education has a significant impact on knowledge improvement and knowledge creation in higher education. It not only directly affects staff knowledge, it also hinders a culture of knowledge sharing in organizations, it deters effective communication, and it also results in a poor economic return due to a poor investment in funding.

5.2.3 Training

The participants discussed training as the biggest issue facing higher education. Effective training facilitates absorptive capacity and thus knowledge sharing becomes more effective. Training is discussed as follows: first, the issues of evaluation are discussed, followed by absorptive capacity, resources, and English proficiency.

5.2.3.1 Issues of Evaluation

The basic aim of training and the evaluation of the knowledge possessed by the workforce is to ensure the right people are in the most appropriate role. However, in the context of Vietnamese higher education, training and especially evaluation is viewed as not appropriate and is considered to be the major cause of the low quality of graduates as well as the large number of incompetent researchers. In response to the question as to why Vietnamese universities are ranked so low and why the number of patents as well as the number of international publications
is low and the quality of graduates is poor. Almost all the participants agreed that the quality of staff is poor as result of inadequate training and evaluation because “No one fails their thesis once they have been admitted as candidates” (interview Informant 3). One of the outstanding issues of evaluation on which many focus group Informants strongly agreed is the training and evaluation of PhD candidates who will one day become university lecturers, researchers, and leaders in the future. Many poorly written theses containing high levels of plagiarism have been passed. Many PhD candidates buy their theses from photocopy shops, where one thesis is replicated into different versions with little modification and are sold to buyers. Some PhD candidates copy research from previous theses and others hire someone to write a thesis for them. The following statement of focus group 2, Informant 3, exemplifies this: “Some PhD students get their registration to get their degree but their knowledge is quite poor”. Due to this widespread issue, there is a popular expression in Vietnam which is called “tiên sĩ giấy” or “Paper doctor” which means that on paper, they have acquired the title of Doctor of Philosophy but their actual knowledge is far from a doctoral standard.

A thesis which contains original and novel research and is well written should be passed, however a poor quality or plagiarized thesis should be rewritten and the PhD candidate must put more effort into proving their ability. However, this does not currently happen in Vietnamese higher education:

“When I read a thesis, I immediately realize that the student has copied from previous PhD students. Perhaps the student has copied different parts of a thesis to make a very ‘shaky’ thesis, but I had to pass it...” (Focus group 2, Informant 4).

Also, “A ‘norm’ which lasted for a long time was ‘Do not fail a thesis’. Why should we fail a student if previous examiners did not do so?” (Interview Informant 4).
As the quality of research and training has been neglected, there are many unqualified researchers who later become supervisors of other students. Hence, the vicious cycle is repeated, “These PhD students later become supervisors for other PhD students” (Interview Informant 2).

Explaining why the quality of training was so low, focus group 2, Informant 3 said, “We tend to treat training issues as being largely based on sensation rather than disciplines and regulations”. Another comment was, “Sometimes we feel sympathetic toward their hard work, so we pass them anyway” (Focus group 2, Informant 6). In Vietnam, students have to pass a very difficult entrance exam in order to be accepted into a university course, including PhD candidates. However, the quality of training during their candidature is neglected. This could be because they try their best in the beginning of their candidature in order to be accepted, but after this, they do not work as hard. Therefore, even though there are a large number of PhD students, the scientific work they produce is low in quality and quantity: “Among our lecturers and researchers, there are few people with an ability that would be considered as being at an acceptable level. The others are not” (Interview Informant 3). As a result, quality is not strictly controlled and Vietnamese higher education has slipped into a recession of darkness:

“In Vietnam, it is extremely difficult to fail a PhD thesis. Examiners are under strong pressure because of the interrelationships between the supervisors and examiners. If you fail my students, in turn, I will fail your students... More importantly, a PhD thesis has never been failed to this point in time. If there was, the supervisors would have a lot of work to do!” (Interview informal 2)

To overcome these issues, participants emphasized that there should be a change in old habits that impact one’s way of thinking, even though effecting a change in thinking is difficult: “Our staff have deeply absorbed their thinking habits from the older generation and they still remain today” (Interview Informant 2). The best way to remove old schools of thought is with open-mindedness and a greater focus on outcomes rather than procedures and meaningless mottos:
“My opinion is our universities should discard their current thinking on training and research…they should apply new methods to increase education productivities… and to attract foreign students as well which is good for international integration” (Focus group 1, Informant 4).

Thus, in terms of training and evaluation, the participants indicated the need for improvement in absorptive capacity in order to improve knowledge sharing effectiveness and new knowledge creation. To do so, higher education must invest sufficient time and resources for research and improve the English proficiency of staff. More importantly, higher education must prioritize the quality of training in assessment and evaluation to ensure greater credibility, trustworthy, and people are central to this innovation.

5.2.3.2 Absorptive capacity

Knowledge absorptive capacity is very important, especially for academic staff as they deal with knowledge transfer every day. Thus, from individual perspective, it is important to improve the absorptive capacity of all lecturers and training is one of the most effective ways to enhance absorptive capacity and knowledge sharing: “Frequently training staff will improve teaching skills, self-assertion and self-confidence” (Interview Informant 2). Training will help staff revise their knowledge but also keep their learning process activated: “Good training does facilitate the learning process” (Focus group 3, Informant 3).

Frequent and effective training is most important for academic staff as knowledge is constantly changing and needs to be updated, “In the current context of development, if you do not continue to learn, you will be out” (Focus group 3, Informant 9). Training and sharing new knowledge obviously improves the ability to absorb new knowledge and inspires creativity. As agreed by many Informants during the discussion, sharing knowledge helps individuals look at themselves and improve their weaknesses, as demonstrated by the following statement:
“To share in a group, besides the feedback you get from others, you might get something back that you have never thought about before. You also learn from others’ views on specific matters, so if you do not share, people will not share with you… Training and sharing will encourage people to find new knowledge, attract more staff to participate, and will create motivation for knowledge creation and the learning process” (Focus group 1, Informant 2).

Training is a method of sharing knowledge that encourages people to open their minds and training also inspires staff to generate creative ideas as well as inspires the lifelong learning process: “From my experience, I believe that training, as well as sharing knowledge, inspires the lifelong learning ability of staff” (Interview Informant 2).

Similar to the above statements, focus group 2, Informant 7 expressed her thoughts as follows:

“I have been to a seminar on how to debate and communicate only once. I realized that if more people participated in this seminar, the number of quarrels would be reduced to a minimum. People would get to know each other better and knowledge sharing would automatically happen”.

Focus group 3, Informant 12 said:

“After each seminar, in which I have participated, I feel much more confident and ready to transfer my knowledge to students or other staff because I have had knowledge shared by other staff members and have been critically analysed during the discussion”.

Effective training is essential, as we cannot be expected to acquire new knowledge without training, “We must accept that nobody can know everything in life” (Focus group 1, Informant 18).

Recognizing the benefits of training and sharing knowledge is important. However, looking at the current situation of training in Vietnam, the participants stated that there are many things to be done in order to have effective knowledge sharing and knowledge creation which is reflected in the number of international publications, university rankings, and the quality of graduates.
Informants emphasized the importance of the role of managers and leaders in educational institutions in relation to training in how to change mindsets and encouraging openness and a willingness to take risks, as expressed in the following statement:

Focus group 2, Informant 3:

“Training for KS should start from the top leaders down to university staff to ensure that they realize that it is necessary to manage knowledge, to share, to innovate, and to create. Therefore, changing mindsets is the crucial lever for changing policies to encourage open minds and sharing among staff”.

Other Informants insisted that lecturers also needed to be trained and retrained, as focus group 2, Informant 6 suggested: “We should implement more peer assistance and coaching as well as train the trainers”.

Thus, training and assessment influence individual absorptive capacity, that is, the better the training and assessment, the higher the absorptive capacity will be. Firstly, training will help the individual to update their knowledge and learn from colleagues. In addition, training will help the individual become research active and engage in critical thinking. Secondly, good assessment will identify who is better in what area. It will also provide a chance for individuals to realize their weaknesses and find ways to improve. Moreover, good assessment will help to allocate human resources more efficiently, for example, weak PhD graduates should not become researchers or managers in universities.

5.2.3.3 Lack of resources

A lack of resources leads to a lack of absorptive capacity and a lack of confidence: “Sharing knowledge is good. However, some people might feel they are incapable of absorptive capacity.... They are concerned as to whether to discuss this or not” (various focus group Informants). On the issue of a lack of confidence, one Informant stated, “If you do not update
knowledge...you cannot share new knowledge.... you are afraid of sharing knowledge” (Focus group 3, Informant 18).

Focus group 3, Informant 5 commented:

“Because of a lack of incentives for conducting research and also because teachers are always overloaded with work and feel stressed, they have no time to invest in research and sharing knowledge”.

When asked about financial support for research, most participants agreed that seeking funds for improving knowledge and research is both difficult and complicated, and more importantly, funding is too low and usually late, hence they often lack the basic needs. The following is a quote from focus group 2, Informant 4:

“A lack of funding has prevented many researchers from participating in research, but that’s not the only problems. Funds always come to researchers late, sometimes even when they are nearly finished their project”.

Focus group 3, Informant 7 stated:

“Research funds are always small and inefficient, a real researcher might not able to get funds, others take advantage of the funding; they just draw on projects to get money”.

In terms of the management of resources, participants called for the need to eliminate asking and giving mechanisms, which has hampered many prospective teachers and researchers. A researcher needs to negotiate with many levels of management to seek funds for research as advised by interview Informant 3:

“Managers at different levels are afraid of their responsibilities when a young researcher applies because of their low reputation”. Or “in order to get approval, a researcher needs to pass seven layers of management from the ministry down to the unit in which the researcher works” (Focus group 2, Informant 1).
Another commented, “There is no specific policy for researchers in universities. Therefore, research activities are considered as extra activities of teachers.”

Thus, as the Informants have revealed, a lack of funds for research is a significant barrier for university staff to pursue their research. Funds play a critical role in motivating staff to conduct research as staff incur costs associated with research such as travel, books, payments for journal database access, phone calls, or printing documents. They will not conduct research if they have to pay for these from their own pockets, as their salary is insufficient for living. Thus, a lack of funding, together with a lack of time (which will be discussed in the next section) have a significant impact on the staff’s absorptive capacity, and as a result, knowledge sharing rarely occurs.

5.2.3.4 English proficiency

Nowadays, over 90 percent of knowledge is published in English (Benjamin, 2012; Gustafson, 2012; Hyland, 2007), thus, English is an important key for absorbing and sharing knowledge internationally: “English plays an important role in approaching regional and international knowledge” (Focus group 2, Informant 3). Also, “Most university staff have been isolated from the outside world as a result of insufficient English skill, especially in speaking, reading and writing” (Focus group 2, Informant 5). However, it is a fact that not all academic staff in the higher education sector in Vietnam are able to use English for their jobs:

“A large portion of our researchers are not able to read and write in English. This is a big hurdle for them when trying to participate in the globalized context” (Interview Informant 3)

In many cases, researchers and lecturers face difficulties in searching for new knowledge or knowledge to support their research, but they are not able to, because of the limited knowledge published in the Vietnamese language. A young researcher explained why English proficiency could help him to improve his knowledge:
“I search for documents and resources for my project. If I only search for documents in the Vietnamese language, I will narrow down the knowledge and resources for myself because most references are written in English. For example, when I search for the term ‘cơ học tiếp xúc’ in Vietnamese, there was no document which mentioned it. However, when I typed the term ‘contact mechanics’, there were many” (Focus group 1, Informant 9).

A professor commented on the need for English and technological proficiency as follows:

“The ability to read and write in English and use the Internet is essential in order to be able to conduct scientific research activities. Otherwise, researchers will face huge challenges” and “for me, English like a key to the scientific research world, and if you do not understand English, you will be forever isolated” (Focus group 3, Informant 11).

English is considered the common language for science and research (Gustafson, 2012; Hyland, 2007) but where English is a researcher’s second language, the authors usually make common grammatical and syntax errors. This limits their chances of publishing internationally, so publishing and sharing knowledge becomes unattainable for many young enthusiastic researchers:

“I do not know how to publish internationally because my English is not so good. My friends have already given up their dream of publishing an article in an international journal because of their poor English proficiency” (Focus group 2, Informant 7).

In relation to this issue, some Informants argued that the author could hire someone to proofread and editing their work, however, payment for editing is very expensive and may not be affordable. Moreover, it is not easy to find a suitable English editor in Vietnam. Others suggested that the author could buy proofreading software, but software cannot solve all problems in the same way that humans do. Thus, as a result, many young researchers will give up, while others try but fail. A Vietnamese professor currently living overseas who participated in the discussion said:
"I am a member of an editorial board. Most of the articles, which require extensive editing, come from Asian countries. Sometimes, we receive very promising articles but we have to reject them because of the many grammatical and syntax errors, as we do not have time to edit them. Thus, I can say that for a researcher, English proficiency can directly decide the fate of an article" (Focus group 2, Informant 8)

A lack of English proficiency can lead to adverse consequences, as a researcher can incorrectly translate the content or meaning of an article, thus information can be distorted or completely misunderstood, as indicated by the following participant,

"Many teachers and researchers referenced documents from previous researchers who translated from English, but the translator either did not fully understand the special terms or was incompetent, nor did they know how to make sure all references were correct and reliable" (Focus group 3, Informant 12).

Focus group 3, Informant 4 stated, "A weakness in English leads to incorrect translation and misunderstanding of the lecturer, which leads to knowledge distortion".

A lack of English proficiency leads to isolation in the education system, as staff cannot update their knowledge frequently, and therefore their research is merely a repeat of already published articles or projects. This results in a waste of time and resources and is an indication of the drawbacks in the education system:

"Many articles were published both many years ago and recently about a specific issue A, but due to insufficient English skills, many Vietnamese researchers still believe that their research on A is new" (Interview Informant 4).

Thus, English proficiency is a key for academic staff and researchers to communicate and share knowledge locally and internationally. Being able to read and write fluently in English will help academics update their expertise and then they can share with colleagues within and outside their universities. Secondly, staff who are proficient in English will have a chance to share their
knowledge with an international audience, as well as have a chance to collaborate with colleagues from overseas.

5.2.4 People

Human resources play an important role in sustaining a competitive advantage. People are one of the three key components to create successful knowledge management, in addition to technology and processes (Rodriguez & Edwards, 2010; Barnes, 2012). Participants indicated that there are three factors which influence people in terms of knowledge sharing effectiveness in higher education: individual benefits, work overload and intellectual and property rights.

5.2.4.1 Individual benefits

Staff in organizations can benefit from sharing knowledge with their peers as it is a chance to improve themselves and also to re-evaluate themselves:

“Nobody knows everything, and each person might have a different view on one issue, so if we do not share, we will not know” (Focus group 2, Informant 4). Also, “if I do not share, no-one knows what I have and what I think” (Interview Informant 2)

Thus, realizing the benefits of sharing knowledge will have a positive impact on attitudes toward sharing, as the Theory of Planned Behaviour demonstrated in section 2.5 Chapter 2.

Sharing knowledge is also a way to prove whether knowledge sharers are competent or not. It is a chance for them to prove their abilities, “Why don’t we have a market for knowledge to be traded, where people share and receive value which corresponds with what they share” (Focus group 1, Informant 6). Sharing knowledge also helps motivate people to learn: “I think sharing knowledge will facilitate the lifelong learning of each person, especially in the context of higher education” (Focus group 1, Informant 9).

In addition, sharing knowledge is an opportunity to find suitable peers who are good at what they do and who have the same ideas and ideology in relation to career development:
“I suppose that by participating in sharing ideas and experiences, I will find out who has the same ideas as me. I will also learn new things from this activity” (Focus group 2, Informant 3). Also, “It is better to learn from friends than from teachers” (Focus group 2, Informant 5).

Sharing to learn is a good practice, an issue raised by several participants: “From my experience, participating in sharing is one way to enrich my knowledge” (various group Informants). Thus, by realizing the benefits of sharing, this will encourage people to participate in sharing and knowledge creation. However, often, a work overload prevents them from being motivated to share.

5.2.4.2 Work overload

The participants suggested that no research is being undertaken in universities nor is there effective knowledge sharing by lecturers who are working at overloaded levels, or without any time available beyond their classroom teaching. Higher education regulations passed in 2008 stipulated that a lecturer must teach 900 hours out of 1760 standard hours per year. However, there are many lecturers who spend two to three times this number of hours teaching to earn extra money:

“In my department, some lecturers have been teaching 200% to 300% more than standard hours. They even teach extra hours in private universities to earn extra money and they forget their research role” (Focus group 2, Informant 6).

Earning more money to compensate an already low salary is common for lecturers and researchers, as working in a university does not guarantee that their basic needs will be met:

“We have to work many hours because our salaries are so low. We receive money early in the month, but after 1-2 weeks, this has all gone and this situation is repeated all year” (Focus group 1, Informant 4).
Apart from excessive teaching hours, a supervisory role also creates additional pressure on teachers. A teacher from the Finance academy said:

“In my department, from the year 2003 – 2011, 1200 students were recruited, but over this time, there were only 30 academic staff, thus, on average, each staff supervised 45 students each year” (Focus group 2, Informant 2).

Other participants also gave supporting comments:

“We understand that a community of practice (CoP) is very important for our lecturers in order for them to share their experience and thoughts, but unfortunately, we do not have time for it” (Focus group 2, Informant 5).

Work overload and the need to spend more time on earning money to cover basic needs is a common problematic situation in Vietnamese higher education: “Conducting research activities and sharing knowledge in universities, in general, is very limited, as the major task for lecturers is teaching” (Focus group 3, Informant 8). Also, as concluded by interview Informant 3:

“Research and sharing knowledge are not attractive enough for almost all lecturers. More importantly, they are always overloaded in their work, and therefore, they do not have much time for doing scientific research and developing their career”.

Vietnam ranks as the second highest in student-to-staff ratio in southwest Asia at 30:1, just after Thailand at 37:1 (World Bank, 2012b, p.75). The ratio in some universities is even higher, to the extent of super ratios as confirmed by a participant:

“In my department of Business Administration at Thanh Do University, the ratio between students and staff is 425:1. This number has been confirmed by the Ministry of Education and Training” (Focus group 3, Informant 12).

This high student-to-staff ratio also adds to the burden of the academic workload and contributes to teacher burnout. Work overload results in more stress and fatigue on lecturers which in turn,
leads to teacher burnout and contributes to the issue of dissatisfaction and the lack of motivation to engage in sharing knowledge.

### 5.2.4.3 Intellectual property rights and copyright

Another concern in relation to not to share knowledge in the higher education context is intellectual property rights and copyright, which is associated with knowledge sharing activities. Most participants expressed their concerns about their e-lectures or articles published on the university websites or social media being copied with the name of the authors being replaced with new authors. Most of the newly named authors were the people who had copied the documents, as expressed by the following Informant:

“There are many websites…. Of course, unofficial ones… I have checked some websites and found that they have published our e-lectures, articles and other documents that we had published and stored in our repositories or databases… they copied entire documents and transferred them to their websites but under the name of the new authors” (Interview Informant 2).

Copying the published work of other authors and changing the authors’ names in order to gain recognition and possible promotion is commonplace in Vietnamese higher education:

“Sharing the lecturer’s notes or lessons might not relate to copyright…. But citations which do not show the original authors is very common in Vietnam” (Interview Informant 1). In addition, “stealing knowledge from others results in people not wanting to share… Examples of this are websites which publish our lessons that we published in our university digital repository. They copy from it and publish under others authors’ names… this is not good” (Focus group 2, Informant 5).

Not only is explicit knowledge violated, tacit knowledge also is a huge concern, because if knowledge sharers share their innovative ideas, it is possible that others will steal these or even be forced to give this idea to another person, without acknowledgement, in order to obtain a
reward or promotions. This often happens when subordinates share their knowledge with their superiors, for example, an idea to solve a specific problem such as to save energy or discovering something which is new and innovative. As expressed by the Informants, many team leaders or managers try to steal ideas from subordinates:

“Many times our project ideas have been stolen, whether by accident or design” (Focus group 1, Informant 2). Also, “Some of the leaders take their subordinates’ ideas as their own” (Focus group 1, Informant 6).

The participants suggested that those who take the ideas of others can often be identified as follows: “They always find way to speak ill or criticize somebody in order to hide their bad behaviour” (Focus group 1, Informant 11). As another example, interview Informant 4 said, “My boss usually rejects all my ideas... but a few months later, he gives my exact ideas as his own innovative ideas”. Other Informants also condemned the trick of stealing innovative ideas from other people:

“Every time employees contribute innovative ideas... team leaders always add titles or sentences so that other people think that the innovative ideas come from them” (Focus group 3, Informant 10).

Therefore, in this context, many staff are not willing to share their thoughts for fear that their ideas or work will be stolen by someone else, as especially in Vietnam, there is little enforcement of intellectual property rights and copyright. More importantly, ethical conduct and plagiarism issues are overlooked,

“There is an issue of copying without acknowledgement or plagiarism which is common in higher education... this results in a person who has valuable knowledge, such as lectures, books or ideas, not wanting to share” (Interview Informant 3).
If the problem of copying another person’s work without proper acknowledgement of the author is not stopped, then people will not be willing to share their knowledge. This is a wakeup call for leaders and the government to act on this issue as soon as possible:

“Sharing knowledge to help others and myself is good, but how about copyright? I think we should do something in order to inspire people to share knowledge while their copyright is protected” (Focus Informant 4).

Thus, people in universities are constrained in their perception of knowledge sharing, as well as their satisfaction of basic needs, work overload, and the problem of academic integrity, all of which impact knowledge sharing behaviour. This indicates that there are many issues which need to be carefully addressed in order to improve academic quality, as well as knowledge sharing effectiveness.

5.2.5 Culture

Culture is considered a critical factor that influences knowledge sharing behaviour. In the discussion, the participants classified culture into three important factors that impact sharing knowledge in Vietnamese higher education: saving face; the achievement chasing; and a lack of trust.

5.2.5.1 Saving face

Worrying about making a mistake when people are engaging in knowledge sharing is a prominent characteristic of Confucian culture. Even more serious is face saving in the higher education context. The teacher is highly regarded as a guru. Therefore, if they make a mistake or show signs of a lack of knowledge, this can damage the teacher’s image, and as a consequence, they can lose face in front of their students and lose the respect of their colleagues and in some cases, even high-ranking staff such as managers or school rectors.

Therefore, staff would rather leave other people to guess their ability than speak out and reveal their weaknesses, in order to save face,
“Many staff would prefer to keep their mouths shut and accept the fact that others might perceive them as idiots rather than open their mouths and prove the suspicions to be true” (Interview Informant 1).

As discussed, to save face, it is better to stay behind rather than come forward, and people who lack knowledge seem to choose this strategy: “People who do not update their knowledge frequently are usually afraid of sharing knowledge” (Focus group 3, Informant 12).

Saving one’s face is important, however, saving the face of another is also very important to maintain relationships and reciprocal action in the workplace: “We do not want to be thought of as arrogant, cocky, or smart-alecky by sharing new knowledge to older staff” (Focus group 1, Informant 2).

Showing respect for seniority, both in terms of age and ranking, is common in Vietnamese higher education. Older staff expect respect from younger staff, regardless of how smart the younger staff are, thus modesty is considered a norm.

“We are afraid of sharing knowledge or proposing a new idea to older staff, because if they do not know about this knowledge, they will feel that we are insulting them or inferring they are stupid, and they will lose face” (Focus group 2, Informant 3).

Another commented: “Older staff usually expect that those who are younger or even smarter should respect those who are older in every aspect of life, including knowledge” (Focus group 3, Informant 9).

Due to this expectation of respect, younger staff are usually unable to prove their skills and knowledge. They become passive and gradually lose their motivation to think innovatively.

“We are living in a Confucian culture, a culture of saving face and respect for age. Young people cannot show off their skills and abilities to older people unless they are allowed to do so” (Focus group 1, Informant 4).
Junior staff are also aware of the consequence of showing off or trying to make something different out of traditional thought: “We do not want to disrespect people as we are afraid of being labelled as “arrogant” and we are vulnerable in relation to dismissal” (Focus group 1, Informant 7).

Attempts to saving another’s face also results in younger staff being too modest and this creates a power distance which is another hurdle for knowledge sharing:

“There are differences in the views of the different generations, especially people born before and after the liberation year of 1975. The modesty and humility of younger staff is considered as an obstacle for knowledge sharing and collaborating to run smoothly” (Interview Informant 3).

Thus, saving face at work directly affects knowledge sharing behaviour as staff have to behave in a humble way and use indirect wording for communication or, in fact, it may be actually be better for them to keep silent. This creates stress and demotivates young people from thinking innovatively and day-after-day, their enthusiasm disappears, and consequently, they become passive and lack the motivation to participate in sharing knowledge.

5.2.5.2 Achievement chasing syndrome

Participants indicated that the psychology of wishing to be involved in something important (or Achievement chasing syndrome) is also a significant hurdle for sharing knowledge in Vietnam. It is common for people to think, if we want share our knowledge or research, we must do something which is big, that is, something which creates a great change or great impact, not a small thing. This leads to the misevaluation of themselves in their actual ability. However, it could be used as a shield to hide their weaknesses:

“People over-value sharing knowledge…. Sharing knowledge can be something small, like skills to arrange tables in class to save room… Knowledge sharing does not have to
involve high level knowledge nor should it be mandatory that it has a big impact” (Focus group 1, Informant 5).

Due to overly complex thinking which is too complicated that they might think they should focus on big science and would have big impact rather than little things, as consequence, not many Vietnamese scientists are well known around the world. They said they would do big things but, as many participants indicated, researchers and scientists should focus on reality rather than self-illusion:

“There are many ideas proposed which are far from reality which are not suitable to the current social economic development in Vietnam. For example, a peasant wants a small harvesting machine that is suitable for his small parcel of land in Vietnam... but scientists say that they only care about something bigger with high technology...and as a consequence, there are more innovative ideas and products from peasants than from scientists....laughing...” (Interview Informant 2).

The achievement-chasing syndrome is considered a major issue in the education system. This is consequence of bureaucratic management. Managers and leaders operate by commands and communicate through paper-based means, which creates a distance from reality. Managers want to see good reports with positive results to prove that they have successfully managed their jobs, and as result, they receive reports containing fabricated data. Many Informants agreed that managing via paper-based methods creates a distance from reality is a significant mistake of the education sector, as managers would like to see positive statistics to prove that they are competent. Therefore, at the unit and university level, people can massage data to please managers, as shown in the following quote:

“Every year, we see 99.99 percent or higher of high school students successfully pass the graduate exam according to the MOET report... or in a class, more than 60 percent of students receive a high distinction”(Focus group 1, Informant 3).
However, the reality is quite different: “There are many students who do not know how to solve a math problem but they still pass the exam and go to a higher grade... students who do not know how to read and write a report also still pass all their exams” (Interview Informant 3). This statement is similar to a report in the mass media which indicated that there are many underqualified students who manage to secure a place in a higher grade due to cheating by their teachers. The purpose of this is so that the reports to senior management are positive.

Recently, the mass media repeatedly revealed the truth of how high school graduates pass their final exams, claiming that during the exams, students receive solutions from their examination co-supervisors. This is not a rare occurrence. Rather, it happens on a large scale across the country.

“Many examination supervisors help candidates by giving them solutions” (Interview Informant 3) and “Examination supervisors ignore the fact that students are using documents during their exams” (Focus group 2, Informant 4).

As a result, education produces a false value for society and the value of knowledge workers in Vietnam is getting worse:

“One of the reasons foreign companies invest in Vietnam is for its cheap labour and because they are easy to control rather than for their actual skills” (Interview Informant 1).

Therefore, the achievement-chasing syndrome has created a false value for society which can be dangerous for the development of a nation. As expressed by one participant, this happens across the country and is a cultural phenomenon which needs to be corrected as soon as possible: “To change this it is extremely difficult but we must do it” (Interview Informant 3). Thus, by eliminating this false value, the issue of the achievement chasing syndrome also can be solved, as people must prove their knowledge and skills through outcomes rather than statements.
5.2.5.3 Lack of trust

Trust is a very common concept that allows people to communicate without suspecting the other party. Trust is a very important element in sharing knowledge. It is common sense that a person will not want to share their knowledge with someone he does not trust. In relation to trust in the higher education context, trust can be related to the individual’s job security and career development:

“In our education context, if any person wants to do something new or wants to change, they are immediately criticized for being like young horses who like to kick” (Focus group 3, Informant 15).

Being compared to a young horse who likes to kick has a negative meaning and refers to young people who lack experience but who want to be stand out and show off their limited knowledge or skills. This term is usually used by older staff who lack trust in young people, especially in a hostile environment:

“If the knowledge I am going to share is not really valued or the best .... that is, it might contain some limitations due to my limited understanding, this makes me wonder whether I should share or not” (Interview Informant 3).

A lack of trust in the higher education context is a very serious issue, according to the Informants, due to the culture of respect for older people. Older staff usually have less trust in younger staff in terms of their knowledge and skills, as the following statement indicates:

“We should increase democracy in discussion... we should not avoid debates... as I am at a junior level, I am afraid of debating with senior staff... I lack confidence... but on the other hand, senior people do not want to talk with juniors because they feel you do not have enough knowledge to talk with them” (Focus group 3, Informant 19).

Therefore, the participants suggested that it is necessary to build trust by eliminating the line between older and younger staff:
“In my opinion, organizations should create a good environment where the competition is not hostile; that is, an environment where everyone is a winner” (Interview Informant 1).

According to the Informants, if the barriers between high ranking and low ranking people are removed, then trust will be built and knowledge sharing will take place:

“When the line between older and younger staff is removed for the purpose of sharing, when trust is committed, sharing will automatically occur” (Focus group 1, Informant 12) and “We do not want to be thought of as arrogant if we share knowledge with which managers or leaders are not familiar, .... Our culture respects seniors” (Focus group 1, Informant 5)

Thus, there is a barrier between people in organizations, especially between senior and junior staff, where senior staff with a high ranking in academia often think younger staff should learn rather than share,

“Many senior staff members think that they have rich experience so they do not have to listen to the whole story as they can understand what it means... by listening inattentively....this could demotivate younger people from innovative thinking” (Interview Informant 1).

Thus, trust should be built not only between people at the same level, but it should also be built between people at different levels and most particularly, with management.

5.2.6 Organization

Participants indicated that the following organizational factors are a key influence on knowledge sharing behaviours: the work environment; a waste of talent; and evaluation standards.

5.2.6.1 The work environment

Working under strict supervision and in a compliance environment in higher education can discourage people from wanting to share their experience and expertise. People claim that when
working in an unsupportive work environment or especially in a hostile environment, it is better to keep silent and obey rather than strive to discover new things. In the discussion, the participants stated that the biggest hurdle in relation to their contribution to knowledge sharing is the workplace culture. The workplace culture in Vietnam dictates that younger staff should respect older staff. They should never enter into a debate with older staff, even if the older staff are doing something wrong; promotion is based on the number of years in the workforce rather than ability; decisions are always made at the top of the hierarchy and relationships are more important than work. These are the major obstacles for knowledge sharing, especially for younger people, as summarized below

“One of the problems that hamper young people from sharing knowledge is a work environment that is not supportive or does not suit their abilities. This work environment includes psychology, the organizational environment, management approaches, and infrastructure” (Interview Informant 3)

Most participants agreed that the current higher education setting does not support knowledge sharing. Staff have to spend extra time working to earn money to cover basic needs, so this extra work as well as unfair competition to secure a promotion to a position with a higher salary is a significant hurdle to sharing openness. “You cannot show your strength in an organization with many hidden cultures” (Focus group 1, Informant 14). ‘Hidden culture’ here means that there are many unwritten rules that staff must obey, for example, managers should have more privileges than less senior staff in terms of recognition or promotion for an outstanding performance or person of the year.

Participants explained that in their universities, people try to save their positions by taking advantage of others’ weaknesses or by trying to please managers, rather than focusing on how to improve their knowledge and finding a way to work more effectively. Thus, this creates a fiercely competitive environment, “I cannot share knowledge in a closed-minded environment, which exists in our universities” (Focus group 2, Informant 8).
Support from peers and managers are very important for staff who are ambitious and desire career development. However, as the participants discussed, working in a university can be stressful. As whenever young staff would like to apply new knowledge in their lectures, they are often get rejected by senior staff:

“When I would like to apply what I learn from overseas into my lectures, I always receive a warning from my supervisor that I should not apply new things” (Interview Informant 4).

Other Informants complained about the attitude of their supervisors in their universities.

“We only perform jobs in our universities…. We work hard and try to integrate and adapt to the organization….putting more effort into innovative ideas but after discussing these with our supervisor, he disregards them” (Interview Informant 1).

Many young Informants agreed that their ideas or opinions were not well respected by senior officers. As a consequence, this demotivated young and enthusiastic staff from sharing knowledge as well as innovative thinking. This could lead to a waste of talent, which is discussed in the next section. Furthermore, they become increasingly passive in their thinking. The example given by the following Informant illustrates their desperate situation as junior staff:

“I think we need both formal and informal communication…if we report to the manager… and he says that ummm… it is nonsense… I know what you mean….then this will de-motivate younger staff from sharing their ideas…. I am a new employee and I have made an effort to share new ideas but the manager disregarded them… this will eliminate creativity… I think” (Focus group 1, Informant 2).

Thus, the working environment, especially with the support of peers and managers, can be a critical factor that facilitates the sharing of knowledge, however the current working environment in universities, as reflected by the participants, is a significant concern for staff who would like to participate in knowledge sharing.
5.2.6.2 A waste of talent

Buying a position and power results in people occupying positions to which they are not suited, thus they tend not to have the ability to lead people who may be more competent than they are. As a consequence, low quality leaders generally find a way to hinder young people who have innovative ideas. This is illustrated in a comment from interview Informant 3:

“You want to retain talent but you always shout at them not to apply new knowledge or ideas... so staff feel their ideas and knowledge are not respected.... they do not want to be like parrots, simply repeating whatever the leaders have said”.

In the context of a face saving culture, motivated staff who dare to raise concerns about the mistakes or weaknesses of the leaders are considered disrespectful, and as a consequence, they could be dismissed.

“Leader(s) in my university recruit compliant and incompetent staff not only to avoid being criticized as stupid but [also because] he can get money from those staff. Any staff who dare to speak the truth and comment negatively about the leaders will be out or will become redundant” (Focus group 1, Informant 8).

Under the influence of Confucianism, younger staff should not show their intelligence to older staff. This causes younger staff to be de-motivated and it also creates a barrier in communication between the different generations. As a consequence, young staff must make a decision as to whether to stay and hide to wait for an opportunity when they become older or to find another place that suits them. In fact, only private and foreign-owned schools will probably suit them. Unfortunately, the number of schools of this type is relatively limited.

“The huge challenge for Vietnamese academic staff is how to build a learning culture in universities and encourage young staff to share their ideas.... Currently, a large number of older professors believe that young staff are well below them and lack knowledge, and
that they [the young] should listen to the older staff rather than showing their ideas...so, gradually the young staff lose their motivation” (Interview Informant 3).

Thus, young enthusiastic staff might think they are either not worthy or redundant, so they might decide to leave the education sector for another sector rather than staying in an environment where they feel uncomfortable and believe they have no respect.

A waste of talent can also be seen in students and researchers who leave the country to go to other countries where they can freely express their ideas and where people are always ready to listen to them, as well as having good facilities in which they can nurture and apply their knowledge.

“A lot of students to study overseas. They are either self-funded, government-funded or have foreign aid. However, we need a good policy to entice them to come back. This is very important.... Currently graduates are trying to stay overseas, and so far, only a few percent of talented people come back after finishing their studies” (Focus group 3, Informant 12).

As discussed by the Informants, when talented people go overseas, they realize that there is a huge difference between the working environment in Vietnam and developed countries in terms of management. They also worry that their knowledge is not respected in their own country, and therefore, their time and effort is being wasted:

“Our government gives the opportunity to young people to study overseas to acquire new knowledge and improve, but most of them do not want to come back as they are afraid of the current working environment and policies in Vietnam” (Focus group 1, Informant 14).

Thus, there is a huge obstacle for honest and enthusiastic staff to prove themselves. The question they must ask themselves is whether they should stay in the education sector or leave it for another sector. As a consequence, many talented staff move to private and foreign-owned
companies or move overseas where they can freely contribute to the development of an organization. It is time that Vietnamese universities and the government implement a policy to attract and retain talent. This will only occur as a result of practical action, such as providing a sufficient salary, a supportive environment, supportive managers and more importantly, listening to and encourage staff to freely express their ideas.

5.2.6.3 Evaluation standards

The evaluation of academic staff performance is an important task. It ensures fair treatment between staff. It also is a good criterion for promotion, career advancement and reduces the chance of corruption, which is discussed later in this chapter. More importantly, evaluation standards must be in line with international standards, in other words, the requirements for becoming a professor in Vietnam should be equivalent to the requirements in other countries, such as the US or Australia. There is more work to be done in Vietnamese higher education in order to have a transparent process which meets international evaluation standards for academic staff, as expressed in the following comment from an Informant:

“I believe that our policies and regulations for research and teaching evaluation are not at a high standard and it is critically important that we standardize them to reach international standards….unfortunately, our criteria are not at international standards…. We have our own standards?” (Focus group 1, Informant 5).

As the Vietnamese higher education system does not have evaluation standards that are accepted worldwide, not many countries recognize the Vietnamese higher education system as having the same value as their own education systems: “Our education system is like one person on a horse, travelling in an opposite direction to the rest of the world” (Focus group 2, Informant 8). Due to the isolation of training and research methods, few researchers in Vietnam can produce international publications. Therefore, the Informants insisted that MOET and the government should act immediately:
“In my opinion, our government should apply and follow international standards. Let scientists undertake their roles as they should. Do not intervene or tell them what to do” (Interview Informant 2). Also, “the research methods and the form of our articles currently do not meet international standards so of course, they will not be accepted” (Focus group 2, Informant 5).

The Informants also suggested that Vietnam should set standards or criteria to ensure their leaders behave in a transparent way, for example, a leader must have had publications in high-ranking journals, and the marking of theses should involve international examiners. A statement from one Informant echoed this idea:

“If our government strictly applies international standards in research evaluation, I think we can solve part of our problem in scientific research and sharing. We should have a standard for associate professors and professors…. Masters or PhDs also need a graduation standard, such as at least one article published in an ISI journal and have an international examiner mark their thesis” (Focus group 1, Informant 3)

Thus, the cause of not sharing knowledge and having a poor record of international publications is due to inappropriate evaluation standards and isolated education, as stated by Vallely and Wilkinson (2008). As there are different scientific protocols and criteria for conducting research as well as publishing, many Vietnamese researchers who studied overseas cannot easily adapt to the Vietnamese system and many researchers in Vietnam are not able to publish internationally. Therefore, in order to improve knowledge sharing or improve the quality and quantity of international publications, an international evaluation standard should be implemented as a prerequisite for the global integration of education.
5.2.7 Economics status

As discussed, the participants were concerned about their poor income and their lack of motivation to devote their time and effort into their career advancement, and sharing knowledge and publishing in international journals is the best way to show their ability.

There is a Vietnamese saying, ‘if I am hungry, I will not be able to think, but if you give me food, I will do whatever you want’. Similar to Maslow’s Theory of Need, in the Vietnamese context where there are scarce resources, salary is an important goal. Once a person’s salary is sufficient, then people start thinking at higher levels of needs and satisfaction:

“We are young staff, we need money to survive... we have many things to consider for living. If we share knowledge without any incentives or if this is not mandatory, then we will not bother to do it” (Interview Informant 1).

Due to low teaching salaries, staff must take any opportunity to earn money:

“There are many university lecturers teaching over 200%-400% of their teaching quota....they even are teaching for other universities including private universities where they are paid higher than their host universities” (Focus group 1, Informant 5).

Hence, they focus on earning more money rather than being devoted to research: “With this current salary policy, no researcher can live on a scientific research career...let alone produce substantial research” (Interview Informant 3).

Providing another perspective on low salaries, a professor commented:

“In our country, a staff member’s salary is not enough for him to live, let alone his family. The budget for research is limited [so] he has to get a second job to earn a living; it is a trap for corruption”. Another added, “Teaching extra classes or taking bribery is a consequence of the teachers’ salaries being too low”.


Even if they do not take bribes or work overtime, young academic staff face extreme difficulties in improving their knowledge. “With the current salary policy in HEIs, there will be no researcher or lecturer who is able to live” (Focus group 2, Informant 2).

In providing details on the salary issues of university lecturers, many Informants, especially young academic staff, complained that their monthly salary is not sufficient to provide simple food for half a month, let alone other necessary expenses such as travel or entertainment. This issue is exemplified by a quote from the following Informant: “The monthly salary for a new university lecturer is approximately 2,000,000 VND which is not enough to survive” (Focus group 1, Informant 9). Another Informant gives the following example:

“I have been working in a university for 5 years and my salary is 2,500,000 VND but I have to travel frequently. Each month, I pay 700,000 VND for travel. I am a single mum. I really… really do not know how my life will go... sometimes I feel desperate and tired….I have no choice” (Focus group 1, Informant 4).

This salary is equivalent to USD $100, which is not enough to pay the rent, let alone buy food and cover travel and other essential expenses. The economic status of people who have been working in a university for a long time is no better:

“I have been working in a university for eighteen years…. my current salary level is 7 (factor of 4.32), which includes a 30% teaching supplement and 17% for seniority, hence my total income after tax, superannuation, and health care tax is 6.000.000 VND” (Interview Informant 6).

Thus, it can be seen that a university lecturer faces extreme pressure in relation to a high workload and a low income. “Being a university lecturer, you must accept a low salary, work hard, and being stressed” (Interview Informant 2). In supporting this statement, a professor commented: “University lecturers need to be brave, enthusiastic and have a passion to do the job... otherwise they cannot survive in this poor situation”.
Therefore, academic staff want to contribute to their best of their ability, especially in relation to knowledge creation and sharing. Managers and the government need to pay attention to the satisfaction of the basic needs of the employees to motivate them to devote their efforts to their career:

“To be inspired in teaching and sharing knowledge, university lecturers need to have a sufficient salary to cover their basic needs so that they do not have to worry about how to survive or how to find extra work and become distracted from their job” (Interview Informant 1).

Being motivated to work is important in order for people to maximize their capacity and therefore bring more benefit to the organization. However, in the context of Vietnamese higher education, instilling motivation and ensuring there are appropriate rewards seem to be more difficult than in other countries. As discussed in section 2.4, Chapter 2, there are two forms of motivation: extrinsic motivation and intrinsic motivation. The results of the focus groups and interviews indicated there are at present, both extrinsic and intrinsic rewards motivate academic staff. In replying to the question, what motivates you to share knowledge, interview Informant 1 confirmed:

“We need both recognition and monetary rewards”. Another Informant also emphasized, “One needs flowers… others need money… and in a university, there are many types of people and they have a variety of needs” (Interview Informant 2).

However, if there is no incentive or reward, this will discourage academic staff:

“I have conducted good research…. but I received nothing… no recognition, no comment or reward, no incentives… if no one cares, then what do I do this for? Sometimes, self-worth is not enough. I need recognition and motivation” (Focus group 1, Informant 10).
Realizing that knowledge sharing is important to sustain a competitive advantage as it utilizes all the strengths of individuals in an organization, more than ever, academics would like to have something to inspire them:

“I think the habit of sharing is important... many people are smart and rich with knowledge but they do not have the habit of sharing....we lack incentives and rewards to inspire them” (Focus group 1, Informant 15).

In emphasizing the importance of intrinsic motivation, Informants indicated that if they received recognition and encouragement from their managers, they would do their best, even though their economic status is difficult. They indicated that praise in front of other people is worth more than money, but no one knows what they have contributed to the organization, as stated by an Informant:

“When knowledge is shared and becomes usable, we need to recognize and motivate the sharer, because in our culture, there is a saying that “một miếng giã là hàng bằng một sáng xó bếp” or a little food given in public is worth much more than a big cake eaten in a kitchen corner” (Interview Informant 3).

Therefore, in the current context, a lack of motivation has deterred people from engaging in sharing knowledge.

“People will not be interested in sharing knowledge without an incentive as they have many other things to do...people try to hold onto their knowledge as power to earn money” (Focus group 3, Informant 3).

The level of job satisfaction is low, as academic staff are not properly motivated, and more importantly, if anyone makes a mistake, they are criticized:

“In general, if we speak out about our ideas....even if they are good, we receive no recognition, nothing... But if we make any mistakes, then we are criticized very quickly” (Interview Informant 1).
Therefore, as suggested by Informants, universities need to have clear policies to increase salaries for lower income earners. If universities implement policies that encourage people to engage in knowledge sharing and punish people who do not contribute at all, universities will be able to identify the strengths and weaknesses of its staff. “Only when we implement punishment and rewards in a transparent way will people’s true abilities be seen (Interview Informant 4).

In addition, management needs to ensure there is more transparency in the allocation of funding for research, as academics feel that a lack of funding inhibits their motivation to conduct research activities and thus, there is less chance of them gaining new knowledge and sharing.

Thus, poor economic status and a lack of motivation strategies have a direct impact on academic staff’s sharing behaviour, as they invest more time to earn money to cover their needs and spend little time on actual research and career development. They have to work hard and as a consequence, they suffer more stress and have less desire to share knowledge, particularly when there is no incentive for them to do so.

5.2.8 Technology

As discussed in section 2.4.5 and 2.4.6, Chapter 2, technology enhances efficiency while infrastructure is a basic requirement for economic development and serves as a base for technological application. Infrastructure and technology are two of the twelve basic pillars of the global competitiveness index of a nation (Schwab et al., 2013). The technology readiness of a nation, according to Schwab et al. (2013), enhances productivity, especially in relation to increasing efficiency and enabling innovation for competitiveness. Technology helps people to absorb knowledge and use it effectively for their work. Two major factors highlighted during the discussion were library access and technological readiness and support.

5.2.8.1 Library access

Technology is widely used around the world in the form of e-libraries. However, in Vietnam, the e-library is an issue that needs to be addressed quickly so that students, teachers, and researchers
can access new knowledge. Due to the poor content of e-libraries in Vietnam, many researchers and most particularly students never access online documents, as indicated in the following statement from an Informant: “More than 70 percent of students never access information online or come to libraries” (Focus group 1, Informant 14). The reason for not using e-libraries is due to the fact that the contents have never been updated since being uploaded. “The content is poor, and the design is awkward” (Focus group 1, Informant 8). Not many universities have their own e-libraries and as indicated by Informants, the most popular e-library in Vietnam now where lecturers and researchers can share their work is the Vietnam Online Library for E-Teachers (VIOLET), “We rely on VIOLET to learn new knowledge and copy lectures from other lecturers because our e-library has very poor content” (Interview Informant 5).

One of the reasons for the poor quality of the e-library, as mentioned by the Informants, is the lack of funding for technological development, “The reason why we have a poor e-library is due to too little funding” (Focus group 2, Informant 5). Not only is there a lack of funding for developing a knowledge repository for research but also a lack of skilled people to operate it in universities. “To develop an e-library or knowledge repository, we need highly skilled IT people, but currently we have only traditional librarians” (Interview Informant 2).

A combination of the poor content of libraries and the poor IT skills of academics in searching for knowledge online has created a mountain of difficulties for researchers in relation to international publications: “There are not sufficient documents in the library and the e-library is poor so it is very difficult to conduct research” (Focus group 1, Informant 1). Therefore, the Informants confirmed that their research relies on the Google search engine: “We use Google as a main source to search for knowledge for our research” (Focus group 2, Informant 4).

In terms of accessing global knowledge and high-ranking journals, Informants expressed a desire to have a chance to access these in order to review what has and has not been done in their research field, reducing the likelihood of repeating research which has already been published. “In Vietnam, few universities or research institutions are able to authorize access to high
Therefore, it is difficult for us to conduct a literature review to avoid repeating research topics” (Focus group 2, Informant 9).

Thus, the ability to use technology to access high-ranking journals via the e-library is an important skill for Vietnamese academic staff to retrieve global knowledge and improve their knowledge. There is a need to provide more training on using computers to access a variety of resources, such as open access journals which are available on the Internet.

5.2.8.2 Technological readiness and support

Technological readiness and support are important factors that facilitate knowledge creation and knowledge sharing. Technological readiness is the ability to exploit technology to enhance productivity (Schwab et al., 2013). This was identified as one of the problematic issues for university academics:

“I think the most serious problem is that we do not have the right people to utilize modern technology. We are still using old methods for exchanging knowledge, such as face-to-face contact, which is why we are always falling behind our neighbours” (Interview Informant 3).

Teaching, research and knowledge transfer are important roles of a university lecturer and Vietnamese university lecturers are no exception. However, there are many technological issues that academic staff need to address before conducting further research:

“Many staff have basic skills in word processing or spreadsheets.... but their skills in accessing databases, searching for articles or managing emails are almost zero” (Interview Informant 2).

Many other staff also blamed their lack of technology skills for not being able to support their research and teaching: “Many teachers cannot utilize information and technology to support their teaching” (Focus group 1, Informant 12).
A weakness in utilizing technology as consequence of a lack of technological knowledge has resulted in a lack of scientific research which is technology related, as confirmed by many Informants on this issue. An Informant concluded: “In our country, research which involves technological support is very poor” (Focus group 1, Informant 5). Many researchers and staff only choose to conduct research which is easy rather than embark on complicated or difficult projects. The practice to not providing adequate support for technology has contributed to poor knowledge creation and the low quality of Vietnamese research: “Most lecturers and researchers try to avoid or are afraid of choosing projects that need many references, or they avoid projects which require thorough online research using statistical methods or complicated models” (Interview Informant 2).

Thus, a lack of technological skills, as well as poor libraries and difficulties in accessing quality journal databases has created a significant impediment for academic staff to improve and share their knowledge with their communities. An inability to use technology effectively creates stress for academic staff, as they will lack confidence when using technology, causing a negative impact on their perceptiveness of ease of use and usefulness of technology.

5.2.9 Corruption

Corruption in higher education is a sensitive topic for most lecturers and staff, as Informants implied that people who have more power seem be more involved and more sophisticated in corrupt practices. From the discussion, three sub-themes relating to corrupt practices in higher education arose: purchasing a degree, buying an academic position and the causes of corruption.

There are many consequences of corruption. Firstly, incompetent people are employed which reduces the opportunities for talented people to participate in the development of higher education. Secondly, it creates a vicious circle as people who have bought their degrees or positions try to recover what they have spent on their position by allowing corruption to occur. The consequence is to hinder higher education development and hamper knowledge sharing,
which results in negative consequences for the social, ethical, and economic welfare of the nation.

5.2.9.1 Purchasing a degree

One of the main issues that inhibit knowledge sharing and the publication of research in Vietnam is the buying and selling of degrees at all levels in universities. In Vietnam, especially in higher education, academic promotions are based on a person’s title and qualifications and little attention is paid to how they perform. As a result, many people have been appointed to a position for which they were not qualified or deserving. Demand generates supply, thus there is an existing trade in higher education degrees in Vietnam, which is considered to be at a dangerous level. There are several ways of purchasing a degree, buying a complete degree without attending school, or attending school but employing someone to sit the relevant exams, or buying grades from lecturers for individual subjects. This is a commonplace occurrence in Vietnam which is so widespread that people believe it is a norm rather than something unusual:

“There are many students who own real degrees but have never been to class for even one day. The media has reported this on many occasions but no changes ever occur.... I am in this system and I know that this happens often” (Focus group 1, Informant 14).

In addition to hiring someone to attend classes and sit for examinations, many PhD candidates buy marks from their lecturers and supervisors. A common method for doing this is to visit to the supervisor’s house with an envelope which contains money which is placed underneath a table or is given directly to the supervisor. This is also another norm and has the popular name of “văn hóa phong bì” or “envelope culture”:

“Giving envelopes to teachers is a culture and it not only helps them to increase their income, they can also use the money for other purposes. Not many teachers like receiving gifts nowadays” (Focus group 2, Informant 4).
If caught accepting bribery from students, the reputation of the lecturers and supervisors is ruined as students will disrespect them and will feel that they do not have to study hard or expend efforts in conducting research because they will think that money can buy their qualification. Therefore, there are many low quality theses:

“I used to be an examiner for many masters and doctor theses in the past. I found that theses plagiarized from several pages to more than ten pages accounted for most of them” (Focus group 3, Informant 15).

Once supervisors accept an envelope from students, it is difficult to fail their thesis. Therefore, as discussed in section 5.2.3.2, supervisors will exert influence on the examiners to pass a poor quality thesis. If an examiner dares to fail a student, they will receive retaliation such as not being nominated as an examiner again or not being asked to be a supervisor. As a consequence, their salary will be lower. Thus, they are compelled to pass a low quality thesis as a reciprocity norm, as confirmed by a professor: “You pass my students, I pass your students” (Focus group 2, Informant 3). Another Informant added:

“To fail a thesis in Vietnam is extremely difficult. Examiners are under great pressure to mark a thesis because of the interrelationship between examiners and supervisors and supervisors and candidates.... and a thesis is never marked as failed because if someone fails, he or she will have a lot of things to do” (Focus group 2, Informant 2).

If a low quality thesis is passed, this does not always mean that the examiners are directly involved in corruption or derived a tangible benefit by doing this. It is possible that they passed the thesis due to pressure from their colleagues:

“To fail a poor quality Masters or PhD thesis is very difficult. We are under extreme pressure....because of the interrelationships between examiners and examiners or between examiners and supervisors and between examiners with candidates...” (Interview Informant 2)
In some cases, examiners have no association with corruption, but they pass a thesis due to sympathy rather than academic merit:

“Except in cases where a candidate is involved in corruption with examiners or people at a higher level who can influence the examiner’s decisions, for me, I pass low quality theses because of humanity and sympathy” (Focus group 2, Informant 7).

Other Informants emphasized:

“In many cases, we tend to treat and mark theses largely based on our feelings and relationships rather than on real scientific standards” (Focus group 2, Informant 5).

Thus, in both cases discussed above with some exceptions, Vietnamese higher education had produced low quality of doctorates nation-wide. This contributes to the low absorptive capacity of human resources to society and universities.

5.2.9.2 Buying power, buying position

One form of corruption in higher education is staff using their capital to buy higher positions or to stabilize their positions. A lecturer said:

“In my university, except for some real talent, there are many staff who are employed simply through their relationship with the boss. Their knowledge was low, but they relied on their relationship with the boss to get a higher position” (Focus group 1, Informant 7).

Buying a position results in the employment of incompetent people and as a consequence, performance outcomes are low, and more importantly, employees in the organization feel stressed and dissatisfied to be directed by incompetent managers which decreases staff motivation:

“Frankly, it is a fact that a number of managers or heads of departments in universities are relatives of top university leaders. These managers and heads of departments are
incompetent, so their subordinates do not have any respect for them. They always feel under pressure and stressed” (Focus group 1, Informant 10).

The other issue, which arises due to people buying a position, is that they tend to try to please their superiors and always look for a chance to criticize the talented staff who do not necessarily know how to please managers. As a consequence, the talented staff lose their position or in some cases, their job because they cannot work in such a hostile environment:

“Because of the practice of buying a position and buying employment, this lead to low quality staff have replaced talented ones because they know how to please the boss” (Focus group 1, Informant 8).

Buying a position in Vietnam is common, according to the Informants, and several criteria are considered when people are recruited: “First relatives, second money... last intellectual ability” (Interview Informant 1). In the recruitment process, the highest priority is given to the relatives of the recruiter; and the second priority is given to those who have the most money. Talented staff with no money are the last choice for recruitment.

Therefore, many students who have studied overseas but who neither have enough money nor are related to the recruiter are unable to secure a position in a university, even though they do not want to buy their position. As a consequence, many have spent years out of a job:

“I know many students who graduated from Australian universities but they do not have money, nor are they related to the managers... for several years, they have been looking for luck” (Interview Informant 5).

Buying a degree and then buying a position is also another example of corruption in Vietnam. Policies state that a person in a leading position must have appropriate English skills to lead the organization, but how to evaluate these skills is never specified. As a result, many leaders and managers do not know how to speak English. They buy a certificate from an English language training centres to put into their applications:
“Many people who have never spoken a single word in English spend only a few million Vietnam dongs to buy a certificate from an English training centres, regardless of quantity or what level of certificate” (Interview Informant 4).

Thus, degrees or certificates are considered tickets to enhance one’s career in Vietnam and these can be obtained easily by buying one from a training institution or language centre. This phenomenon is common and widespread and the purchasers are usually high-ranking personnel, therefore, the issue of purchasing a degree would be extremely difficult to eliminate.

5.2.9.3 Cause of corruption

In identifying the cause of corruption in Vietnamese higher education, many Informants indicated that bureaucratic management is the major cause of corruption at various levels of management from the government down to the university and department level. Misleading information, inappropriate and incompetent management and the unethical and immoral behaviour of many managers have contributed to the widespread corruption in education, as stated by an Informant professor:

“Bureaucratic management and malfunctioning of institutions, together with inappropriate leadership and direction, as well as the unethical and immoral behaviour of many managers in the organization are the causes that we can see” (Focus group 2, Informant 2).

Bureaucratic management generates backward policies, which together with low salary policies result in corruption in higher education: “Backward policies, salary policies cause different types of corruption” (Interview Informant 2). Bureaucratic management creates an asking and giving policy from the government down to units in universities where every decision needs approval and agreement to fund any project must be sought:
“The asking-giving mechanism, interest groups, and limited tenure working terms are the causes of corruption. In a place where an asking-giving mechanism does exist, corruption will occur” (Focus group 2, Informant 3)

An asking and giving policy, as mentioned previously, creates opportunities for bribery as people can use money to influence resource allocations. Interest groups as defined by the Transparency International Corruption Perception Index (2012) are associations of individuals or organisations with whom they share the same one or more interests or concerns. They attempt to influence public policy in their favour which can lead to administrative corruption. Limited tenure creates an opportunity for people to take advantage of their tenure to extract as many resources (including money, land or other assets) as possible before they move to another position. Thus, as discussed, professional misconduct and corruption in Vietnamese’s higher education is described as severe. It has a deep impact on the students’ attitudes, as they believe that they do not have to study hard as long as they have enough money to buy their qualification. More importantly, corruption in higher education has destroyed the students’ respect for the teachers and their careers, and as a consequence, the education system produces a low skilled and low knowledge workforce as well as incompetent researchers.

5.2.10 Leadership

Leadership is another important factor to which Informants paid special attention during the discussion. As discussed in section 5.2.1, bureaucratic management has resulted in many issues that deter the knowledge sharing of academic staff. The leadership issue also has a significant impact on knowledge sharing efficiency and effectiveness in higher education. This section further discusses the management issue and focuses on leadership, especially the need for democracy and autonomy for leaders in universities to make their own decisions. The ultimate goal is to share knowledge both locally and internationally in terms of research publications and patent registration. This will ensure there is a higher quality of training and education in the higher education sector as lecturers will have more expertise in their areas.
5.2.10.1 Lack of democracy

Freedom of speech is a right declared in the Vietnamese constitution, but in reality, this has never been implemented. In fact, Vietnam is one of the countries that have the most restrictions on the freedom of the press and free speech. In Vietnam, there is no protection for people who want to utilize their right to free speech thus, most academic staff are very careful in what they say, therefore limiting the range of issues they can discuss publicly, as well as their ability to find new solutions for specific problems.

“A policy is to be used for solving a specific problem…. Therefore, the first step is to find the major cause of that problem. At the organizational and national level, I think the major problem is the work environment, and specifically, change management and leadership skills…. Let people say what they think; do not insult or stop them” (Interview Informant 3).

Therefore, improving leadership skills from the lowest level, such as the team to higher levels, such as the university level is very important. In their position as a leader, they must have sufficient freedom to undertake their roles and responsibilities, to say what they want to say, a sentiment expressed by many Informants. The following quote is an example of these:

“I think to encourage people to share knowledge there must to be democracy and the willingness of others to listen, especially at the management level... people will not be afraid of expressing their thoughts if there is real democracy” (Focus group 1, Informant 6).

Therefore, the role of leadership in an organization is important, but in particular, a leader must be able to break the barriers to sharing knowledge, such as promoting democracy to encourage people to talk. Secondly, a leader should be a pioneer in knowledge sharing, for example, by sharing their article publications:

“In my opinion, leaders should set an example in knowledge sharing. You must be the first [leading by example].... Then others will follow” (Focus group 2, Informant 6).
The Informants stated that they expected someone to lead them in conducting scientific research, in knowledge sharing and other knowledge-related teaching. Therefore, a leader must be competent and must be able to demonstrate skills and knowledge to convince followers, especially in relation to the number of articles they have published in high-ranking journals. “We are lacking good examples of knowledge sharing” (Interview Informant 1).

On the other hand, as discussed in section 5.2.9, corruption has distorted both management and recruitment processes. As a consequence, many university leaders were not appointed due to their real abilities, but through buying degrees, certificates or cheating in their PhD degrees. The phenomenon of leaders or professors submitting false documents in order to be promoted is common in Vietnam (LaoDong, 2013; Mai, 2013; Tho, 2014). This is why the knowledge and skills of many leaders or professors are far inferior to their staff, as indicated by the following quote:

“In many cases, many staff, especially those who studied overseas, have better knowledge and skills than their leaders. But staff are controlled by people who do not know how to do research” (Focus group 2, Informant 1).

Due to a lack of competency, leaders use bureaucratic management as a tool to manage and control staff. This further restricts the communication between staff and leaders and the gap between leaders and staff becomes wider. This, together with the high culture context and high power distance (Kohl, 2007; Nishimura, Nevgi, & Tella, 2008), creates almost two different worlds between leaders and staff. It is an extremely unusual case if a staff member criticizes their leaders for their wrongdoings:

“It is difficult to say, boss you do not know this, you are not right in this or that... and it is even extremely difficult to say, my dear teacher, this knowledge is not true now... it is out of date” (Interview Informant 5).
When conducting research, different researchers will have different views or approaches to a specific problem and they should not be controlled by any political or any other non-scientific purpose, as long as researchers follow ethical guidelines, as one Informant emphasized: “We need democracy in doing scientific research” (Interview Informant 3).

As the Informants indicated, Vietnam’s war has passed and the country has now entered a phase of economic development and wishes to form close allies with other countries. So, there is no need to control what people say, and creativity and science, technology and economic development should be the focus:

“We should enhance democracy... this means, let people say whether it is right or not...because democracy and freedom of speech will inspire human creativity” (Focus group 1, Informant 14).

Thus, there is a strong relationship between leadership and democracy. There are two issues which negatively impact leadership that relate to democracy. Firstly, leaders do not have the right to make operating decisions, and their freedom of speech is restricted. They must act within the limitations set by the government and MOET, rather than having the freedom to make strategic decisions on their own or using their abilities to further scientific research. The ambitious aspiration for self-actualization or growth thus has been deterred and this will have a negative impact on motivation and job satisfaction. This issue is discussed in section 2.6.3 Chapter 2, and is discussed further in the following discussion chapter. Secondly, incompetent leaders cause leadership issues, making it more difficult for democracy to be achieved. This issue is also related to corruption, which was discussed in section 5.2.9. This issue not only causes employees to be demotivated in relation to sharing knowledge, it is also a cause for low trust in universities. This issue will also be discussed further in the discussion chapter.
5.2.10.2 Lack of autonomy

Apart from having more and real polices relating to freedom of speech and a more supportive work environment, Informants also emphasized that schools must have greater autonomy to enhance knowledge sharing and manage knowledge, hence managers and leaders need to have more power to make decisions. Currently, public universities are being managed by several layers from government and ministries to local authorities, with a great deal of overlap. Therefore, it usually takes times for an appeal to be approved by affiliated ministries or government, which creates a delay between the time of submitting a request and the time of implementation. Sometimes, a university loses its opportunity as the time for action has elapsed. Moreover, lacking autonomy in terms of financial matters usually creates stress on research operations and sometimes, research fails due to this:

“A few years ago, we planned to cooperate with social science and humanities schools from Ho Chi Minh National University in the south on a collaborative project to share research profiles. This project related to research and training in order not to duplicate existing research or projects and postgraduate theses, because we are the two biggest social science and humanities research schools in Vietnam. Nevertheless, this proposal failed because of the current management mechanism. And due to this we had to ask for permission from many related management levels” (Interview Informant 2).

Giving more autonomy to schools and staff to do their job, especially in research, will automatically eliminate the asking and giving mechanism, and thus will reduce the stress of project implementation and will motivate staff to engage more in research and sharing.

“I think institutional autonomy should be in the form of giving schools more power to make decisions regarding their operations and eliminate the asking and giving mechanism and waiting for approval” (Interview Informant 3).
Many Informants regarded autonomy for leaders and universities to be a key essential breakthrough for leadership in order to have better knowledge-sharing outcomes in universities. Each university has its own competitive advantage and can be led by outstanding leaders with their own strategies. The Vietnamese government and MOET should not intervene. However, currently this is still the case, as shown by the following quote from an Informant:

“MOET organizes the entrance examination for all universities nationwide. MOET manages all universities using the same documents. MOET stipulates the same development model for all universities... so how can we have autonomy?” (Focus group 2, Informant 3).

In a discussion of how leaders can solve the problem of autonomy and improve leadership in the organization, many Informants indicated that the major issue for autonomy for leaders is that they must have control over financial matters. If they are able to control their budgets, other issues can easily be solved. The following is an example of a quote from an Informant:

“We cannot have autonomy over our education system without having autonomy over the budget... budget autonomy is the key to solving most problems. If we have autonomy over human resource management, over recruitment and over operations but we do not have autonomy over the budget. Then all other autonomies are invalid” (Focus group 2, Informant 2).

Greater autonomy will help organizations fight corruption as they will have the ability to dismiss incompetent staff and motivate effective staff:

“There are still many layers of management in our system which are overlapping and fragmented, leading to inefficiency in school decision making” (Interview Informant 2)

Not only is autonomy needed at a university level, there is a need for autonomy at the team and individual level to support leaders.
“Every time we want to do something, we need to ask permission from the leaders and managers. This is a big hurdle... for me... the only people who can eliminate this hurdle are the leaders” (Focus group 1, Informant 3).

Thus, being granted autonomy to do the job is essential for schools and researchers to be able to make decisions relating to their work. Granting more autonomy means that staff will have greater responsibility in terms of their job, and they will no longer have to rely on the leaders and the organization. Furthermore, greater autonomy will inspire their problem-solving creativity and increase their work satisfaction: “Even if you are extremely intelligent, you will be incapable of doing anything if you are working in an unsupported environment under a bad leader” (Focus group 3, Informant 11).

Thus, as indicated by the Informants, leadership issues, especially the lack of democracy and autonomy, deters academic staff in terms of innovative ideas and motivation levels, as staff are constrained by many rules and regulations under the existing form of bureaucratic management. In addition, due to the lack of leadership in sharing knowledge, the many layers of management together with asking and giving policies have demotivated staff in knowledge creation and knowledge sharing.

5.3 Summary of qualitative findings

The results of the discussion indicate that knowledge sharing in the context of Vietnamese higher education faces a large number of difficulties. There are ten factors which influence the knowledge sharing behaviour and knowledge sharing effectiveness of academic staff: (1) management; (2) infrastructure; (3) training; (4) people; (5) culture; (6) organization; (7) economic status; (8) technology; (9) corruption; and (10) leadership issues.

The results show that the most significant factor to influence knowledge sharing effectiveness is management. This issue impacts all areas of knowledge sharing and knowledge creation, for example, it influences how people approach the issue of research funding, and who does what in
an organization which thus impacts the absorptive capacity and policies regarding the retention of talented staff. It also influences the level of democracy and autonomy, which impacts the motivation of employees in the organization. The five critical factors: people, culture, organization, economic status, technology greatly impact the sharing behaviour of academic staff as Vietnamese academic staff are influenced by Confucian culture which encourages indirect conversations and an avoidance of debate and conflict. An unsupportive work environment leads to a waste of talent which, together with a lack of skills in technology and weak English proficiency has a profound impact on the ability to update and digest new knowledge which explains why so few researchers in Vietnam reach international standards and publish their articles. Economic status was found to be a major deterrent for knowledge creation and sharing motivation. Vietnamese academic staff struggle with their low income, therefore their main desire is to satisfy their basic needs rather than concentrate on sharing knowledge, which does not have an immediate return. The data analysis also revealed two significant emergent factors that strongly influence the knowledge sharing ability and behaviour of Vietnamese academic staff, corruption, and leadership issues. Corruption, as discussed by the Informants, has contributed to the production of low quality graduates and researchers. It has also distorted employment procedures by employing unqualified staff and managers in universities. As a consequence, they have no absorptive capacity and low research performance. Corruption also direct influences leadership as incompetent leaders are not able to lead by example, nor are they able to instigate practical and supportive policies, for example, in relation to democracy and autonomy in the workplace.

Finally, the analysis of the discussion indicates the knowledge sharing issues of Vietnamese academic staff are reflected in two theories: the Theory of Planned Behaviour and the Theory of Existence, Relatedness and Growth (ERG theory). The details as to how the factors are embedded into the two theories are presented in the discussion chapter. The next chapter, Chapter 6, presents the quantitative data analysis. This chapter uses factor analysis method to explore the themes that emerge from the quantitative analysis.
CHAPTER 6: DATA ANALYSIS AND RESULTS FOR QUANTITATIVE DATA

6.1 Introduction

Following the analysis of the data collected via the interviews and discussions outlined in Chapter 5, this chapter delves more deeply into data analysis by exploring the data obtained from the questionnaires. As discussed in the methodology chapter, the quantitative results are integrated with the qualitative results to produce the result and answer the four questions:

1- What are the key factors that promote knowledge sharing in Vietnamese higher education institutions (HEIs)?

2- What are the major obstacles that hinder knowledge sharing in Vietnamese HEIs?

3- Of the key knowledge sharing determinants in questions 1 and 2, what are the better predictors of knowledge sharing issue in Vietnamese HEIs?

4- What measures can be supported by MOET and the Vietnamese government to improve knowledge sharing strategies and knowledge sharing activities in universities?

This chapter begins with an explanation of the quantitative data characteristics, including response and non-response rates and the sample profile, which will contribute to the evaluation of validity and reliability of the results. Next, the chapter discusses the selection of the most appropriate method of data analysis for the survey data, followed by an initial extraction of components that will form the factors of knowledge sharing issues. Then, the critical factors and rotation to obtain the final factors are examined and explained. Finally, the chapter presents an interpretation of each significant factor, followed by a summary of the chapter.
6.2 Sample characteristics

Respondents’ details were retrieved from the human resource departments in each university and online from the universities’ websites. Respondent profiles were classified into categories according to their academic ranking: Professor, Associate Professor, Doctor or other title and their academic qualification, that is Master or Bachelor. Within each category, there were two sub-categories of gender: male and female. The purpose of categorizing the respondents was to ensure there was a balance between academic ranking and gender in order to avoid bias. The respondents were sent the questionnaires in prepaid reply envelopes to be returned to the researcher after being completed by the participants. In addition to the traditional paper-based survey, the researcher created an online survey using Google Docs to invite wider participation from people in different universities.

A sample is a collection of observations from a population (Nelson & Nelson, 2014, p. 293), or a sample is a subset of units in a population, selected to represent all units in a population of interest (Australian Bureau of Statistics). Thus, there is no doubt that a role of a sample is important in deciding the validity and reliability of the research. Although probability sampling is less bias and it can be generalised to a larger population because it is more accurate and rigorous than non-probability sampling method (Miller, Strang, & Miller, 2010), this study follows non-probability and purposive sampling method as less costly and more convenient (Miller, Strang, & Miller, 2010; Wilson & Dewaele, 2010; Levy & Lemeshow, 2013). Despite some limitations which will be discussed in limitation section of the chapter 8, the sample is still representative because questionnaires were sent and received from fulltime professional lecturers accounted for 80%, and working experience with more than 5 years comprised of 70% of the total respondents (see Appendix 7 for more details).

The data were collected over a period of two months and were analysed in Australia. The sample characteristics are discussed further in detail in terms of the sampling procedure and response rates; the non-response error; the response profile analysis and the cross tabulation of data.
6.2.1 Sampling procedure and response rates

The criteria for participants who participate in the survey are being a university lecturer whether fulltime or part time employment and working at universities around Hanoi area. In addition, lecturers who published or have recently published articles in either local or international journals were given in a priority selection for participation. The age and working position of participants are varied so that the result can be a summary of the knowledge sharing picture in Vietnamese Higher education institutions. Initially, 300 questionnaires were mailed to academic staff in six universities in Hanoi who had agreed to participate in the research project. Respondents were selected from the top educational institutions in Vietnam because these institutions employ more talented researchers and scientists than other institutions and obviously, these institutions are major producers of international publications in Vietnam. The process of delivering and receiving questionnaires was as follows:

- Participants were either contacted via telephone or face-to-face in the schools in which they were working so that the researcher could explain the purpose of the study and obtain the participant’s agreement to take part in the study.

- The participants chose the most appropriate location for the questionnaires to be sent, either home or work.

- Initially, only 100 questionnaires were sent to selected participants as the researcher wanted to obtain feedback on the questionnaires in relation to the clarity of the questions. The time it took to complete the questionnaire or other comments which indicated that a question should be amended before the remaining 200 questionnaires were sent, as there was no pilot study for this research.

Of the total number of questionnaires posted to participants, 128 completed questionnaires were returned, among these 14 were incomplete, and other 172 questionnaires were not returned. The
response rate, based on the assumption that all 300 participants received the questionnaire, was therefore 42.6%.

Even though the response rate was adequate, the researcher decided to invite participants from 23 other universities using an online questionnaire. A total of 250 prospective participants were emailed to invite them to participate in the project. In order to avoid misunderstandings, the researcher sent each prospective participant two emails: the first to introduce the researcher and to provide information such as where the researcher works, at what university the researcher is currently studying and contact number in case the participants wanted to ask about the questionnaire or preferred to communicate via the telephone. The first email also warned the recipients that the second email might be sent to a spam folder if they had set up rules to filter out all emails containing hyperlinks, because the second email contained a hyperlink to the online survey.

The second email provided guidance on how to complete the survey and gave a guarantee from the researcher that the hyperlink does not contain any type of virus. A guide to explain how to complete the survey was also placed on the first page of the online survey. A sample of questionnaires is shown in Appendix 2.

Of the 250 emails sent to the recipients, 142 completed responses were received by Google documents by the end of 31st December 2011. Therefore, the response rate was 56.8%. Thus, the total response rate for both the mail-based and web-based survey was approximately 47% (258 completed responses out of 550).

6.2.2 Non-response issues

A common problem with the survey method is non-response (Brogan, 1980; Scheuren, 2004). Non-response might indicate the person’s lack of interest in the topic and a high non-response rate could result in misleading data due to bias (Futrell, 1994; Lindner, Murphy, & Briers, 2001; Peress, 2010; Scheuren, 2004; Whitehead, Groothuis, & Blomquist, 1993). The non-response rate
refers to the number of people in the sample who did not complete and return their survey to the researcher. Two categories of reasons are given in the literature for a low response rate, psychological reasons, and mechanical reasons. Psychological reasons include the participants overlooking answers, answering carelessly or being too busy; respondents believing the questionnaires are not applicable to them; sensitive or invasive topics such as sexual behaviour or family income; and a fear of reprisal from higher authorities such as the taxation office. Mechanical reasons include the researcher facing difficulties contacting the appropriate respondents; the questionnaires being too difficult; the participant completing the questionnaires but failing to return it; an incorrect email address or lost mail; no or limited internet access; and concerns about privacy and security (Amara Atif & Bilgin, 2012; Freebairn, 1967; Scheuren, 2004). Neuman discussed a specific example (2011, p.302):

“The first concern involves sampling, and unequal access and use of the Internet. Secondly, older, less educated, lower income are less likely to have interest in answering surveys. In addition, many people have multiple email addresses”.

In the context of Vietnam, information and communication technology (ICT) is significantly underdeveloped compared to other countries in the region and developed countries, as shown in Table 6.1. There is a possibility that email users do not have the opportunity to check their email daily or even monthly, which can also contribute to the non-response rate. As an example, one participant said to the researcher, “Please do not email me. I never check my email. I only have an email address because my university created one for me but I never look at it”.
Overall, the total response rate for both methods is 47% which is considered low but acceptable for researchers (Kemper & Bailey, 2009; Penel, Valentin, Giscard, Vanseymortier, & Beuscart, 2007; Robertson, Walkom, & McGettigan, 2005). Moreover, from the literature published between 1999 and 2006. Nulty (2008) reported that the paper-based response rate ranged from as low as 32.6% to as high as 75%, compared to the online response range which ranged from 20% - 47%, thus this research with a 42.6% response rate for the paper-based surveys and a 56.8% response rate for the online surveys is considered to be at an acceptable level.

Nulty (2008) emphasized that there is no fixed adequate response rate; rather, the response rate is considered adequate depending on sample size, that is, the larger the sample size, the smaller the response rate is considered adequate. In regard to the non-response rate, there is no guarantee that research will receive a 100% response rate (Lindner et al., 2001), therefore, if the non-response rate is high, researchers should consider conducting a non-response bias test or regard it as a limitation of the research (Lindner et al., 2001; Olson, 2006). More importantly, high response rates do not guarantee low bias in responses (Atif, Richards, & Bilgin, 2012), therefore, this research regards non-response rate as a limitation of the study.

### Table 6.1 Knowledge Index 2012, Vietnam and its neighbours

<table>
<thead>
<tr>
<th>Country</th>
<th>Innovation</th>
<th>Education</th>
<th>ICTs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>9.49</td>
<td>5.09</td>
<td>8.78</td>
</tr>
<tr>
<td>Malaysia</td>
<td>6.91</td>
<td>5.22</td>
<td>6.61</td>
</tr>
<tr>
<td>Thailand</td>
<td>5.95</td>
<td>4.23</td>
<td>5.55</td>
</tr>
<tr>
<td>Philippines</td>
<td>3.77</td>
<td>4.64</td>
<td>3.03</td>
</tr>
<tr>
<td>Indonesia</td>
<td>3.24</td>
<td>3.20</td>
<td>2.52</td>
</tr>
<tr>
<td>Vietnam</td>
<td>2.75</td>
<td>2.99</td>
<td>5.05</td>
</tr>
</tbody>
</table>

Source: KAM 2012 World Bank
6.2.3 Coding

After classifying usable and unusable data, the next step is to code the responses. Coding is the process where data are recorded as numbers on a well-organized recording sheet (Neuman, 2011, p.344). First, data were classified in categories, such as demographic, open, or closed answer. The next step in the coding procedure is, according to Neuman (2011), the application of a set of rules created by the researcher to assign a number to specific variable attributes in order to re-organize raw data into a format that is machine-readable.

In this research, a codebook was created and all the information related to variable names was recorded, therefore it is easy to locate variables and their meaning in the data. An example of the codebook is given in Table 6.2:

Table 6.2 Example of codebook

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male =1, Female=0</td>
</tr>
<tr>
<td>Age</td>
<td>22-35=1, 36-45=2, 46-55=3, 56-60=4, Over 60=5</td>
</tr>
<tr>
<td>Work fraction</td>
<td>Full time=1, Part time=0</td>
</tr>
<tr>
<td>Agree/disagree</td>
<td>Strongly disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5</td>
</tr>
<tr>
<td>Work experience</td>
<td>Less than 1 year=1, 1-5 years=2, 6-15=3, Over 15=4</td>
</tr>
<tr>
<td>Academic qualification</td>
<td>Bachelor=1, Master=2, PhD=3, Other=4</td>
</tr>
<tr>
<td>Academic rank</td>
<td>Assistant lecturer=1, Lecturer=2, Senior lecturer=3, Associate Professor=4, Professor=5</td>
</tr>
<tr>
<td>Opinions</td>
<td>Yes=1, No=0, Yes I will=1, No I won’t=0</td>
</tr>
</tbody>
</table>
6.2.4 Respondents’ profile analysis

Figures 6.1 to 6.6 show the characteristics of the respondents and the distribution patterns in relation to gender, age, employment status, work experience, qualifications and academic ranking and the universities where the participants are currently working.

6.2.4.1 Gender

Figure 6.1 shows that the sample is almost equally distributed with 119 males and 139 females, representing 46% and 54% of the total sample, respectively. Thus, the normal distribution of gender in the sample minimizes sample bias and therefore, increases the likelihood of a more realistic outcome of the research.

Figure 6.1: Participants classified by gender ‘N=258’

6.2.4.2 Age

Figure 6.2 shows that the study participants aged over 60 accounts for 4% of the total number of respondents. Sixteen percent (16%) of the participants were aged between 46 and 60, an age at which presumably the participants have reached the highest level in their career and have accumulated rich research experience as well as academic knowledge. Younger academic staff (aged 22-45) represent 80% of the sample. With the age category 22-35 being the largest group, representing 56% of the total sample.
6.2.4.3 Employment status

As shown in Figure 6.3, full-time university staff account for 80% of the total number of respondents, while part-time staff only represent 19%. The high percentage of full-time staff will ensure that the results are more reliable and valid. Moreover, full time staff bear the majority of the responsibility for the university’s ranking and reputation through research publications and teaching quality, therefore it is important to survey this group.
6.2.4.4 Work experience

Figure 6.4 shows the number of participants who have over six years of experience in teaching and conducting research in universities, which accounts for 70% of the total number of respondents (47% with 6-15 years’ experience and 23% with more than 15 years’ experience), while only 7% of participants have less than one year of work experience.
6.2.4.5 Academic qualifications

The number of study participants who held a postgraduate qualification comprised 76% of the total respondents, as shown in Figure 6.5, while 23% of participants held a bachelor degree. This finding is reflected in MOET’s recent report which was discussed in detail in section 3.5. In this research study sample, nearly 50% of participants currently hold a Master degree or higher, thus given this figure, it is likely that the participants will engage in knowledge sharing in relation to their research and teaching, making them appropriate candidates for this study.

![Figure 6.5: Participants classified by academic qualifications (education level) ‘N=258’](image)

6.2.4.6 Academic level or position title

Figure 6.6 shows that 9% of the total participants hold either an associate professor or professor title, with four professors (2% of the total respondents) and nineteen associate professors (7% of the total respondents) agreeing to participate. Seventeen percent of the total respondents is associate lecturers, which is equivalent to the percentage of senior lecturers, associate professors, professors, and other titles, combined. The most significant distribution of the sample focuses on associate lecturers and lectures, representing 66% and 17%, respectively. In the context of
Vietnam, lecturers only focus on teaching, and research and other scientific activities are considered extra tasks rather than compulsory ones (Trang & Huong, 2012).

6.2.4.7 University

As shown in Table 6.3, academics from 29 universities were invited to participate in the survey. The distribution of the total number of respondents shows that six universities, namely FPT, National University, Academy of Finance, Hanoi University of Industry, University of Social Science and Humanities, and Hanoi National University, account for the largest portion (62.02%) of the total sample. These are leading universities in Vietnam in terms of scientific achievements. For example, a young scientist at FPT University was the first to successfully design and manufacture a camera for a Japanese microsatellite (Chen, 2011; Giang, 2011), while Hanoi National University and the University of Social Science and Humanities produce the majority of Vietnam’s international publications. The universities in the middle and small-sized respondent groups namely Nguyen Trai University, Ha Noi University of Architecture, Hanoi University, Thai Nguyen University, Banking Academy of Vietnam. The FTU (Foreign Trade University), Hanoi University of Education, Vietnam Commercial University, Hanoi Polytechnique...
University, UTEHY (Hung Yen University of Technology and Educations, Hanoi University of Science and Technology, Electric Power University, Hanoi University of Agriculture, and Hanoi University of Mining and Geology, accounts for approximately 35% of the total number of respondents.

The universities in the lowest respondent group represent 3.51% of the total number of respondents. They are Dai Nam University, Diplomatic Academy of Vietnam, Hanoi Medical University, Hanoi Open University, Hanoi University of Culture, Hanoi Water Resources, University HCM National Academy of Politics and Public Administration, Thang Long University, and Vietnam Forestry University, as each of these universities had only one respondent to the survey and accounts only for 0.39% of the total number of respondents.
6.2.5 Descriptive statistics of the initial analysis

The sample-to-variable ratio is approximately 8:1 (258 responses over 32 questions including demographic questions) which satisfies the minimum requirement (5:1) for exploratory factor analysis. For the purpose of this study, 23 items underwent factor analysis. An additional nine items were included to obtain information on the participants’ demographic data and their familiarity with knowledge management concepts. Moreover, in order to support the interpretation, frequency analysis was also applied to all 32 items to ensure no valuable information was left out.
Of the 23 items analysed, the responses to the first 20 items were on a 1-to-5 scale, ranging from strongly disagree, disagree, neutral, agree and strongly agree.

As shown in Table 6.4, the responses to two items: Q3 (I am unlikely to share my knowledge because no one else shares their knowledge) and Q4 (I am unlikely to share my knowledge because it might be out of date or it could be wrong), indicate that the sample generally reported that staff expect reciprocity and saving face in the Confucius culture. However, the responses to four items: Q1 (My university expects that I should always share my knowledge and experience with other staff), Q7 (I share my knowledge to enhance my career), Q10 (I am more likely to share my knowledge with those whom I believe I can approach for help in the future), and Q20 (I believe that a person with high knowledge and skills always feels confident in sharing knowledge) have the highest means. This suggests that the sample generally reported a positive expectation to share their knowledge with other academic staff.
<table>
<thead>
<tr>
<th>Questions</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Analysis N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1. My university expects that I should always share my knowledge and experience with other staff in my department</td>
<td>4.13</td>
<td>.973</td>
<td>258</td>
</tr>
<tr>
<td>Q2. My colleagues believe that I should always share my knowledge with them</td>
<td>3.77</td>
<td>.925</td>
<td>258</td>
</tr>
<tr>
<td>Q3. I am unlikely to share my knowledge because no one else shares their knowledge</td>
<td>1.91</td>
<td>.902</td>
<td>258</td>
</tr>
<tr>
<td>Q4. I am unlikely to share my knowledge because it might be out of date or it could be wrong</td>
<td>1.99</td>
<td>.862</td>
<td>258</td>
</tr>
<tr>
<td>Q5. My career could be in danger if I make mistakes in sharing knowledge</td>
<td>2.24</td>
<td>1.037</td>
<td>258</td>
</tr>
<tr>
<td>Q6. I share my knowledge for monetary rewards</td>
<td>2.14</td>
<td>1.049</td>
<td>258</td>
</tr>
<tr>
<td>Q7. I share my knowledge to enhance my career</td>
<td>4.12</td>
<td>.955</td>
<td>258</td>
</tr>
<tr>
<td>Q8. I share my knowledge to get recognition from colleagues/public</td>
<td>3.55</td>
<td>1.028</td>
<td>258</td>
</tr>
<tr>
<td>Q9. I am more likely to share my knowledge with those who share or are willing to share knowledge with me, either face-to-face or via technology support</td>
<td>3.98</td>
<td>.988</td>
<td>258</td>
</tr>
<tr>
<td>Q10. I am more likely to share my knowledge with those whom I believe I can approach for help in the future, either face-to-face or via technology support</td>
<td>4.01</td>
<td>.869</td>
<td>258</td>
</tr>
<tr>
<td>Q11. Everyone should be expected to share their knowledge with others who need it because sharing knowledge is everyone's responsibility</td>
<td>3.12</td>
<td>1.285</td>
<td>258</td>
</tr>
<tr>
<td>Q12. My relationship with colleagues is likely to be stronger when I share my knowledge</td>
<td>2.66</td>
<td>1.134</td>
<td>258</td>
</tr>
<tr>
<td>Q13. I am more likely to share knowledge with those I can trust</td>
<td>3.35</td>
<td>1.082</td>
<td>258</td>
</tr>
<tr>
<td>Q14. I am unlikely to share my knowledge with any newcomers in my department</td>
<td>2.17</td>
<td>.879</td>
<td>258</td>
</tr>
<tr>
<td>Q15. My knowledge sharing helps other members in my department to solve problems</td>
<td>3.78</td>
<td>.705</td>
<td>258</td>
</tr>
<tr>
<td>Q16. My knowledge sharing helps members in my department to solve problems</td>
<td>3.57</td>
<td>.746</td>
<td>258</td>
</tr>
<tr>
<td>Q17. My knowledge sharing helps my department achieve its performance objectives</td>
<td>3.70</td>
<td>.749</td>
<td>258</td>
</tr>
<tr>
<td>Q18. My knowledge sharing creates more opportunities for staff to improve their knowledge and skills</td>
<td>3.89</td>
<td>.737</td>
<td>258</td>
</tr>
<tr>
<td>Q19. I am confident that my knowledge sharing helps my organization deal efficiently with unexpected events</td>
<td>3.59</td>
<td>.729</td>
<td>258</td>
</tr>
<tr>
<td>Q20. I believe that a person with high knowledge and skills always feels confident in sharing knowledge with others</td>
<td>4.28</td>
<td>.824</td>
<td>258</td>
</tr>
<tr>
<td>Q21. I am more likely to share research expertise with people of my department more frequently in the future than I am doing now</td>
<td>1.88</td>
<td>.429</td>
<td>258</td>
</tr>
<tr>
<td>Q22. I am more likely to share my reports and official documents with members of my department more frequently in the future</td>
<td>1.83</td>
<td>.509</td>
<td>258</td>
</tr>
<tr>
<td>Q23. I am more likely to share my teaching or research experience with other members in my department more effectively in the future</td>
<td>1.91</td>
<td>.364</td>
<td>258</td>
</tr>
</tbody>
</table>
Table 6.4 shows the pattern of relationships between the 23 items. The result indicates that the determinant of the matrix is 0.002 which is greater than zero. Therefore, multi-collinearity is not a problem for this data. The matrix indicates that all questions correlate fairly well and none of the correlation coefficients is particularly large (the highest correlation is 0.59, which is the correlation coefficient between questions 17 and 18). Thus, all questions are considered appropriate for further analysis, see more in appendix 8.

6.3 Exploratory Factor Analysis (EFA)

Factor analysis is the statistical analysis technique used for analysing relationships between observed measured variables (such as item score, age, gender which can be measured directly) and latent variables called factors (which cannot be measured directly) (Beavers et al., 2013; Henson & Roberts, 2006). There are two major types of factor analysis: Confirmatory Factor Analysis (CFA) and Exploratory Factor Analysis (EFA) (Brown, 2012; Goldberg & Velicer, 2006; Thompson, 2004; Williams, Brown, & Onsman, 2012).

CFA requires researchers to specify the number of factors and the pattern of the relationship between factors and variables (Brown, 2012), in other words, the researcher predefines the factors and relationships to test the hypotheses in order to either accept or reject them (Henson & Roberts, 2006). On the other hand, when using EFA, researchers have no expectations of the number of factors and the pattern of the relationship that is exploratory in nature (Williams et al., 2012).

According to Thompson (2004), factor analysis serves three major purposes:

(1) Factor analysis can be used to evaluate score validity;

(2) Factor analysis can be used to develop theory regarding the nature of the construct; and

(3) Factor analysis can be used to summarize relationships in the form of a more parsimonious set of factor scores that can then be used in subsequent analyses.
Factor analysis plays a key role in the validation of assessment scale data (Dimitrov, 2012). In particular, factor analysis is used to determine: (1) how many factors underlie a set of variables, (2) which variables belong to which factors, (3) the correlation between the individual variables and factors, (4) the correlation between factors, and (5) what proportion of the variance in the variables is accounted for by the factors. Thus, factor analysis helps the researcher to validate data and construct cause and effect of relationships between observed variables and unobserved variables. Therefore, the purpose of this analysis is to explore a data set and find the relationships between the factors that support the Theory of Planned Behaviour and the Theory of Needs in order to identify the critical issues related to the sharing of knowledge in Vietnamese higher education.

6.3.1 EFA selection

There are several contemporary statistical methods for quantitative data, together with supporting software to help researchers analyse data more quickly and efficiently (Ary, Jacobs, Razavieh, & Sorensen, 2010; Loehnert, 2010; Muijs, 2010; Punch, 2005). Each has its own strengths and weaknesses, and of course, one size does not fit all kinds of data and analytical purposes.

Hair, Anderson, Tatham, and Black (1995) categorized data analysis techniques into two major groups: univariate analysis with single variable distribution, and multivariate analysis that simultaneously examines multiple measurements on each individual or object under investigation.

Hair, Black, Babin, Anderson, and Tatham (2010) classified 10 multivariate techniques for data analysis. Of these, common factor analysis is the most frequently used technique in psychology, education, and social science (Costello & Osborne, 2005; Williams, Onsman, & Brown, 2010). Deciding on an appropriate analysis technique is never easy for a researcher, especially for a novice researcher. In order to help researchers make an appropriate choice, Hair, Black, Babin, Anderson, and Tatham (2006) developed a diagram to show clearly, step-by-step, how to choose the type of analysis best suited to the research. This research uses exploratory factor analysis.
instead of confirmatory analysis for the data analysis. The flowchart on how to choose the most appropriate type of factor analysis is given in Appendix 6.

6.3.2 Rationale

Exploratory factor analysis is widely used in social science (Costello & Osborne, 2005), particular in psychology and education (Williams et al., 2010). The aim of this research is to identify the latent constructs and determine the relationships between them, as well as to determine which measured variables represent the latent constructs and identify the correlation between the measured variables, with the ultimate goal being to construct a theory. Thus, EFA is an appropriate method for this research (Fabrigar, Wegener, Macallum, & Strahan, 1999). Details of the steps in selecting a FA method can be seen in Appendix 6. Moreover, as stated earlier, the researcher has no expectations about the number of common factors, which will be retained as well as the relationships between the measured variables and the common factors. Therefore, this is another reason why EFA is the most suitable choice for this research (Fabrigar & Wegener, 2011). This research applied a five step-guide for conducting factor analysis, as suggested by Williams et al. (2012). Figure 6.7 below illustrates the process of EFA.
6.4 Is the data suitable for factor analysis?

In this step, five factors that determine whether data is suitable for factor analysis are examined: (a) EFA and the research questions; (b) sample size; (c) sample to variable ratio; (d) factorability of the correlation matrix; and (e) the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy/Bartlett's Test of Sphericity.

6.4.1 EFA and the research questions

Fabrigar and Wegener (2011) stated that exploratory factor analysis is appropriate for answering research questions through an analysis of the factors. There are four research questions in this thesis and the researcher aims to seek answers through analysing the data collected from both qualitative and quantitative data collection methods. Of the four research questions, questions 1...
and 2 are suitable for EFA because this type of analysis is recommended if the researcher has no clear expectations of the outcome or has relatively incomplete expectations about the underlying structure of correlations (Dimitrov, 2012; Fabrigar & Wegener, 2011; Fabrigar et al., 1999).

### 6.4.2 Sample size

Researchers disagree on the issue of sample size for EFA. Some authors state that the larger the sample size, the higher the quality of factor solutions (Costello & Osborne, 2005; Dimitrov, 2012; Kline, 1994). Comrey and Lee (1992, p. 217) further indicate that “the adequacy of sample size might be evaluated very roughly on the following scale: 50- very poor; 100- poor; 200- fair; 300- good; 500- very good; and 1000 or more- excellent”. While other authors claim that sample size does not have a great influence on the result of the analysis and estimation (Fabrigar & Wegener, 2011; Hogarty, Hines, Kromrey, Ferron, & Mumford, 2005). This research involved a sample size of 258, which is considered a reasonable size for EFA analysis (Fabrigar et al., 1999).

### 6.4.3 Sample to variable ratio (N: p ratio)

The sample-to-variable ratio in this study is approximately 8:1 (258 responses over 32 questions including demographic questions) which suggests that the sample size was marginal to sufficient which is higher than the minimum requirement (5:1) for exploratory factor analysis (Gorsuch, 1983; Hair et al., 2010; Ledesma & Valero-Mora, 2007; Treiblmaier & Filzmoser, 2009). However, other studies show that there is no fixed sample-to-variable ratio. As no one ratio will work in all cases (Costello & Osborne, 2005; Hogarty et al., 2005). Factor analysis still produces a reliable result even when N is less than 50, although below this number is not recommended (Winter, Dodou, & Wieringa, 2009). For the purpose of this study, the ratio of 8:1 is considered a safe threshold for conducting factor analysis, despite the controversy on this issue. Moreover, if communalities are low, then a larger sample size should be required (Henson & Roberts, 2006). Therefore, the sample-to-variable ratio is only one of the prerequisite conditions.
6.4.4 Factorability of the correlation matrix

A correlation matrix is considered important for identifying significant relationships between variables (Williams et al., 2012). Hair et al. (2010) stated that factor loading between variables at minimum +/- 0.3 is considered significant for the interpretation of the model. Therefore, this analysis will retain correlation between variables at minimum +/- 0.3.

6.4.5 Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity

The KMO Measure of Sampling Adequacy and Bartlett's Test of Sphericity are necessary to determine the suitability of the respondents’ data for factor analysis (Beavers et al., 2013; Williams et al., 2012). The KMO test in this analysis indicates that the data are appropriate for factor analysis (>=.060) (Dimitrov, 2012). As indicated in Table 6.5, the KMO is equivalent to 0.718 that is considered as middling in terms of the degree of common variance (Beavers et al., 2013). Bartlett’s Test of Sphericity was used to compare the correlation matrix with a matrix of zero correlations, showing that the P-value is less than 0.001, as illustrated in Table 6.5. This indicates that factor analysis can be carried out (Field, 2013; Henry F. Kaiser, 1974; Williams et al., 2012).

Table 6.5 The KMO and Bartlett's Test

<table>
<thead>
<tr>
<th>Kaiser-Meyer-Olkin Measure of Sampling Adequacy</th>
<th>.718</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bartlett's Test of Sphericity</td>
<td>Approx. Chi-Square</td>
</tr>
<tr>
<td></td>
<td>Df</td>
</tr>
<tr>
<td></td>
<td>Sig.</td>
</tr>
</tbody>
</table>

6.4.6 Initial Extraction of the Components (communalities)

Communality is the proportion of each variable’s variance that can be explained by the number of factors in the analysis. Table 6.6 summarises the communalities estimated for each variable. The extraction of factors indicates that the proportion of each variable’s variance which is
accounted for by each factor is not high, ranging from as low as 13% (Q20) and as high as 82.6% (Q2). Five variables have high communalities (>=50% in common) and eighteen variables have moderate communalities with other variables. Q20 (I believe that a person with high knowledge and skills always feels confident in sharing knowledge) has the lowest communality (0.13), which indicates that this variable, to some degree, is independent from the others, and could be analysed as an individual variable. In this table, the variance of Q20 is explained by six components, which only accounts for 13%. Thus, the correlation of Q20 is weakest while the correlation of Q2 is strongest.

Table 6.6 Communalities

<table>
<thead>
<tr>
<th>Questions</th>
<th>Initial</th>
<th>Extraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1. My university expects that I should always share my knowledge and experience with other staff in my department</td>
<td>.291</td>
<td>.244</td>
</tr>
<tr>
<td>Q2. My colleagues believe that I should always share my knowledge with them</td>
<td>.347</td>
<td>.826</td>
</tr>
<tr>
<td>Q3. I am unlikely to share my knowledge because no one else shares their knowledge</td>
<td>.387</td>
<td>.564</td>
</tr>
<tr>
<td>Q4. I am unlikely to share my knowledge because it might be out of date or it could be wrong</td>
<td>.481</td>
<td>.635</td>
</tr>
<tr>
<td>Q5. My career could be in danger if I make mistakes in sharing knowledge</td>
<td>.415</td>
<td>.450</td>
</tr>
<tr>
<td>Q6. I share my knowledge for monetary rewards</td>
<td>.332</td>
<td>.333</td>
</tr>
<tr>
<td>Q7. I share my knowledge to enhance my career</td>
<td>.229</td>
<td>.303</td>
</tr>
<tr>
<td>Q8. I share my knowledge to get recognition from colleagues/public</td>
<td>.293</td>
<td>.260</td>
</tr>
<tr>
<td>Q9. I am more likely to share my knowledge with those who share or are willing to share knowledge with me, either face-to-face or via technology support</td>
<td>.261</td>
<td>.279</td>
</tr>
<tr>
<td>Q10. I am more likely to share my knowledge with those whom I believe I can approach for help in the future, either face-to-face or via technology support</td>
<td>.212</td>
<td>.205</td>
</tr>
<tr>
<td>Q11. Everyone should be expected to share their knowledge with others who need it because sharing knowledge is everyone’s responsibility</td>
<td>.368</td>
<td>.475</td>
</tr>
<tr>
<td>Q12. My relationship with colleagues is likely to be stronger when I share my knowledge</td>
<td>.364</td>
<td>.452</td>
</tr>
<tr>
<td>Q13. I am more likely to share knowledge with those I can trust</td>
<td>.295</td>
<td>.411</td>
</tr>
<tr>
<td>Q14. I am unlikely to share my knowledge with any newcomers in my department</td>
<td>.164</td>
<td>.168</td>
</tr>
<tr>
<td>Q15. My knowledge sharing helps other members in my department to solve problems</td>
<td>.351</td>
<td>.382</td>
</tr>
<tr>
<td>Q16. My knowledge sharing creates new business opportunities (e.g. consultations, new projects) for the department and university</td>
<td>.419</td>
<td>.450</td>
</tr>
<tr>
<td>Q17. My knowledge sharing helps my department achieve its performance objectives</td>
<td>.500</td>
<td>.565</td>
</tr>
<tr>
<td>Q18. My knowledge sharing creates more opportunities for staff to improve their knowledge and skills</td>
<td>.557</td>
<td>.623</td>
</tr>
<tr>
<td>Q19. I am confident that my knowledge sharing helps my organization deal efficiently with unexpected events</td>
<td>.497</td>
<td>.497</td>
</tr>
<tr>
<td>Q20. I believe that a person with high knowledge and skills always feels confident in sharing knowledge with others</td>
<td>.177</td>
<td>.130</td>
</tr>
<tr>
<td>Q21. I am more likely to share research expertise with members of my department more frequently in the future than I am doing now</td>
<td>.483</td>
<td>.653</td>
</tr>
<tr>
<td>Q22. I am more likely to share my reports and official documents with members of my department more frequently in the future</td>
<td>.390</td>
<td>.489</td>
</tr>
<tr>
<td>Q23. I am more likely to share my teaching or research experience with other members in my department more effectively in the future</td>
<td>.405</td>
<td>.439</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Axis Factoring.
6.5 How the factors were extracted?

In analysis and factor extraction, principal component analysis (PCA) and factor analysis (EFA) are easily confused, as PCA and EFA share some important common features. For example, they are both variable reduction methods used to create fewer new variables that contain similar content with previous variables and maximum data can be extracted (Abdi & Williams, 2010; O’Rourke & Hatcher, 2013; Walker & Maddan, 2009). Both procedures can be performed with the SPSS program and sometimes produce similar results (Fabrigar & Wegener, 2011; Field, 2013). The distinction between common and unique variance is not recognized in PCA but in EFA, the diagonal elements are the communality estimates for the variable, so the variance being analysed is part of the total variance in the set of variables accounted for by the common factors (Dimitrov, 2012).

Researchers have suggested that the PCA extraction method should only be used when the researcher wants to simplify the factor structure when variable scores are perfectly reliable (Dimitrov, 2012; Thompson, 2004). PCA extraction is not actually designed for factor analysis and is not factor analysis (Field, 2013; Jolliffe, 2002; Matsunaga, 2010; O’Rourke & Hatcher, 2013). Moreover, PCA was not designed to measure the correlation between the measured variables and thus is not useful for measuring common factors, because PCA does not distinguish between common and unique variance (Dimitrov, 2012; Fabrigar & Wegener, 2011). Hence, this study uses principal axis factoring (PAF) as the extraction method to extract factors for further analysis because this method is a common extraction method (Thompson, 2004). Furthermore, PAF is able to distinguish between unique components and common components and is thus useful for analysing latent factors (Dimitrov, 2012; Henson & Roberts, 2006). Moreover, PAF does not require multivariate normality of data (Fabrigar et al., 1999; Ledesma & Valero-Mora, 2007), thus it satisfies the factor analysis requirement to identify the pattern and strength of the correlation between variables.

According to Thompson (2004, p. 38), other extraction methods, such as:
“Alpha Factoring Analysis, focus on creating factors with maximum reliability. Maximum likelihood analysis focuses on creating factors that reproduce the correlation or covariance matrix in the population versus in the sample. Image factor analysis focuses on creating factors of the latent variables that exclude or minimize unique factors consisting of essentially only one measured variable. Canonical factor analysis seeks to identify factors that are maximally related to the measured variable”.

Costello and Osborne (2005) stated that a discussion on the strengths and weaknesses of the above techniques of analysis from Alpha factoring to canonical techniques is difficult to find and they are only referred to in obscure publications. Thus, the PAF technique is a suitable choice for this research analysis.

6.6 What criteria assisted in determining factor extraction?

The purpose of factor analysis and particularly data extraction is to reduce the number of variables into specific factors to assist with interpretation (Williams et al., 2012). There are different methods to determine the number of factors from the correlation matrix, all of which aim at increasing the significance of the residual correlation matrix (Dimitrov, 2012), that is, to make a significant difference between the original correlation matrix and the reproduced correlation matrix after the factors are extracted. There is no standard single rule for how many extraction techniques need to be implemented in order to obtain reliable results, however, multiple extraction techniques are necessary for a manuscript to be accepted for publication (Williams et al., 2012). Currently, there are four methods to help the researcher to determine the number of factors to be retained: (1) Eigenvalue; (2) Scree test; (3) Parallel analysis (PA); (4) Minimum Average Partial test (MAP test); and other variants of PA (including computer programs for PA and Velicer’s MAP Test; Modified PA of Ordered Categorical Data) (Dimitrov, 2012). Therefore, this research will use the three most common methods for the determination of factor extraction, these being: (1) Eigenvalue; (2) Scree test; and (3) Parallel analysis (PA).
6.6.1 Eigenvalue (K1 - Kaiser’s eigenvalue-greater-than-one rule)

Henry F. Kaiser (1960) proposed that a factor with eigenvalue greater than or equal to one should be retained in order to ensure the reliability of the factors extracted. However, Fabrigar et al. (1999) pointed out several problems if using this as a single method for extracting factors. First, Kaiser’s rule was designed for the PCA extraction method where eigenvalues of the reduced correlation matrix were extracted in the diagonal. Secondly, this criterion could lead to important factors being missing, as there is no firm definition that an eigenvalue equal to 1.01 indicates a factor is important with an eigenvalue of 0.99 is not. Finally, when this criterion was applied to PCA and EFA, it sometimes produced unstable results, that is, sometimes there were more factors than necessary, but sometimes there were less factors than there should have been. Therefore, the researcher should apply this rule with some variations or be flexible, for example, a factor with an eigenvalue less than 1 (0.99 or 0.95) could be retained for analysis, or conversely, factors with eigenvalues of 1.01 or 1.10 could be discarded (Thompson, 2004). Hair et al. (2010), on other hand, suggested that factors should be stopped when at least 95% of the variance is explained or 50%-60% of the variance is explained if the study is in the humanities area. The process of factor extraction using eigenvalues is as follows.

Using principal axis factoring, the results indicate six factors which have eigenvalues greater than 1, suggesting that they could be appropriate to retain for analysis. According to the results of the initial eigenvalues, six components have a value greater or equal to 1 which accounted for 55.881% of the total variance in the initial eigenvalues column. Table 6.10 indicates that the last ten factors from 13 to 23 only account for a small percentage (21.62%) of the total variance. The column labelled “extraction sum of squared loadings” indicates the value of the variance after six factors are extracted. These values are less than the values before extraction, for example, component 1 was reduced by 2.654% after extraction (from 16.029% to 13.735%). This happened because the extraction method used was principal axis factoring which aims to focus on common variances and eliminate unique variance and error measurements.
Before rotation, factor 1 accounted for the largest total variance (13.735% compared to 11.338, 6.740, 4.078, 3.041, and 2.593, thus the gap between largest and smallest was 11.142%). However, after rotation, the amount of variance was re-distributed equally, and therefore the gap between largest and smallest was reduced to a difference of only 1.228% (2.884 % versus 1.656%). Thus, rotation in this case improved the loadings between variables and factors. Table 6.7 illustrates the results of factor extraction.

Table 6.7 Total Variance Explained

<table>
<thead>
<tr>
<th>Factor</th>
<th>Initial Eigenvalues</th>
<th>Extraction Sums of Squared Loadings</th>
<th>Rotation Sums of Squared Loadings a</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>% of Variance</td>
<td>Cumulative %</td>
</tr>
<tr>
<td>2</td>
<td>3.162</td>
<td>13.746</td>
<td>29.775</td>
</tr>
<tr>
<td>3</td>
<td>2.053</td>
<td>8.924</td>
<td>38.700</td>
</tr>
<tr>
<td>4</td>
<td>1.432</td>
<td>6.224</td>
<td>44.924</td>
</tr>
<tr>
<td>5</td>
<td>1.333</td>
<td>5.797</td>
<td>50.721</td>
</tr>
<tr>
<td>6</td>
<td>1.187</td>
<td>5.160</td>
<td>55.881</td>
</tr>
<tr>
<td>7</td>
<td>.985</td>
<td>4.284</td>
<td>60.165</td>
</tr>
<tr>
<td>8</td>
<td>.949</td>
<td>4.125</td>
<td>64.290</td>
</tr>
<tr>
<td>9</td>
<td>.874</td>
<td>3.798</td>
<td>68.088</td>
</tr>
<tr>
<td>10</td>
<td>.868</td>
<td>3.772</td>
<td>71.860</td>
</tr>
<tr>
<td>11</td>
<td>.768</td>
<td>3.338</td>
<td>75.198</td>
</tr>
<tr>
<td>12</td>
<td>.730</td>
<td>3.175</td>
<td>78.373</td>
</tr>
<tr>
<td>13</td>
<td>.670</td>
<td>2.912</td>
<td>81.285</td>
</tr>
<tr>
<td>14</td>
<td>.609</td>
<td>2.647</td>
<td>83.932</td>
</tr>
<tr>
<td>15</td>
<td>.562</td>
<td>2.445</td>
<td>86.377</td>
</tr>
<tr>
<td>16</td>
<td>.514</td>
<td>2.234</td>
<td>88.611</td>
</tr>
<tr>
<td>17</td>
<td>.492</td>
<td>2.141</td>
<td>90.752</td>
</tr>
<tr>
<td>18</td>
<td>.440</td>
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<td>92.665</td>
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<td>19</td>
<td>.402</td>
<td>1.746</td>
<td>94.411</td>
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<td>20</td>
<td>.400</td>
<td>1.737</td>
<td>96.148</td>
</tr>
<tr>
<td>21</td>
<td>.316</td>
<td>1.375</td>
<td>97.523</td>
</tr>
<tr>
<td>22</td>
<td>.310</td>
<td>1.348</td>
<td>98.872</td>
</tr>
<tr>
<td>23</td>
<td>.259</td>
<td>1.128</td>
<td>100.000</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Axis Factoring.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.
6.6.2 Scree test

The Scree test is another commonly used criterion for retaining factors from the correlation matrix (Beavers et al., 2013; Dimitrov, 2012; Hair et al., 2010; O’Rourke & Hatcher, 2013; Williams et al., 2012). However, there is often disagreement on the factors to retain when using the Scree test as it involves a number of subjective decisions (Tabachnick & Fidell, 2012; Thompson, 2004). Furthermore, the Scree test does not always suggest a clear solution for retaining a certain number of factors (D'agostino & Russell, 2005), so the Scree test is always used in combination with other criteria to help researchers with factor extraction. Cattell (1966) suggested that factors be retained based on the break point between the components with relatively large eigenvalues and those with small eigenvalues. The factors that appeared before the break point are useful to retain for rotation. Figure 6.8 below suggests the number of factors to retain based on the Scree plot result.

![Scree Plot](image)

Figure 6.8 suggests that six factors should be retained for analysis as the plot has a large break before the line becomes smoother after component 7. Moreover, the first six components have eigenvalues larger than 1. Thus, it is appropriate to retain six components for analysis.
6.6.3 Parallel Analysis

Parallel analysis (PA) is considered the most reliable and has less bias in the selection of the factors to be retained (Fabrigar et al., 1999; Garrido, Abad, & Ponsoda, 2011; Henson & Roberts, 2006; Ruscio & Roche, 2012a, 2012b). Recently, with the evolution of software development, different software programs have been designed to perform parallel analysis, which can be run on SPSS, SAS, and MATLAB software packages. They are (but not limited to) source code for PA (O’Connor, 2000; Ruscio & Roche, 2012b) and computer programs such as ViSta-PARAN (Ledesma & Valero-Mora, 2007), SPSS R-Menu v2.0 (Gordon & Courtney, 2013). This research applied O’Connor’s (2000) source code to determine the number of factors to retain for further analysis. Table 6.8 shows the results after running O’Connor’s (2000) source code in SPSS version 22.

Table 6.8 Parallel Analysis (Monte Carlo PA Output) (Adapted source code from O’Connor (2000))

<table>
<thead>
<tr>
<th>Component Number</th>
<th>Raw Data Eigenvalues</th>
<th>Means</th>
<th>Percentile Random Data Eigenvalues</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.099050</td>
<td>.681279</td>
<td>.780498</td>
<td>Accept</td>
</tr>
<tr>
<td>2</td>
<td>2.536755</td>
<td>.579664</td>
<td>.657141</td>
<td>Accept</td>
</tr>
<tr>
<td>3</td>
<td>1.461526</td>
<td>.501757</td>
<td>.569540</td>
<td>Accept</td>
</tr>
<tr>
<td>4</td>
<td>.775519</td>
<td>.435175</td>
<td>.493012</td>
<td>Accept</td>
</tr>
<tr>
<td>5</td>
<td>.689676</td>
<td>.376780</td>
<td>.429333</td>
<td>Accept</td>
</tr>
<tr>
<td>6</td>
<td>.463800</td>
<td>.321893</td>
<td>.371835</td>
<td>Accept</td>
</tr>
<tr>
<td>7</td>
<td>.293898</td>
<td>.272231</td>
<td>.320903</td>
<td>Reject</td>
</tr>
<tr>
<td>8</td>
<td>.268388</td>
<td>.223821</td>
<td>.268033</td>
<td>Reject</td>
</tr>
<tr>
<td>9</td>
<td>.212792</td>
<td>.178411</td>
<td>.218368</td>
<td>Reject</td>
</tr>
<tr>
<td>10</td>
<td>.165910</td>
<td>.134827</td>
<td>.175228</td>
<td>Reject</td>
</tr>
<tr>
<td>11</td>
<td>.100034</td>
<td>.093380</td>
<td>.130394</td>
<td>Reject</td>
</tr>
<tr>
<td>12</td>
<td>-.044139</td>
<td>.052994</td>
<td>.088126</td>
<td>Reject</td>
</tr>
<tr>
<td>13</td>
<td>-.001200</td>
<td>.015014</td>
<td>.048884</td>
<td>Reject</td>
</tr>
<tr>
<td>14</td>
<td>-.029682</td>
<td>-.023742</td>
<td>.008612</td>
<td>Reject</td>
</tr>
<tr>
<td>15</td>
<td>-.081193</td>
<td>-.060485</td>
<td>-.028918</td>
<td>Reject</td>
</tr>
<tr>
<td>16</td>
<td>-.095516</td>
<td>-.096687</td>
<td>-.067917</td>
<td>Reject</td>
</tr>
<tr>
<td>17</td>
<td>-.131347</td>
<td>-.133591</td>
<td>-.104994</td>
<td>Reject</td>
</tr>
<tr>
<td>18</td>
<td>-.167792</td>
<td>-.169086</td>
<td>-.141103</td>
<td>Reject</td>
</tr>
<tr>
<td>19</td>
<td>-.212144</td>
<td>-.204606</td>
<td>-.177096</td>
<td>Reject</td>
</tr>
<tr>
<td>20</td>
<td>-.272471</td>
<td>-.240463</td>
<td>-.212110</td>
<td>Reject</td>
</tr>
<tr>
<td>21</td>
<td>-.275663</td>
<td>-.278610</td>
<td>-.249874</td>
<td>Reject</td>
</tr>
<tr>
<td>22</td>
<td>-.303337</td>
<td>-.317127</td>
<td>-.288265</td>
<td>Reject</td>
</tr>
<tr>
<td>23</td>
<td>-.314540</td>
<td>-.364485</td>
<td>-.328849</td>
<td>Reject</td>
</tr>
</tbody>
</table>
The condition for retaining factors in parallel analysis is based on the comparison between raw data eigenvalues and percentile random data eigenvalues. Components or factors will be retained for analysis if raw data eigenvalues are greater than percentile random data eigenvalues (Williams et al., 2012). Table 6.7 shows that six factors meet the condition. Factor 7 cannot be retained, as its raw eigenvalue (.293898) is smaller than its random eigenvalue (.320903) at the 95% confidence level.

The three extraction methods analysed above all yielded the same result for six factors. Therefore, six factors will be retained for further analysis.

6.7 Selection of rotation method

After deciding to retain six factors, rotation is the next step to simplify the correlation matrix and reduce cross loading. The rotation factor will maximize high item loading and minimize low item loading, and will thus create an optimal result for interpretation (Williams et al., 2012). The literature indicates that there two main types of rotation: orthogonal where new axes are also orthogonal to each other; and oblique where new axes are not required to be orthogonal to each other (Abdi & Williams, 2010; Browne, 2001; Costello & Osborne, 2005; Henson & Roberts, 2006; Thompson, 2004). While the orthogonal rotation method, including varimax, quartimax and equamax produce uncorrelated factors, oblique rotation including direct oblimin, quartimin and promax allow factors to be correlated (Costello & Osborne, 2005). The purpose of this research is to identify latent constructs and the relationship between the factors. Therefore, oblique rotation will be selected. Moreover, the oblique rotation method usually produces results which more accurately represent reality (Browne, 2001; Field, 2013; Henson & Roberts, 2006), especially for research into human behaviour (Beavers et al., 2013; Costello & Osborne, 2005; Matsunaga, 2010). Thus, it is appropriate to use the oblique rotation method to identify factor loadings and the final constructs.
Since the sample size of this study is classified as moderate, factor loading which is higher than or equal to ±0.3 will be retained for analysis, as they are considered significant (Hair et al., 2006, 2010; Kline, 1994; Tabachnick & Fidell, 2012).

### 6.7.1 Un-rotated factors

Table 6.9 shows the factor loadings of each variable on each factor. The retained minimum factor loading for each variable is greater than ±0.3. After applying the principal axis factoring method to extract factors, six factors are obtained, as displayed in Table 6.9. There are some cross loadings between factors, while there is no particularly high loading on each factor. Additionally, variables Q1 and Q20 have a loading less than 0.3, and therefore have been discarded from the factor matrix. Overall, the factor scores were not equally distributed on all variables. Factors 1, 2 and 3 have a more concentrated loading, while factor 4 has only one variable loaded on it. With this result, it is necessary to conduct factor rotation in order to obtain a more equal distribution on each factor and to obtain a simpler structure.
Factor pattern (rotated factors)

In contrast to orthogonal rotation where the rotated factor matrix represents both the loadings and the correlations between variables and factors, the oblique rotation method displays loadings and correlations in different matrices. The pattern matrix represents loadings and loadings are the regression coefficients for the linear combination of the variables. The structure matrix represents correlations between the variables and factors (Gorsuch, 1983; Matsunaga, 2010; Thompson, 2004).

Table 6.9 The Un-rotated Factor Matrix

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 My university expects that I should always share my knowledge and experience with other staff in my department</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q2 My colleagues believe that I should always share my knowledge with them</td>
<td>.477</td>
<td>.655</td>
<td>-.333</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q3 I am unlikely to share my knowledge because no one else shares their knowledge</td>
<td>.475</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q4 I am unlikely to share my knowledge because it might be out of date or it could be wrong</td>
<td>.615</td>
<td>.347</td>
<td>.352</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q5 My career could be in danger if I make mistakes in sharing knowledge</td>
<td>.556</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q6 I share my knowledge for monetary rewards</td>
<td>.408</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q7 I share my knowledge to enhance my career</td>
<td>.320</td>
<td>.357</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q8 I share my knowledge to get recognition from colleagues/public</td>
<td>.303</td>
<td>.324</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q9 I am more likely to share my knowledge with those who share or are willing to share knowledge with me, either face-to-face or via technology support</td>
<td>.578</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q10 I am more likely to share my knowledge with those whom I believe I can approach for help in the future, either face-to-face or via technology support</td>
<td>.556</td>
<td>-.325</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q11 Everyone should be expected to share their knowledge with others who need it because sharing knowledge is everyone’s responsibility</td>
<td>.366</td>
<td>.346</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q12 My relationship with colleagues is likely to be stronger when I share my knowledge</td>
<td>.315</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q13 I am more likely to share knowledge with those I can trust</td>
<td>.462</td>
<td>-.407</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q14 I am unlikely to share my knowledge with any newcomers in my department</td>
<td>.313</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q15 My knowledge sharing helps other members in my department to solve problems</td>
<td>.582</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q16 My knowledge sharing creates new business opportunities (e.g. consultations, new projects) for the department and university</td>
<td>.611</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q17 My knowledge sharing helps my department achieve its performance objectives</td>
<td>.678</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q18 My knowledge sharing creates more opportunities for staff to improve their knowledge and skills</td>
<td>.725</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q19 I am confident that my knowledge sharing helps my organization deal efficiently with unexpected events</td>
<td>.627</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q20 I believe that a person with high knowledge and skills always feels confident in sharing knowledge with others</td>
<td></td>
<td></td>
<td></td>
<td>-.358</td>
<td>.658</td>
<td></td>
</tr>
<tr>
<td>Q21 I am more likely to share research expertise with members of my department more frequently in the future than I am doing now</td>
<td></td>
<td></td>
<td></td>
<td>.589</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q22 I am more likely to share my reports and official documents with members of my department more frequently in the future</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.539</td>
<td></td>
</tr>
<tr>
<td>Q23 I am more likely to share my teaching or research experience with other members in my department more effectively in the future</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Extraction Method: Principal Axis Factoring
a. Attempted to extract 6 factors. More than 25 iterations required. (Convergence=.008). Extraction was terminated.
Table 6.10 highlights the pattern matrix of the factor solution by rotating six factors from Table 6.9. Clearly, after rotation, the loadings were equally distributed on the factors. Therefore, the interpretability of the factors becomes much easier as the structure of the matrix becomes simpler. The rotation table indicates that there are three variables, Q8, Q14 and Q20, with a loading lower than 0.3, therefore they will be discarded from the interpretation. Six variables have a significantly higher loading (greater than 0.7) compared to one other variable (Q18=0.725) in the un-rotated matrix, as shown in Table 6.9. The results in Table 6.10 satisfy the requirements for the number of variables loaded on each factor (3 variables). Only factor 4 has two variables loaded on it, however, two variables on a factor is also acceptable (Bridge, 2012, p. 121). Most of the loadings are positive, which means that they are highly correlated and thus oblique rotation is an appropriate method in this analysis (Walker & Maddan, 2009).
Table 6.11 highlights the loading structure. It indicates the interrelationships or correlations between variables and factors. The correlation between each variable with each factor is clearly displayed (for example, between Q3, Q4 and factors 2, 4, and 5). The table also indicates the negative correlation between variables and factors (factor 5).
6.8 Interpretation

There are no rules for naming factors (Yong & Pearce, 2013), therefore naming a factor can be subjective (Thompson, 2004; Williams, Brown & Onsman, 2012). A factor should be assigned a name, which emphasizes the variable, which has the highest loading on it.

6.8.1 Naming factors and interpretations

Table 6.10 shows the simple structure between variables and extracted factors. All variables are highly loaded on one factor and low on others. The measured variables with a relatively high
loading on a factor are more likely to represent that factor (Hair et al., 2010). Therefore, a factor’s name will be influenced by the variables with the highest loading on it.

**Factor 1:**

Q15. My knowledge sharing helps other members in my department to solve problems

Q16. My knowledge sharing creates new business opportunities (e.g. consultations, new projects) for the department and university.

Q17. My knowledge sharing helps my department achieve its performance objectives.

Q18. My knowledge sharing creates more opportunities for staff to improve their knowledge and skills.

Q19. I am confident that my knowledge sharing helps my organization deal efficiently with unexpected events.

Factor 1 consists of five items Q15, Q16, Q17, Q18, and Q19 which mention sharing knowledge to help solve problems, create new business opportunities, increase performance, improve staff’s knowledge and skill, and deal with unexpected events. The variables that load highly on factor 1 seem to relate to a sense of self-worth and describe the potential of the knowledge sharer’s contribution to enhance the staff in terms of knowledge and skill and improve the organization. Thus, this factor is named SELF-WORTH-PEOPLE.

A partial picture of knowledge sharing patterns in Vietnamese higher education has been portrayed through factor analysis. The factor SELF-WORTH-PEOPLE expresses the strong attitude of a person who believes that their knowledge contributes significantly to the success of an organization. As can be seen from Table 6.11 more than 78% of respondents believe sharing knowledge with staff is of great value to both staff and the organization, while 61% agree that sharing knowledge will help other staff solve their problems. Thus, this finding indicates that the existence of a sense of self-worth is important in knowledge sharing in the Vietnamese higher education context and influences attitudes toward knowledge sharing behaviour. This finding
supports Dong, Liem, and Grossman (2010)’s findings on sharing knowledge in Vietnamese organizations that a sense of self-worth has a positive relationship with knowledge sharing behaviour in the Confucian culture.

**Factor 2:**

Q3. I am unlikely to share my knowledge because no one else shares their knowledge

Q4. I am unlikely to share my knowledge because it might be out of date or it could be wrong

Q5. My career could be in danger if I make mistakes in sharing knowledge

Q6. I share my knowledge for monetary rewards

Factor two was loaded with Q3, Q4, Q5, and Q6, as all these questions mention the impact of social pressure on the sharer’s intentions and behaviours, with terms such as: *I do not share because no one else shares; my knowledge could be wrong; I could make a mistake when sharing; and I only share for rewards.* This relates to the worry of making mistakes and reciprocity, and cultural factors, thus this factor is named SAVING-FACE-CULTURE.

This factor represents saving face, which is believed to affect people’s knowledge sharing behaviour. The results of the variables on this factor indicate that there is a positive relationship between variables and the factor, as staff are more or less under the influence of the surrounding context. This factor indicates that saving face by not sharing knowledge for fear that the knowledge could be wrong or out of date seems to be a significant issue in the view of the participants. Thus, saving face has a negative impact on knowledge sharing behaviour and attitudes. Monetary rewards are usually associated with extrinsic motivation. However, in this case, it influences the behaviour of people who are under pressure to share knowledge, as the knowledge sharer must evaluate the risks and benefits of their knowledge sharing action. This finding supports the literature which shows that saving face negatively influences people’s knowledge sharing attitudes and behaviours (Huang, Davison, & Gu, 2011; Teh, Chong, Yong, 2011).
More importantly in the Confucius culture, losing face results in the loss of respect of one’s peers, colleagues, supervisors or students (Young, Kuo, & Myers, 2012). Therefore, saving face is regarded as highly important in educational contexts.

**Factor 3:**

Q21. I am more likely to share research expertise with members of my department more frequently in the future than I am doing now at university

Q22. I am more likely to share my reports and official documents with members of my department more frequently in the future

Q23. I am more likely to share my teaching or research experience with other members in my department more effectively in the future

Three questions, Q21, Q22, and Q23 are highly loaded on factor 3 as they all indicate the knowledge sharer’s attitude toward knowledge sharing and their level of willingness to share knowledge in the condition that their basic needs have been satisfied. Thus, this factor is named the ATTITUDE-ORGANIZATION factor.

The attitude-organization factor shows that people will be more prepared to share knowledge in the future if their universities encourage and support them to do this. Items influenced on this factor also have positive correlation with each other and several other factors. Therefore, providing a supportive environment in the higher education context will encourage people to participate in knowledge sharing. According to the Theory of Planned Behaviour, individual attitude is influenced by behavioural beliefs and the evaluation of behavioural outcomes, which is perceived by outcomes, enjoyable and beneficial expectations and other external factors such as attitude towards targets, personality traits, and support (Ajzen, 1991; Ajzen & Fishbein, 2005; Montano & Kasprzyk, 2008). Thus, organizational support in knowledge sharing will influence people’s attitudes toward sharing knowledge.
**Factor 4:**

Q1. My university expects that I should always share my knowledge and experience with other staff in my department

Q2. My colleagues believe that I should always share my knowledge with them

There are only two variables loaded on factor 4 which is the minimum requirement for meaningful factor interpretation (Williams et al., 2012). Two variables, Q1 and Q2, mention the expectation of university and staff toward the knowledge sharer, with references such as, *my university expects me, and my colleagues believe that I should*. Thus, this factor is named **SUBJECTIVE NORM**.

The subjective norm factor has the lowest Cronbach’s alpha value (56%) and accounts for only 4.08% of the total variance explained after extraction. This factor indicates the influence of colleagues on the behaviour of the knowledge sharer. There was 71% of respondents (Q2: 52%+19%) believe that the knowledge sharer should always actively share knowledge with colleagues, and more than 84% of respondents (Q1: 44%+40%) believe that staff sharing knowledge in a university is a norm (see Appendix 7). Despite the weak indication of the subjective norm factor in this research, the high loading (0.889) on Q2 and the strong indication that sharing knowledge in a university is a norm indicates that subjective norm can influence people’s knowledge sharing behaviour in the Vietnamese higher education context which is clearly illustrated in the TPB. Thus, the importance of the subject norm should be recognized as the subjective norm has a positive relationship with knowledge sharing intention and attitude (Hau & Kim, 2011; Ibragimova, Ryan, Windsor, & Prybutok, 2012; Tohidinia & Mosakhani, 2010).

**Factor 5:**

Q9. I am more likely to share my knowledge with those who share or are willing to share knowledge with me, either face-to-face or via technology support.
Q10. I am more likely to share my knowledge with those whom I believe I can approach for help in the future, either face-to-face or via technology support.

Q13. I am more likely to share knowledge with those I can trust

Factor 5 was loaded with Q9, Q10, and Q13 which discuss trust and the use of technology for sharing knowledge (*I am more likely to share knowledge with those I can trust*). And reciprocity (*I am more likely to share my knowledge with those who share or are willing to share knowledge with me via technology support, or I share knowledge with whom I believe I can approach for help in the future*). Therefore, this factor is named TRUST-TECHNOLOGY.

The trust-technology factor has a negative correlation with its variables. It represents a willingness to maintain relationships between members in an organization. However, their attitude toward sharing knowledge is negative. The negative values of Q9, Q10, and Q13 indicate that these variables inversely influence the trust-technology factor. In other words, high trust and advanced technology does not always increase people’s sharing intentions and attitudes. In fact, it has a negative impact on knowledge sharing behaviour. A close examination of the Vietnam context shows that the concept of trust is usually misused. In Vietnam, there is still a culture of secrecy, even though the war ended a long time ago (Dao, 1996; Sadi & Henderson, 2001). The combination of the Confucius culture and the limited freedom of expression results in people saying one thing but doing another to avoid risk. Thus, there is a popular saying in Vietnam: “don’t believe what he says; just look at what he does”. The distortion of trust in the Vietnamese context is also influenced by a lack of transparency and rampant corruption, which was discussed in section 2.7.

On the other hand, a lack of English proficiency and computer skills is probably another explanation for the negative relationship between knowledge sharing intention and the trust-technology factor. As English is the major language for computer commands and journal articles, advanced technology usually involves sophisticated commands and functions, as well as technical terms. Therefore, advanced technology may be a waste of money if the users only
exploit basic functions, causing a negative attitude toward knowledge sharing from the perspective of using technology. Therefore, the technology discomfort factor influences perceived usefulness and perceived ease of use that causes a negative relationship with satisfaction, knowledge sharing attitude and behaviours (Davis, 1989; Fenech, 1998; Mariani, Curcuruto, & Gaetani, 2013; Rose & Fogarty, 2006; Venkatesh & Davis, 2000).

**Factor six:**

Q7. I share my knowledge to enhance my career

Q11. Everyone should be expected to share their knowledge with others who need it because sharing knowledge is everyone’s responsibility

Q12. My relationship with colleagues is likely to be stronger when I share my knowledge

The last factor, factor six was loaded with Q7, Q11, and Q12. These three questions cover social engagement and interaction (*I share knowledge to enhance my career, sharing knowledge is everyone’s responsibility, and my relationship with colleagues is likely to be stronger when I share my knowledge*), therefore, this factor is named SOCIAL-ECONOMICS.

The social-economics interaction factor indicates a positive relationship with the variables. The results indicate that for people who engage in knowledge sharing, not only is it a chance to enhance their skills and career but to also improve the relationships between staff in the university as knowledge sharing activities require interaction, discussion and even debate and therefore, people will understand each other better. Thus, social interaction has a positive influence on the knowledge sharing intention of staff (Borges, 2013; Chow & Chan, 2008; Lin & Lee, 2006). Sharing knowledge to improve one’s own knowledge and to enhance one’s career could result in the attainment of a higher salary due to a promotion to a higher level. Furthermore, people work to earn money, and regardless of which country they are working in or come from, whether it is a rich or a poor country, salary is the primary goal. More importantly, every personal goal has personal value and therefore, the ultimate goal of sharing knowledge,
regardless of the intrinsic or extrinsic motivation is to create personal value in society and ensure a better life (Barachini, 2009).

6.8.2 Correlation between factors

As the factor rotation method used in this study is the oblique method, there is an expectation of correlation between the six factors. Table 6.12 highlights the correlation of these factors.

6.8.2.1 Factor score

There is a clear indication that the oblique rotation method is appropriate because the factors are correlated to each other. For example factor 1 (SELF-WORTH-PEOPLE) is highly correlated with factor 3 (ATTITUDE-ORGANIZATION) and 6 (SOCIAL-ECONOMICS), which could explain why people with a high sense of self-worth have positive attitudes and social expectations to share knowledge as long as they receive support from the organization, both psychological and physical. Factor 5 (TRUST-TECHNOLOGY) is highly correlated with factor 2 (SAVING-FACE-CULTURE) and factor 6 (SOCIAL-ECONOMICS), indicating that saving face deters knowledge sharing behaviour so a low level of trust and an inability to use technology negatively impacts sharing intention. Table 6.12 also indicates that there is a negative correlation between several factors, such as factor 1 (SELF-WORTH-PEOPLE) and factor 2 (SAVING-FACE-CULTURE) and factor 5 (TRUST-TECHNOLOGY), indicating that a higher sense of self-worth leads to less hesitation in sharing knowledge in a saving face culture, as discussed earlier. Factor 5 (TRUST-TECHNOLOGY) has a negative relationship with the variables of knowledge sharing behaviour (I am more likely to share my knowledge with those who share or are willing to share knowledge with me, either face-to-face or via technology support). And (I am more likely to share my knowledge with those whom I believe I can approach for help in the future either face-to-face or via technology support). Or (I am more likely to share knowledge with those I can trust). Thus, people with a higher sense of self-worth in sharing knowledge can overcome their low level of trust and their concern regarding technology issues. Thus, oblique rotation with six extracted
factors gives the best possibility to interpret factor solution despite the fact that this solution accounts for only 55.881% of the variance.

### Table 6.12 Factor Score Covariance Matrix

<table>
<thead>
<tr>
<th>Factor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.585</td>
<td>-.016</td>
<td>2.195</td>
<td>.862</td>
<td>-.145</td>
<td>1.888</td>
</tr>
<tr>
<td>2</td>
<td>-.016</td>
<td>.766</td>
<td>.192</td>
<td>-.115</td>
<td>1.464</td>
<td>.526</td>
</tr>
<tr>
<td>3</td>
<td>2.195</td>
<td>.192</td>
<td>2.937</td>
<td>1.045</td>
<td>.853</td>
<td>2.159</td>
</tr>
<tr>
<td>4</td>
<td>.862</td>
<td>-.115</td>
<td>1.045</td>
<td>1.054</td>
<td>-.218</td>
<td>.401</td>
</tr>
<tr>
<td>5</td>
<td>-.145</td>
<td>1.464</td>
<td>.853</td>
<td>-.218</td>
<td>3.232</td>
<td>1.581</td>
</tr>
<tr>
<td>6</td>
<td>1.888</td>
<td>.526</td>
<td>2.159</td>
<td>.401</td>
<td>1.581</td>
<td>3.677</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Axis Factoring.
Rotation Method: Oblimin with Kaiser Normalization.
Factor Scores Method: Regression.

#### 6.8.2.2 Reliability Test

After naming the factors, the next step is to test the reliability of the factors, using Cronbach’s alpha.

### Table 6.13 Reliability Statistics

<table>
<thead>
<tr>
<th>Factor</th>
<th>Cronbach's Alpha</th>
<th>Cronbach's Alpha based on Standardized Items</th>
<th>Number of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1</td>
<td>.820</td>
<td>.819</td>
<td>5</td>
</tr>
<tr>
<td>Factor 2</td>
<td>.693</td>
<td>.703</td>
<td>4</td>
</tr>
<tr>
<td>Factor 3</td>
<td>.731</td>
<td>.741</td>
<td>3</td>
</tr>
<tr>
<td>Factor 4</td>
<td>.559</td>
<td>.559</td>
<td>2</td>
</tr>
<tr>
<td>Factor 5</td>
<td>.688</td>
<td>.689</td>
<td>3</td>
</tr>
<tr>
<td>Factor 6</td>
<td>.509</td>
<td>.507</td>
<td>3</td>
</tr>
</tbody>
</table>

The general lower limit for the reliability coefficient using Cronbach’s alpha is 0.7, but it can be as low as 0.6 in exploratory research (Bridge, 2012, p.125).
Cronbach’s alpha shows that the reliability of the data is acceptable, except for factor 4 and factor 6, both of which have a Cronbach’s alpha value of less than 0.6, which is not as high as expected. Hence, they will be interpreted with care and other sources will be needed to support the interpretations.

6.9 Summary and conclusion

All the above processes illustrate the use of exploratory factor analysis to analyse several factors, which influence attitudes to sharing knowledge. The results show that factor analysis was successful in identifying groups of correlated variables and in identifying factors that influence sharing intention and behaviour. This result indicates that knowledge sharing between staff in Vietnamese universities also can be explained through the Theory of Planned Behaviour (Ajzen, 1991). In this framework, sharing intention was highly correlated with other factors, including self-worth-people, social-economics and saving-face-culture while there was moderate correlation with trust-technology and lower correlation with the subjective norm factor. The trust-technology factor (factor 5) had a negative relationship with a group of variables and with two other factors (subjective norm (factor 4) and self-worth-people (factor 1)). Saving-face-culture, subjective norm and trust-technology factors had a lower loading than attitude-organization factor. This possibly reflects the true context of Vietnam at this stage. Things are clearer if we look further in detail at the context of the Vietnamese culture and economic situation, which was discussed in the literature and discussion chapter.

As discussed in the qualitative analysis section, most of the participants expressed their concern about the lack of transparency in the education system, which caused corruption and a lack of trust between staff because of non-transparency in promotions and payment. “Do not believe what he says, look what he does” is a common phrase in the daily working life of university staff. In the context of low income jobs, staff are forced to spend their time earning extra money to survive, so asking them to do something without an immediate return is difficult, as most staff lack motivation.
Thus, factor analysis has successfully reconstructed the Theory of Planned Behaviour in the Vietnamese higher education context. Although the subjective norm appeared not to be totally clear in this context, the results show that the knowledge sharing intentions of Vietnamese academic staff is influenced by their sense of self-worth which means that people who have deep and rich knowledge have positive attitudes toward knowledge sharing with staff while others are afraid of exposing themselves. Social interaction and economics also have an influence on staff perception of their participation in knowledge sharing, that is, the higher the degree of social interaction and economic motivation, the stronger the attitude towards knowledge sharing behaviour.

The next chapter combines all the findings from both the qualitative and quantitative data analysis into a single detailed discussion on knowledge sharing issues in the Vietnamese higher education context. The discussion unfolds the issues layer by layer, according to the predetermined eight factors and possible newly emerging factors.
CHAPTER 7: DISCUSSION

7.1 Introduction

Chapter 5 and Chapter 6 identified the factors that were believed to influence knowledge sharing in Vietnamese universities. This chapter discusses these factors under two main headings: perceived benefits of knowledge sharing and the issues of knowledge sharing. The issues of knowledge sharing are the most critical part of the discussion. The perceived benefits of knowledge sharing is discussed in three sub-sections, namely (1) sharing knowledge helps to develop core strategies; (2) sharing knowledge improves individual benefits; and (3) sharing knowledge helps to protect intellectual property and copyright. The issues of knowledge sharing are discussed under two main headings: the critical factors of sharing knowledge, these being (1) people; (2) culture; (3) organizational structure/policies; (4) economic status; and (5) technology; and the contextual factors of knowledge sharing, these being: (1) management; (2) infrastructure; and (3) training. In addition, the chapter presents two major themes which emerge from the discussion: (1) corruption; and (2) leadership.

7.2 Participants’ perceived benefits of knowledge sharing

Even though knowledge management has been widely discussed in the literature for approximately more than twenty years, knowledge management and knowledge sharing concepts are considered new to most Vietnamese people, including the young labour force, and there is no evidence of knowledge management terms or concepts in official government documents (Dan, 2008; Huong & Katsuhiro, 2010). This research has similar findings as evidenced by inviting participants to indicate whether they have any understanding of the management of knowledge and how long have they have been familiar with it. The results show that more than half (54.3%) the participants did not have any understanding of knowledge management concepts, as indicated in Table 7.1.
As can be seen from Table 7.1, 45.7 percent of respondents (or 118 respondents) indicated that they knew about the concept and the role of knowledge sharing in higher education, while a larger portion, (54.3 %) indicated that they had no idea about the knowledge sharing concept in higher education.

Table 7.2 provides details on the length of time that participants have been aware of knowledge sharing concepts and of knowledge as a key competitive resource for an organization. As Table 7.2 shows, the number of participants who had experience in and an understanding of knowledge management for more than 5 years accounted for only approximately 10% of the total, while the percentage of participants who only had a little knowledge of the concept of knowledge management accounts for the most (90%). This indicates that Vietnamese academic staff are relatively isolated from the world in terms of knowledge management. The results also reveal that there is a communication deficit between staff as information or knowledge is not passed between those who know and those who do not know.
7.2.1 Sharing knowledge helps to develop core strategies

As indicated by several comments from some participants after the discussion, they found that the discussion was useful to them and they had learnt new things that they had not known before.

“I realize that this type of discussion is very useful to me. I have learnt a lot from this, and to be honest I had no idea of knowledge sharing prior to this discussion” (Focus group 1, Informant 8) (see Section 5.2.4.1, Chapter 5). This indicates that not all, but to some extent, many university staff seriously lack information despite the fact that they live in a capital city that is a centre of modern infrastructure and has good living conditions and communication systems. This leads to the question of the degree of awareness of staff who work in provincial or remote areas who face numerous difficulties, including the fact that their salary is insufficient to meet their basic needs, which is an area of future research.

One of the most obvious problems with university education in Vietnam is its low ranking. Education quality is poor and it is especially poor in terms of output in scientific publications and patent registration. As a commentary on current education in Vietnam, many scholars, both Vietnamese and foreigner researchers, agreed that the best term to describe the higher education situation is that it is ‘in crisis’ (Linh, 2012; Minh, 2008; Nguyên, 2011; Vallely & Wilkinson, 2008).

<table>
<thead>
<tr>
<th>How many years?</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>59</td>
<td>50.0</td>
</tr>
<tr>
<td>2</td>
<td>16</td>
<td>13.6</td>
</tr>
<tr>
<td>3</td>
<td>9</td>
<td>7.6</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>8.5</td>
</tr>
<tr>
<td>5</td>
<td>11</td>
<td>9.3</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td>7</td>
<td>3</td>
<td>2.5</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td>10</td>
<td>6</td>
<td>5.1</td>
</tr>
<tr>
<td>15</td>
<td>2</td>
<td>1.7</td>
</tr>
<tr>
<td>Total</td>
<td>118</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 7.2 Respondents’ indications of how long they have known about KM concepts
Sharing knowledge helps an organization reorient its development strategies “Sharing knowledge not only helps universities, it also help businesses build their development strategies” (Focus group 1, Informant 1) (see Section 5.2.4.1, Chapter 5). This finding is consistent with the literature in terms of its benefits (Alavi & Leidner, 1999; H.-F. Lin, 2007b; Reychav & Weisberg, 2009; Zack, 1999). However, there is a significant difference in the starting point. First, it is obvious that all lecturers transfer and diffuse knowledge every day in classes and can ask or exchange ideas with colleagues, but they did not have a clear concept of sharing knowledge in relation to a specific strategy or plan. This is why 54% of Informants answered no to having knowledge management concepts in the questionnaire (see Table 7.1). Secondly, seminars or workshops were not held regularly, and when they were, they were organized in a very formal way, so they did not attract a wide audience. This leads to the question of why universities do not encourage staff to share their knowledge. Staff should be given opportunities to express themselves, by, for example, giving them more time to be involved in knowledge sharing activities, reducing teaching workloads, motivating them with both money intrinsic incentives, and breaking their isolation. In this regard, knowledge sharing is effectively in the hands of the university, “it depends on a facilitator”, as concluded by the participants.

By having an open attitude toward staff and colleagues, a university will easily identify talent. Thus, it will be more transparent in evaluating and assessing individual performance, which will reduce corruption in promotions and extremist attitudes. More importantly, sharing knowledge publicly will help reduce plagiarism or disputes over the ownership of a piece of writing and avoid bad practices (Ardichvili, Page, & Wentling, 2003; Oberholzer-Gee & Strumpf, 2010; Yuen & Majid, 2007). From a university’s perspective, knowledge management will reduce the staff turnover and student dropout rate, as will accurately evaluating staff performance which will ultimately orient developmental and competitive strategies.
7.2.2 Sharing knowledge improves individual benefits

In relation to the individual benefit from sharing knowledge, most respondents perceived benefits similar to those which have been discussed in the literature, such as saving time to search for knowledge, improving management skills, enhancing communication skills, making opinions more visible, better measurement and accountability, increased trust, reciprocity, career advancement, reputation, and self-knowledge enrichment (Hsu & Lin, 2008; H.-F. Lin, 2007a; Map of World, 2013; H. Nguyen, 2012; Riege, 2005; Wasko & Faraj, 2005).

Moreover, the benefits mentioned in the discussion which are of great importance to both sharers and receivers is that they can identify those who have the same ideology, hobbies and interest, therefore, they can establish cohesive partnerships which makes sharing even easier. This is particularly important in the context of a highly competitive and less transparent environment like Vietnam, as some participants said that sharing knowledge is a risk and you may get hurt if you are not careful. “In our education environment….there are many high profile people but we are young staff who do not dare to share. It is so risky to do so.” (Focus group 1, Informant 2). They indicated that their careers would be in danger if they made a mistake in sharing, as confirmed by 63.2% of participants (see Table 6.10, Chapter 6).

7.2.3 Sharing knowledge helps to protect intellectual property and copyright

Sharing knowledge is a good way to prove that you are knowledgeable (Hamid, 2008), and it is also a good way to confirm to the public that your ideas are unique and need to be protected from being stolen. When staff engage in active knowledge sharing, especially when sharing their teaching ideas, research skills and publications, their colleagues and their international audience will recognize them as authors or owners of the knowledge. Thus, in sharing knowledge, they are also providing evidence of their own knowledge. From the discussion above, it is necessary to require academic staff to update their knowledge frequently, and in order to share knowledge, staff first have to search for knowledge to have knowledge to share. Furthermore, it is necessary
to train the trainer about how to engage in knowledge sharing and how to share knowledge efficiently, especially in relation to avoiding plagiarism. Plagiarism is widespread in Vietnam as many academic staff are not able to cite correctly, hence they might did not know they have committed an act of plagiarism.

The Theory of Planned Behaviour, as discussed in section 2.3 Chapter 2, indicates that individuals who perceive benefits from knowledge sharing will exhibit positive behaviour toward sharing knowledge. The results from the discussion and survey indicate that most staff recognize the benefits of sharing knowledge, such as to increase the organizational competitive advantage and improve individual knowledge and careers. Section 6.7 in Chapter 6 also indicates that 78.1% of participants will share their knowledge more frequently in the future if they have the chance and knowledge to share. This indicates a positive attitude and behaviour towards sharing, thus this finding supports the Theory of Planned Behaviour. However, although realizing the benefits and having a positive attitude are sufficient to implement knowledge sharing, as discussed in Section 2.8, Chapter 2, the general data clearly indicate that the quality and quantity of sharing knowledge in Vietnamese higher education is very low. The causes of the problems are complicated and will be discussed in detail in the following sections.

7.3 Critical factors impacting the sharing of knowledge

In this section, the critical factors impacting the sharing of knowledge are discussed through five factors: people, culture, organizational structure, economic status and technology.

7.3.1 People

Good people or human resources are keys in ensuring a competitive advantage in any organization (Bartlett & Ghoshal, 2013; Pfeffer, 1994; Spender, 1996; Ulrich, 2013; Wright, McMahan, & McWilliams, 1994). In the area of knowledge sharing, active knowledge sharers are people who own valuable knowledge and are able to contribute to the success of
organization’s mission or encourage people to participate in knowledge sharing, such as sharing journal publications, project outcomes or sharing with their teams. People influence all factors of knowledge sharing. Therefore, this chapter discusses the people factor that is embedded in all other factors such as culture, organization, economic status, and technology. This section discusses two major issues that influence people’s behaviour towards sharing knowledge: individual issues and work overload.

### 7.3.1.1 Individual issues

Individual issues are believed to influence people’s knowledge sharing behaviour, that is, who to share with, what to share and when, and assessing the extent to which an individual evaluates his or her self-interest takes priority over the concern of the group (King, 2007). As Hofstede (2013) shows, the individualism of Vietnam scores at 20, which indicates that Vietnam is a highly collective society which means individuals act in the interests of a group or community and not actually for themselves. The findings that are discussed in this section show that the obstacle to sharing knowledge comes from the concept of people’s fear of standing out from the crowd, and the feeling that intelligent people should be modest and humble. Despite the realisation that individual contribution and self-worth contribute to solving the university’s problems and creating new business opportunities, staff do not actively show their abilities publicly. Due to a lack of democracy and a heavy reliance on collective groups, people seem to be unfamiliar with diversities and differences, such as living styles, cultural entertainment, and political points of view. Therefore, not many Vietnamese people dare to have different thoughts, a different lifestyle, and independent ways of thinking outside the group. Students do not dare to challenge teachers and employees do not dare to challenge employers or other groups of people. The sharers do not want to become a focus point for any discussion for fear that they might attract the jealousy of other people who are not smart enough. These people do not wish to stand out from the crowd by sharing their knowledge as they fear they will be criticized by older people for being like a ‘young colt’, which is damaging to their personal reputation.
There are some major reasons why older or senior staff do not like younger and junior staff to share their knowledge. Firstly, it is a culture of age respected where younger and junior should listen and obey older people, and more importantly, there is a concept that exists in many older people that younger people always have less experience than their older staff, and therefore whenever young staff would like to express their ideas or suggestions older staff often discourage them. Secondly, older staff are often get used to the current management system, any innovation ideas that attempt to change will face objection from them. For example, an idea to use email as a major communication method between staff instead of meeting daily was received strong objection from many older staff, as many of them do not know how to use electronic mail or they do not have internet at home. There is a fact that a number of incompetent staff exist in an organization, many of them are older people, if young staff are actively sharing knowledge older people are not then they are likely revealed as incompetent staff in front of many people. The consequence could be a loss of respect from colleagues or lost promotion opportunity, therefore, they have to do something to prevent this could happened by criticising young people who wish to share knowledge.

The people who criticize do not do so using their own names. Rather, they hide their identity behind the name of the organization or school in their attempt to deter people from sharing their knowledge. The tendency of avoiding being a “ngạra non háu dá” or “kicking colt” is also common, therefore, most of the young talented staff chose silence rather than speaking out to keep their safety. Moreover, the concept of working collectively and sharing collectively will ensure greater equity in the way an individual’s performance is evaluated, therefore, knowledge sharers believe their efforts to learn and share knowledge do not count towards their individual achievement but only count towards the collective achievement. Thus, as a collective society, the policy of evaluating everyone is the same and there is not much difference in salary between staff who are working effectively and people who are not. Recent data from the government shows about 30 percent of currently employed public servants do not work effectively (TNNews, 2013;
TuoitreTnews, 2014), but they receive the same or even higher salaries than those who do work effectively.

### 7.3.1.2 Work overload

ERG theory indicates that at the relatedness level, people share their knowledge based on mutuality. Thus, motivation and incentives can be critical at this stage. In fact, there are many researchers with high intellect and ambition, but the realities of life do not allow them to spend all day in their research offices or labs as their low salaries mean they have to work long hours to provide for their families. This study found that most Vietnamese researchers struggle with their life in terms of financial matters, as they have to work with more than 200% percent of their capacity to earn money to survive. As one Informant said, “In my department, some lecturers have been teaching 200% to 300% more than standard hours. They even teach extra hours in private universities to earn extra money and they forget about their research role” (Focus group 2, Informant 6) (see Section 5.2.4.2, Chapter 5). The findings indicate that if it is not compulsory or there is a low level of motivation for sharing, there is little chance that researchers will collaborate and share, simply because they have to find ways to earn extra money to compensate their already low salary. One Informant gives an example as follows: “We are a young staff, we need money to survive... we have many things to consider for living. If there is no incentive to share knowledge or if it is not mandatory, we will not bother doing it” (Interview Informant 1) (see Section 5.2.7, Chapter 5). Spending more time and effort on earning money means that there is little time for developing their career, especially as researchers and as a consequence, absorptive capacity is becoming worse and people are becoming afraid of sharing for fear of making a mistake and losing face.

On the other hand, according to Elloy (2003), work overload can involve too many tasks to complete and can also involve tasks that are too difficult to complete, which tends to be common in Vietnam as many incompetent staff have been employed through corruption and they are
always afraid of change. This was expressed in an example given by an Informant, “Afraid of change, respect for seniors and age are typical in Vietnam and it is difficult to eliminate this” (Interview Informant 3). Also, very few people feel confident about their knowledge (less than 30% as presented in section 6.7, Chapter 6). Due to a lack of knowledge, they are not able to finish the job completely which also contributes to high levels of depression and low levels of job satisfaction.

As discussed above, individual issues and work overload are critical factors affecting people which are exacerbated by ineffective management, such as a lack of support, bureaucracy and ineffective task allocation. Individual or people issues are also influenced by infrastructure and training factors which are discussed in section 7.4 of this chapter, thus, it is clear that people is a critical factor that has directly relationship with knowledge sharing outcome in the context of supportive or destructive environment including management, infrastructure and training factors. The following section discusses specific cultural issues which Informants regarded as typical, and which hinder the sharing of knowledge.

### 7.3.2 Culture

Culture influences knowledge sharing behaviour is the most outstanding factor that has been discussed thoroughly in literature. The findings of this study reconfirm that knowledge sharing behaviours and success greatly vary among cultures and regions around the world. That is different culture has different impact factors that either directly or indirectly influence knowledge sharing effectiveness. This section discusses three outstanding aspects that affect most Vietnamese academic staff, they are saving face culture, trust and honesty, and Achievement chasing syndrome.
7.3.2.1 Saving face culture

Vietnam has experienced numerous wars and was colonized for hundreds of years by the Chinese, French, and Japanese. The culture, customs, and etiquette of the Vietnamese people are similar to those in China, which is called a Confucian culture, as discussed in Appendix 1.

The findings clearly show that 80.3% of participants were afraid of sharing knowledge for fear that it might be out of date or could be wrong (see Table 6.10, Chapter 6). This saving face phenomenon reinforces the notion that Vietnam, like other countries in Asia and Southeast Asia, holds similar values and norms in communications and social interactions. Of these norms and values, saving face and gaining face are the two most important factors that directly influence the openness attitude of one person towards others in society and therefore, they have a strong relationship with knowledge sharing efficiency and effectiveness.

The findings on saving face are considered important in two aspects: for oneself and for others’ faces. In terms of saving one’s own face, before the participants were to engage in an activity, especially sharing knowledge with colleagues, they developed a sense of ownership and speculation. If they were unsure about their knowledge or lacked confidence, they would rather keep silent than speak out. For example, it was stated, “Many staff would rather shut their mouths and accept the fact that others might perceive them as idiots rather than open their mouths and prove the suspicions are true” (Interview Informant 1)(see Section 5.2.5.1, Chapter 5). This tactic is particularly useful in highly competitive and non-transparent environments and hostile environments. Saving face instils confidence in staff to work. This is particularly important in education where students consider their teachers to be gurus who do not make mistakes. More importantly, the more you talk or share, the higher chance there is you will make a mistake. A lecturer who makes less or no mistakes will create a good personal image to their colleagues and leaders, so their chance of receiving a promotion is higher.
Saving face is different from having a modest or humble attitude. However, it is difficult to distinguish one from another. For a person who is not active in sharing knowledge, this does not mean he or she is trying to hoard knowledge or that they do not have sufficient absorptive capacity to share knowledge. Simply, they might not want the other person to lose face. In the Confucian culture, young people should pay respect to older people and should not cause others to lose face. This is even more important for young staff who would like to share their knowledge in front of their superiors. For example, “We are afraid of sharing knowledge or expressing or proposing our new ideas to older staff, because if they do not know anything about this new knowledge, they would feel that we are insulting them or implying that they are idiots or stupid, and they will lose face” (Focus group 2, Informant 3). Two perspectives must be examined here. From the receiver’s perspective, there is an unwritten law which states that leaders are always right. Regardless of how clever or intelligent employees are, they must be humble when dealing with leaders and criticising or showing off is prohibited, therefore, young staff usually feel uncomfortable when sharing knowledge in the presence of superiors. From the sharer’s perspective, saving the face of superiors is a duty of subordinates, so this is an obstacle to sharing knowledge. Furthermore, if a superior’s face is good, the employee is also expected to pay a small financial commission and if he causes the superior to lose face or if he does not please the leaders, he will be punished. Thus, if living a life which is true to oneself, you have to pay a high price. Therefore, many people consider cheating is a way of life or a means to survive, thus this problem will reduce trust and create suspicion among people and is directly linked to corruption. This is discussed further in the next sections.

Hierarchy and age respecting cultures influence the sharing of knowledge, as a subordinate employee should obey commands from superiors and should always pay respect to them. Even if an employee sees a mistake, it is not easy to let his superiors know that they are not right. For example, “It is difficult to say, boss you do not know this, you are not right in this or that… and it is even extremely difficult to say, my dear teacher, this knowledge is not true now… it is out of
date” (Interview Informant 5). Or another example, “We do not want to be thought of as arrogant, cocky or smart-alecky by sharing new knowledge with older staff” (Focus group 1, Informant 2) (see Section 5.2.5.1 and Section 5.2.10, Chapter 5). In addition, this could cause stress for employees and many simply obey their superiors’ instructions and ignore their motivation to pursue the sharing of knowledge. This will cause them to neglect innovation and creativity for a long time, and the leaders will become accustomed to receiving flattery from their employees and will become overconfident, conservative and resistant to change which hampers innovation.

Another aspect of saving face is that staff do not want to show off and do not want to be looked down on as lacking knowledge, or they may be simply scared of making a mistake, therefore they try to keep themselves well rounded. The following is an example of a statement from an informant, “People who do not update their knowledge frequently are usually afraid of sharing knowledge” (Focus group 3, Informant 12). Firstly, society considers someone in the role of a lecturer as a knowledge guru who should not make any mistakes or complain about mistakes, even the smallest of mistakes, in front of others. Secondly, as discussed in Chapter 2, the assessment of lecturers at the end of the year is based on whether a lecturer has successfully performed the task or not. Therefore, any mistake can be evidence to show that they have not successfully performed the task and thus, the lecturer might not receive their year-end bonus or their promotion may even be deferred. For example, “When sharing knowledge or making a statement, if you make a mistake, you could be sacked or even go to jail” (Interview Informant 1). Or “If people want to keep their positions, they can use any dirty tricks to compete, including finding the mistakes of others to let them down” (Focus group 1, Informant 4) (see Section 5.2.5, Chapter 5). Thus, saving face is an outcome of culture and the way society perceives lecturers, but also saving face by not making mistakes is directly related to economic consequences.
7.3.2.2 Trust and honesty

The results from the findings indicate that trust is closely related to specific cultures, political influence, social structures and the working environment. In this context, trust is discussed within and between academic teams and trust by staff in MOET policies; that is, the extent to which people feel safe and protected by universities and MOET.

First, the results (67%) (Table 6.10, Chapter 6) confirm that trust is a critical factor that determines knowledge sharing behaviour and knowledge sharing attitudes (Cummings & Teng, 2003). Sharing knowledge results in the multiplication of power, not the loss of power, as many people might think. However, no one shares something on which they have spent a great deal of time and effort to attain, and give it to someone in whom they have little or no trust. The findings from the quantitative data analysis (section 6.8 Chapter 6) and the qualitative data analysis (Section 5.2.5 Chapter 5) indicates that trust is negatively correlated with social interaction, subjective norm and a sense of self-worth. This challenges the evidence presented by Abrams, Cross, Lesser, and Levin (2003) and Choi, Kang, and Lee (2008) that higher social ties build higher trust. However, a thorough examination of the matter in the context of Confucian culture and political influence shows that Vietnamese staff share knowledge with caution, the flow of knowledge sharing is not straightforward and participants should be expected to be patient (Napier, 2005).

There is also the possibility of history and politics influencing trust. The impact of many long wars has resulted in a culture of secrecy which played a vital role in winning the war. Nowadays, many people still are influenced by this, especially at the managerial level and the senior officer level (Dao, 1996). People still face difficulty in accessing information which should be available to citizens, for example registration, procedures, statistics, research and employment opportunities (Viet, 2014). This lack of transparency leads to corruption and as a result, trust declines. Furthermore, restrictions on the freedom of speech have hindered people from
expressing their thoughts. "In Vietnam, it is not only culture but also political issues that prevent people from sharing knowledge, as people cannot think of anything beyond Communist ideology” (Focus group 1, Informant 7). People are aware of being branded as defamatory by the communist party and could be put in prison. Therefore, people are hesitant to speak frankly in order to please the listener and avoid getting into trouble. This can lead to a decrease in trust.

When working in a non-transparent and hostile environment, staff feel they are vulnerable (Husted, Michailova, Minbaeva, & Pedersen, 2012; Michailova & Husted, 2003), therefore, staff have to find the means to protect themselves from threats, and they are reluctant to speak out or share documents. Thus, they will find ways of saying things that will not affect anyone. Therefore, “do not believe what he says, look at what he does” is a common recommendation in Vietnamese organizations. This implies that non-verbal action is more important than speech. The findings implicitly show that trust for knowledge sharing and trust for helping each other in academic circles is closely link to transparency and the perceived honesty of the system. The evidence shows that older staff perceive younger staff as young colts who do not have much knowledge to share and this leads to a lack of trust. “I do not want to share knowledge, because when I share, older staff compare me to a colt that likes to kick” (Interview Informant 3).

Corruption also causes a low level of trust in people who were recruited through buying degrees or positions, as discussed in section 5.2.9 Chapter 5. In a bureaucratic system like the Vietnamese higher education context, perhaps better people should be appointed as leaders of the university operations and team leaders (Bolden & Gosling, 2006; Fullan, 2002; Kegan & Lahey, 2001; Northouse, 2012). They should act as examples of knowledge sharing and honesty and be role models (Brown, Treviño, & Harrison, 2005; Macfarlane, 2011; Méndez-Morse, 2004), as participants repeatedly mentioned that they needed to see examples of sharing knowledge and no one can do this better than a leader. “Vietnam's education system lacks people who are able to say something and then do what they say” (Focus group 1, Informant 5), also, “Our education system is in crisis because we lack role models to share experiences which we can emulate”
By providing an example of knowledge sharing and demonstrating honesty, leaders not only build trust among academic staff, they also ignite the knowledge sharing movement and help fight against selfishness. If other people share what they have, why would we not share and, therefore, similar to the influence of self-efficacy, a person puts pressure on others’ expectations to share so he or she tends to be highly motivated to share (Cho, Li, & Su, 2007).

Once leaders have taken a lead in honesty and trust, the followers will follow. If not, trust and honesty become difficult to have in a highly competitive and unsafe environment as “honesty and frankness make you vulnerable” (Focus group 2, Informant 1). Building trust for sharing knowledge is necessary because trust is considered as “the glue that binds the members of a community to act in a sharing and adapting manner. Without trust, staff members hoard their experience and knowledge and do not bother with sharing or learning from others” (Hung & Nichani, 2002, p.26). In order to improve trust, according to the findings, democracy and honesty must be established and maintained between staff and staff with managers. If a person is identified as dishonest, all trust will be lost in him. As indicated in comments from the Informants, honesty is considered as the most valuable thing in the current Vietnamese university context. “Transparency and honesty are difficult targets to reach in Vietnam at least in the short term” (Interview Informant 2), because it is not easy to be honest if you are working in a non-transparent environment. Honesty must accompany job effectiveness, efficiency, and actual performance because it is better to evaluate people by examining what they say compared to what they do.

Working in a dishonest environment where there is, for example, cheating, people feel stressed and suspicious. Therefore, they spend more time thinking about how to protect themselves rather than devoting themselves to building a solid and effective community and sharing knowledge. Lecturers are already busy with their teaching commitments (900 teaching hours per year, as discussed in section 2.8 Chapter 2) and extra teaching hours to earn more money to compensate
for their low salaries, but they also have to work in a poor trust environment. As a consequence, their job performance and effectiveness reduces. If the situation continues, then people become burned out and give up their ambitions. They only focus on themselves, have closed minds and close the door regardless of what is changing around them in the world, whereupon their knowledge quickly becomes out of date. The current lack of honesty in the work environment in Vietnam is chronic. “The lack of honesty in education can be seen in several ways, in copying, not quoting properly, cheating in exams, giving envelopes to teachers to pass exams or to get higher scores” (Interview Informant 1).

Honesty has now become more valuable than most other things, even more important than becoming rich or increasing the family income (Transparency International, 2011), even though financial achievement is the most crucial target for most people (with 40.8% indicating they share knowledge for monetary rewards, as indicated in the data presented in section 6.7 Chapter 6). It is even more important for people who are living in a poor country like Vietnam, according to ERG theory.

In order to be honest, it is necessary to have a strong support system that protects vulnerable people when they are being honest. Living in a comprehensively dishonest environment is difficult, where behaviours such as cheating for marks, cheating to pass examination, cheating in scientific results, cheating to attain a PhD, or cheating to become a professor are rife, and if you are not cheating also you will be outed because you are different. One of the Informants stated “Overseas, we are able to be true to ourselves and say what we think. On the contrary, in Vietnam, we have to hide our thoughts, or must say something which is not true to our thoughts” (Interview Informant 3). When employees are honest and open in a supportive environment and their strengths and weaknesses are evident, then a leader can effectively and strategically manage the organization to ensure a competitive advantage. Honesty is also essential in research otherwise the research is invalid and cannot be published internationally. This is why the quantity and quality of research publications of Vietnamese scholars is poor, as discussed in Section 2.8,
Chapter 2, or is a result of cheating in PhD training and research. “I found that many texts and paragraphs and whole pages in theses had been copied and there were even ten to twenty pages from other sources without acknowledgement of the authors” (Focus group 2, Informant 4).

Being honest is also a way to fight corruption that impairs trust. If trust is the glue that binds people together in a sharing community, then honesty is a major component that makes this glue. When working with an honest person, you will feel safe and the level of suspicion will reduce, therefore trust will be higher, as 67% of Informants confirmed in Section 6.7, Chapter 6. Furthermore, a high level of trustworthiness and honesty will encourage positive attitudes and expectations from friends and colleagues (Rose-Ackerman, 2001). Sadly, there is a high level of distrust and more specifically, dishonesty between people and between staff and leaders in universities, and more generally, between people and the government and institutions. In fact, more than 60% (35% in 2010) of people in Vietnam do not trust the government in terms of improving transparency and making efforts to stamp out corruption (Chow, 2013, p.10). These findings are supported by Rothstein and Uslander (2005) who claimed that the level of individual and institutional trust has a positive relationship with equality, democracy, the government’s honesty. Also, the greater the equality, the less corruption. Vietnam, Brazil, Colombia are the countries in the world which have the highest economic inequality and also the lowest trust between people, with less than 10 percent of people trusting others (Rothstein & Uslander, 2005, p. 49).

The findings as discussed in section 5.2.5 Chapter 5 indicate that the lack of knowledge sharing between Vietnamese academic staff is a consequence of the low level of trust between individuals. “I do not want to share because they may be my competitors in the future” (Focus group 1, Informant 11). Or “We want to keep our knowledge as power for fear of being overtaken by colleagues if they know our knowledge” (Interview Informant 1). This confirms the findings from the literature, as discussed in Section 2.5.3 in Chapter 2, that trust is a critical factor that impacts individual knowledge sharing behaviours. This study’s findings have shown that a low
level of trust leads to fear that colleagues might take what is shared and then these colleagues might claim that the ideas or innovations are theirs, not the sharers.

There are widespread copyright issues among academic staff, as it is common for them to copy lectures from other lecturers without any acknowledgement, as discussed above. From the discussion and the survey, the results indicate the bureaucratic system, professional misconduct, and corruption are the factors that result in inequality between staff in terms of promotion and access to funding and resources. An example of a participant’s statement is as follows: “We understand that as researchers we should not cheat, but to be honest, we have cheated many times. If we do not cheat, we won’t have any money” (Interview Informant 2). This example implies that researchers cheat by misrepresented figures, falsifying results, and fabricating expenses in order to have funds approved. This leads other people to feel that there are a number of unfair disadvantages facing competent staff, thus they do not trust the system and individuals.

7.3.2.3 Achievement chasing syndrome

The achievement chasing syndrome is a term used in this study to describe the perceptions of individuals or organizations that they have superior abilities and they only focus on doing big things which have a big impact rather than focusing on tasks or work which has a minor impact. According to qualitative and quantitative studies, the findings show that the achievement chasing syndrome is significant factors causing a lack of knowledge sharing among staff in higher education. As admitted by many staff, many people hold misconceptions about sharing knowledge (54.3% of participants, as discussed in section 7.2 above). They believe that if they share something, it must have a significant value, and it might lead to something significantly great or can be vividly visualized so that others can admire what has been shared. They think, “I want to make something which is the biggest in the world or design the biggest house, or the most beautiful and tallest structure in the world or something similar”. For example, a comment from an Informant stated, “People overlook knowledge that should be shared. They just begin
with the small and useful things first” (Focus group 1, Informant 5). The achievement chasing syndrome is also clearly reflected in the everyday in life of the Vietnamese people. As commented by an interviewee and as stated in the media, most Vietnamese scientists and researchers always focus on big things. In addition, they forget about everyday life and the everyday problems that people are facing and this leads to peasants having to conduct their own research on how to modify their tools and machines to suit the condition of their land and farms. As a result, there are a lot of peasant scientists. One participant said, “You said I have to research or invent a monumental thing... as a consequence, there are many peasants who have created innovative things” (Interview Informant 2). The Informant used the compare and contrast method to explain the achievement chasing syndrome of many researchers and scientists who try to hide their weaknesses by stating that they focus on the big value, while they are unable to devise innovative ideas to solve real life problems.

As a consequence, peasants and farmers must become reluctant researchers. This reflects the reality that Vietnam has to import most things required for daily use, from something as simple as a needle to modern technology. This is also a reason why the number of publications and patent registrations of Vietnamese scientists is the lowest in the Southwest Asian region (UNESCO, 2010). Each year, the number of patents registered is no more than one and the total publications of all the Vietnamese universities nationwide is less than a university in the Philippines or equal to one-tenth (1/10) of the publications produced by the Mahidol University, Thailand (Vallely & Wilkinson, 2008) or one-third of those published by the Chulalongkorn University, Thailand (Hien, 2010).

The psychology of placing a high value on foreign or imported goods rather than local products might be due to the fact that the Vietnamese market was dominated for many years by Russian, English, French, and American products. Therefore, the Vietnamese want to have the same as these countries in terms of architecture and artistic construction, such as the French, and machinery, cars and other high technology as the Russians and Americans. The wish to be as
important, impressive or influential as other powerful countries is still prevalent and it seems to be growing in higher education, both in scale and scope. Due to the impatience of MOET and the government to develop policies which aim to rapidly improve science in order to approach the science and technologies in developed countries, the slogan “leapfrog” or “short cuts in education, science and technology” appear everywhere in everyday life and in students’ books. However, these policies have had adverse effects. Short cut policies in education have killed the scientific field in Vietnam, as a professor commented, “Knowledge is like food. It takes time to digest. A shortcut will destroy research. We wish to have results in a short time regardless of quality, therefore, it is difficult to produce quality research” (Focus group 2, Informant 5). A lack of a specific orientation, leapfrog policies, copied or plagiarized research have caused a lack of knowledge sharing, and, in turn, poor international publications and patent registrations are inevitable (T. L. H. Nguyen, 2008).

The achievement chasing syndrome also reflects another aspect which can be termed helplessness in higher education, scientific research, and science and technology in Vietnam. To avoid being criticized as useless researchers and lecturers, a term had to be invented to hide this weakness. As discussed above, culture influences the way people think, how people perceive right and wrong in differing situations, and thus influences individual attitudes and behaviours towards sharing. As discussed in Section 2.3, Chapter 2, the Theory of Planned Behaviour (TPB) shows that individuals with a positive subjective norm will have positive attitudes and behaviour and vice versa. The findings from the participants revealed that there is low trust (Section 2.5, Chapter 2). Saving face (Section 2.4.4, Chapter 2) and the achievement chasing syndrome (as discussed earlier in this section) influence staff sharing behaviours. There are three outstanding points below highlight of how culture influences on individual behaviour as found by this research.

1- A low level of trust causes suspicion among staff as they might fear their ideas will be stolen, that it may lead to unfair competition or that simply, another person might take
advantage of a mistake made while sharing knowledge and use this as evidence against the sharers.

2- Young staff are influenced by the obligation to be modest and humble to avoid being regarded as a show-off and offend older staff or supervisors, thus this subjective norm prevents them from sharing ideas or engaging in debate.

3- The achievement chasing syndrome influences the subjective norm in that others focus on big and valuable things, so why should we focus on small things, as we do not want to stand out and be different.

The results from the quantitative data, as discussed in section 6.8, Chapter 6, also show that the subjective norm is problematic for academic staff. This could explain the tendency of staff to want to change the current state of the Vietnamese higher education context to an environment that allows more freedom of expression and the generation of ideas and appreciates performance rather than obedience and passive thinking. Therefore, it is necessary to encourage staff to be open in their thinking and actions, giving them more freedom to solve problems rather than directing them how to do so.

### 7.3.3 Organization

The qualitative and quantitative data indicates that social interaction has a positive impact on knowledge sharing attitudes and in turn, the collaboration in the organization improves. This study reveals that organizational climate and structure and government support have a strong impact on knowledge sharing efficiency and effectiveness in higher education. The findings of this study are in line with Chen and Huang’s (2007) findings that knowledge sharing is strongly influenced by organizational climate and organizational structure influences the social interaction of employees within the organization.
7.3.3.1 Working environment

People tend to hoard knowledge in a hostile environment for fear of losing power and their competitive advantage (Michailova & Husted, 2003), thus sharing knowledge must be nurtured in a warm and friendly environment. Such an environment is one where not only people trust each other at the highest level, but also where there are other means of support in order to facilitate knowledge creation, creativity, and sharing. From the findings (section 5.2.6.1, Chapter 5), we found that currently, the university working environment in Vietnam is not able to support sharing knowledge and international journal publications. Firstly, the work culture in Vietnam reflects the unfair competition between staff. There are many unwritten laws that impede staff behaviour, as stated by an Informant, “You cannot show your strength in an organization with many hidden cultures” (Focus group 1, Informant 14). Secondly, unsupportive behaviour from leaders demotivates staff from pursuing new ideas and innovation, “Whenever I would like to apply what I learnt overseas to my lectures, I always receive a warning from my supervisor that I should not apply new things” (Interview Informant 4) (see more in Section 5.2.6.1, Chapter 5).

The current work climate in Vietnam higher education is rarely criticised, however as has been shown, it does not encourage people to freely express their opinions and ideas, especially when these ideas differ from those who are ranked higher, such as senior managers, and thus innovative ideas and collaboration is not fostered and nurtured. Being state-funded, also known as the subsidy system, universities do not emphasize innovation and scientific performance because no matter how well they perform, they still receive a fixed amount of funding. In such a context, the staff pay more attention to how to get better pay via promotion or working extra hours outside their university. “Whether I conduct research or teach, there is no change to my salary... Even if I publish an article, I receive little or nothing in terms of finances, so I do not care. The money I would receive from writing a book or a paper is even less than I could earn in teaching for one extra day” (Interview Informant 1). Knowledge sharing is either completely overlooked or paid little attention. People are jealous of a person who is continuously sharing. For example, “Since I
returned from overseas, whenever I suggest new ideas, they check these ideas many times and they even tell me not to bring ideas from overseas and apply them here. I feel desperate.” (Interview Informant 3). It is likely that other staff might fear this person will pass them and be given a better position; hence, instead of trying to do the same things to demonstrate their ability, they use organizational policies and the culture of respect to hamper the knowledge sharers. “In a culture of age respect or senior respect, we are afraid of sharing knowledge” (Interview Informant 4).

7.3.3.2 Waste of talent

On the other hand, others who engage in continuous knowledge sharing expose those who lack knowledge or who are incompetent (that is, having been recruited through corrupt practices, see section 5.2.9 Chapter 5). Thus, they either publicly or privately prevent others from sharing knowledge. As a consequence, many young staff who were full of ambition, especially those who have studied overseas, leave universities for private organizations or foreign-owned schools and foreign-owned companies as they are not able to adapt to the system of heavy inertia and conservatism. Thus, conservatism and heavy inertia not only inhibits the sharing of knowledge, it also causes the loss of talent in higher education, especially young and enthusiastic people, as they feel their ideas are not being respected and supported. For example, “One of the reasons that talented staff leave is because the working environment does not support them. The environment includes psychology, leaders’ support, organizational culture and infrastructure” (Interview Informant 3). As a consequence, they leave which obviously creates a huge gap in terms of young researchers in universities as evidenced by the fact that most university staff in Vietnam are over 55 years old and there is no succession plan (OECD, 2013, p.298). The discussion above raises the question as to whether there needs to be a code of conduct to regulate dealings between older, more experienced staff and young staff in order to facilitate innovation and creativity from young people while maintaining cultural respect and a supportive environment. A possible future research direction would be to investigate this issue to see if it makes a difference.
The findings indicate that the organizational structure of Vietnamese higher education, which is a bottom-up report and top-down direct structure, hampers the sharing of knowledge. Any innovative ideas or change must be reported to a higher level in order to receive approval. Sometimes the innovator is mistreated because their ideas are new and might be considered as strange in the view of the leaders view and social groups. For example, “You want to retain talent but you always shout at them not to apply new knowledge or ideas” (Interview Informant 3) (see Section 5.2.4.3, Chapter 5 for more details). In addition, with the complex and deeply hierarchical management system, it takes weeks or months to obtain feedback from leaders or for leaders to receive feedback from lower units. This is confirmed by the experience of Datviet (2013), Secretary of the Hanoi Party Committee Pham Quang Nghi, who waited 29 days to receive a letter of thanks from the Vientiane Municipal Party Committee secretary on the occasion when Hanoi celebrated 1000 years of foundation in 2010.

7.3.3.3 Government support

In terms of government support to the organization and knowledge management and sharing, the findings reveal there was poor support from the government to university staff and scientists in terms of research funding and other supportive policies. For example, “It usually takes a long time to receive any support from the government” (Focus group 1, Informant 12). The government support that staff expect include investment in research and development (R&D). A lack of government investment in research means that researchers are hungry for knowledge, as they cannot conduct experiments in high tech labs nor can they access high-ranking academic database journals such as PROQUEST, EMERALD, EBSCO. Currently, there is no documented confirmation that any university in Vietnam has access to these databases. The amount that Vietnam spent on investment in science and technology in 2004 was the lowest of the eleven East and Southwest Asian countries (Hien, 2010) and only 20% of Vietnam’s university lecturers are involved in research (OECD, 2013, p. 298). As a consequence, they produced very few patents or
commercialised technologies and as well had the lowest international publication rate in the region (see Section 2.8, Chapter 2).

Furthermore, restricted Internet access, the frequent use of firewalls and government decrees to ban people from sharing on Facebook, blogs and other social media has contributed to preventing people from sharing, as the safest way to protect yourself from danger is not to share anything. The latest government decree (decree number 72 which was recently signed by the Prime Minister) which took effect on September 1st 2013 increased the limitations on the use of the Internet (AFP, 2013), This has caused serious concerns for Internet users.

From the findings, it can be concluded that the work environment has a significant impact on people’s sharing behaviour and attitudes. It is found that university leaders and departmental and even unit leaders play an important role in inspiring, motivating and demotivating staff from sharing their knowledge with limited and scarce resources, including financial, technological, infrastructure and human resources.

Universities should not only recruit local students but should also aim to attract foreign students. In order to achieve this, the quality of the university must be improved and meet international standards. This includes the quality and quantity of knowledgeable staff who can improve the knowledge sharing culture.

Leaders must lead in sharing and create a knowledge sharing and diverse culture in universities (Carmeli, Atwater, & Levi, 2011; Goldsmith, Greenberg, Robertson, & Hu-Chan, 2003; Mendenhall & Osland, 2012; Woods, 2005). A knowledge sharing culture is one where staff working in that environment feel supported, safe and more importantly, believe that their opinions and ideas are treated with respect and are open for discussion. A knowledge sharing culture will support and facilitate staff to tell the truth without fear of retaliation, thus, the role of the leader is important, “We need more support from leaders and need their backup for sharing” (Focus group 2, Informant 3). (See more in section 5.2.6.2, Chapter 5) In addition, where people,
especially young people, are inspired to display their creativity and innovative ideas, this cannot be encouraged and fostered without support from the leaders and the existence of a knowledge sharing culture. For example, if a young staff member shares his research and publications or suggests ways to improve the curriculum, it might cause suspicion, jealousy or result in an unpleasant experience and senior staff might express their disagreement or find ways to inhibit or block future knowledge sharing, because they might already know about it (see Section 5.2.6.1, Chapter 5). These actions directly destroy the motivation of young sharers, and in cases like these, leaders should intervene and protect younger staff so that they feel they have strong support from the leader and that they are working in a fair environment (see Section 5.2.10, Chapter 5).

Thirdly, universities should adopt a culture of diversity, especially in relation to the expression of opinions and views, in order to develop and attract foreign talent to join Vietnamese higher education (Collini, 2012; Cox & Blake, 1991; Moran, Abramson, & Moran, 2014; Ogbu, 1992; Sporn, 1996). Prior to globalisation, monopolies and dictatorships might have worked in the past as many countries were relatively isolated and the customer was stripped of his rights (Acemoglu, 2006; Olson, 1993). Today, monopolies and dictatorship in management are no longer effective as the world becomes smaller and integrated, and people have more choice whether to choose to study at a local university or overseas. In fact, there are an increasing number of Vietnamese students choosing to study overseas rather than at a local university, not only due to the better quality but also because the environment is one where their abilities are respected and fully developed. Similar to staff, if a student’s ideas and opinions are not respected, their innovative and creative abilities will not flourish. As a result of the combination of a lack of diversity, a lack of autonomy and the heavy inertia in the system, the standard of education cannot be improved and staff become more passive in searching and sharing knowledge for self-improvement (see Sections 5.2.6 and Section 5.2.10, Chapter 5). Eventually, they become teaching workers or teaching machines, who only fulfil the duties given by schools and return
home after their teaching hours, repeating the same lessons year after year (Bridge, 2012; Dien, 2013; Trinh, 2013). Therefore, organizational structure/policies is highly correlated with the knowledge sharing outcomes because in a supportive environment people are highly motivated for their ideas and efforts, the better the support the higher chance of being successful in research and share knowledge in Higher education institutions.

7.3.4 Economic status

People do not offer their knowledge for free, and knowledge sharing can be regarded as a business trading process, as concluded by Barachini (2009). The findings from this research also support this theory implicitly. Vietnamese university staff, especially people who are working in public universities, work long hours as required by MOET (more than 900 teaching hours per year or more than 25 teaching hours per week). Even though their salaries are very low, receiving an average of $150 USD per calendar month (Clark, 2010), they have to work hard because of these low salaries (Thinh, 2011). Ironically, these salaries are not enough to cover basic spending for themselves let alone their families, wives, husbands and their children, nor is it sufficient to rent or buy a house, pay for school fees, health care and travel, and other spending such as weddings or funerals. There is however many people wish to be a teacher in public universities, they even paid hundred millions Vietnam dong (equivalent to US$10,000 or more) in bribe in order to get the job. The motivation for this is not for the official income, but for being permanent staff. As such, they will receive salary continually until they retire regardless of how well they perform, they do not have to compete or make much effort for the job. In addition, many people do not want to take risk of working for private sectors where they seem to operate under market economy principles but actually been distorted by government interventions, while public sectors are received favourable treatments and subsidies from government. More importantly, they have time and opportunity as the name of public servant and university lecturer to earn non-salary income that if they were not university lecturer they cannot have it, such as teaching extra class or even taking bribe from students. This income often is higher than their official salary (see
section 5.2.7, Chapter 5, section 6.8.1, Chapter 6), and because of this, science and education workers have to dedicate all of their intellect and talent to pursue this kind of income (Vallely & Wilkinson, 2008). Therefore, there is little paid time for conducting research to acquire new knowledge or for knowledge sharing. This situation erodes research and the lecturers’ knowledge, as knowledge quickly becomes out of date, which in turn makes people fearful to share knowledge which is not current, or perhaps they have no knowledge to share (see Section 5.2.4.2, Chapter 5).

There is no significant difference in the recognition given to effective and ineffective staff in Vietnamese higher education, as discussed in sections 5.2.6.3 and 5.2.10, Chapter 5. Lam’s (2009) findings also show that the benefits that academic staff obtain from doing research were not highly appreciated by the university as the university does not perceive there to be a link between academic publications and teaching (see Section 5.2.7, Chapter 5 and Section 7.3.2, Chapter 7). This research finds that academic staff do not receive enough positive support and encouragement from their institutions. More importantly, researchers who publish internationally do not necessarily have a higher income than other colleagues do, rather, their colleagues might have a higher income by working additional teaching hours, which is the main goal of Vietnamese academic staff. Consequently, the quality of Vietnamese education quality is becoming worse and the number of patents and articles that are published internationally is the lowest in the Asian region, as indicated by UNESCO (2010) and Vallely and Wilkinson (2008).

The findings of this study clearly demonstrate that sharing knowledge in Vietnamese higher education is perceived as a business trading process in the mind of staff. In this context, staff make a great effort to earn both salary and non-salary income, so if any action does not generate a direct benefit, such as rewards or money, the staff will not bother doing it, even though they can derive a benefit from it in the future (see Section 5.2.7, Chapter 5).

Intrinsic motivation is reflected in self-efficacy and reputation (Cho et al., 2007). The results of this research show that most participants (75%) believe they can influence university business
and reputation with their knowledge (see Section 6.8.1, Factor 1, Chapter 6). This finding is in contrast with many practitioners, especially Ko, Kirsch, and King (2005) who stated that when needs are directly satisfied, employees are intrinsically motivated, thus university staff are motivated to share if they have achieved their goals. This may be interpreted that a lack of knowledge is a major problem for researchers and academic workers. They realise that they are individual bricks to build a strong and high-ranking university base on their knowledge, and some of them might be happy to share knowledge if they believe it is important to others. However, under the pressure of earning a non-salary income to compensate for a low salary income, academic staff do not invest sufficient time to focus on their teaching and research to improve their expertise, despite their wish to have better knowledge and share it (see Section 5.2.4.2, Chapter 5).

From the findings, there is a need for MOET to ensure transparency in evaluating individual performance and providing a motivation system to motivate staff. More importantly, the salary of university staff must be enough to cover their expenses so that they can shift their focus back on improving and developing their career. To do this, a university should have greater autonomy in terms of firing and promoting staff and payments should be based on actual performance and positive feedback, not on seniority as mentioned by (Lam, 2009). This is what Vietnam must do in order to gain a competitive advantage over foreign universities, because, currently in Vietnam, MOET and the government control and decide the salary levels of all staff in public universities and other state-owned organizations. For example, there is no difference in salary between a staff member who is working in a university and an employee who is working in a factory, if they have the same Bachelor or Master qualification. Public universities in Vietnam also do not have autonomy in employing or dismissing academic staff, owning buildings and equipment, borrowing funds or spending their budgets to achieve objectives (Di Gropello, 2011, p .135)

From the findings reported here, it can be concluded that a lack of knowledge is the major cause of poor knowledge sharing practices in Vietnamese universities. It comes from inappropriate
current policies that limit a university’s right to sack poorly performing staff as they believe that once they have become a state public servant, they will remain so until they retire, regardless of how well they perform. This will destroy their motivation to improve their knowledge in order to perform better in the competitive environment of globalization. A lack of motivation to pursue new knowledge and face challenges will lead to passivity in the search for knowledge; hence, knowledge is soon out of date. As a consequence, this will produce graduates of poor quality and students who cannot find employment in their field (Vallely & Wilkinson, 2008).

Vietnam is rife with corruption and it happens in almost every aspect of social life, as reported by World Bank and Transparency International organizations (Transparency International, 2011; World Bank, 2012a). The Vietnamese education system has always been ranked in one of the top three most corrupt sectors. “Corruption in higher education in Vietnam is both rampant and institutional. Corrupt practices are the norm rather than the exception and foster an environment of distrust and suspicion on the part of those who forced to participate in this system” (McCornac, 2009, p.25). The consequences of corruption cannot be fully estimated because it has a negative impact on a variety of aspects in Vietnamese social life from economic, social and ethical perspectives. In the education and particularly the higher education sector, where students are trained to have particular knowledge and skills, once corruption and professional misconduct occur, the consequence is devastating. It severely and adversely impacts the younger generation by providing people with unethical values. More seriously, students learn how to cheat from each other and consider it to be a norm. Once someone who has bribed their way into a position has power, they will recruit staff based on their image and will of course try to get as much money as possible to return the cash they have paid for their position. This vicious cycle is self-perpetuating.

In Vietnam, there is an expression about employment: “Nhất hậu dự, Nhi quan hệ, Thứ ba tiền tệ cuối cùng trí tuệ” or “the first priority is a family member, second relationship, third money, and last is intellect”. This indicates that an intellectual criterion is less important than any other
requirements for a job. Many employees had to pay VND 100 million or USD $5000 in order to secure a job, as presented in a recent report from government officers (Cham, 2013; Vietnamplus, 2013). As a consequence, there is an increasing number of incompetent staff employed in education who only focus on how to get back what they have paid rather than devoting themselves to their career. This also leads to them having no knowledge to apply to the job, let alone to share.

The findings (30.3% participants, see Q8 table 6.9 section 6.7.1 Chapter 6) also indicate that a small portion of education workers and scientists are devoting effort to the development of the country, regarding the low level of salaries. This finding is also supported by government reports which indicate that only approximately 30% of public servants have the appropriate skills to perform their role in the workplace, 40% are not performing well, and the remaining 30% of public servants are good for nothing (Laodong, 2013). However, they are facing huge pressures from their colleagues for being different, being reluctant to do unethical things or accept inappropriate decisions from leaders (see Section 5.2.6.2, Chapter 5). They are vulnerable and are easily accused of disobeying commands, even though most of these commands are inappropriate.

The evidence in section 5.2.6.1 indicates that they are also working in an unsupportive and hostile environment with incompetent leadership, where the role of individuals is not clear. Where there is a lack of facilities in which to conduct research and where the existence of non-transparent policies make the work environment extremely difficult and directly impacts staff motivation to be innovative and creative. In contrast, people in Western and democratic countries are encouraged to debate and have motivation to be creative and innovative. It can be suggested that regardless of region, climate, race or cultural perspective, innovation and creativity does not emanate from a lack of freedom in thinking and speaking, a lack of support from leaders and an inability to provide for basic but essential needs.
The findings as discussed in this section indicate that ERG is a suitable theory to explain the current context of higher education in Vietnam. Many Vietnamese academic staff are struggling with their existence needs. As their salaries are not sufficient for their survival therefore, they must spend more time earning additional money rather than devoting themselves to research and career development. They have to work hard, both inside and outside their universities, and this leads to stress and becoming burnt out. In order to achieve the need for self-development or the desire for self-actualization, academic staff have to expend more effort and they also need more support from universities and the government in terms of finances. Thus, this finding indicates the proportional relationship with knowledge sharing outcomes of the Vietnamese university lecturers.

7.3.5 Technology

A difficulty in using technology is another issue that academic staff, especially older staff face, due to their lack of English proficiency (as will be discussed in Section 7.4.4) many academic staff are not able to utilize and operate modern equipment and facilities to support their research and knowledge sharing. A lack of knowledge on how to use new technology has meant that many pieces of modern equipment have remained unused and are stored in warehouses for display instead of being used (Darriulat, 2014). Informants expressed that if senior staff are not able to use new technology, then junior and young staff often cannot use it either. For example, “While advanced technology and equipment are very expensive….managers is afraid of this being used by young staff while they and other older staff are not able to operate them” (Interview Informant 2) (see more in Section 5.2.8 chapter 5). This shows that junior and young staff can use new technology to support their research only after receiving permission from seniors and managers. Moreover, a lack of English proficiency is a barrier for using technology, as most technological applications use English as the channel for communication between users and the technological equipment, such as computer software, the Internet or functions on laboratory machines. Another concrete example is that many academic staff, including young people, never
use emails to communicate, as discovered by the researcher when conducting the survey and making contact with the participants to organise the discussions and the interviews. Participants either said that they never check their emails because they prefer face-to-face contact or phone. Others said that they were not able to use their email, as they did not have an Internet connection at home. For example, “It can be said that no less than 50% of university staff do not use computer for their jobs, and many professors do not have emails” (Interview Informant 2) (see Section 5.2.8, Chapter 5 and Section 6.8.1, Chapter 6).

Thus, this finding reinforces the conclusion of the World Economic Forum that the technological readiness of Vietnam is very low, being ranked 102/148 countries in the world in 2013 (Dave & Koskela, 2009). It can be suggested that this will have a negative impact on individual knowledge sharing behaviour. TPB indicates that perceived control and perceived ease of use in relation to technology will influence individual behaviour (Godoe & Johansen, 2012; Horst, Kuttschreuter, & Gutteling, 2007; Venkatesh & Davis, 2000). Individuals may have a negative attitude toward technology because they perceive technology to be a barrier rather than an enabler. This study finds that there is negative relationship between technology and knowledge outcomes or research performance in Vietnamese context, as discussed in Section 6.8 Chapter 6. Thus, the findings support the Theory of Planned Behaviour in terms of the subjective norm, perceived benefits, and perceived control on individual knowledge sharing behaviour.

The discussions above have clearly shown that knowledge sharing outcomes in Vietnamese higher education is influenced strongly by people, culture, the organizational structure, economic status and technology support. The findings support the research model that was developed in Chapter 3 that people are a critical factor that influences knowledge sharing outcomes. In this case, the outcome of knowledge sharing was low as a result of inconsistency in the quality of academic staff, therefore both the quality and quantity of research sharing outcomes was low. In fact, many suffered from a lack of absorptive capacity, a lack of time, work overload, a lack of money, or incompetence. Culture was identified as the strongest critical factor that influences
knowledge-sharing outcomes. The culture of saving face prevents people from expressing their thoughts for fear of being disrespected or if they make a mistake, being taken advantage of. The trust issue also contributes to the low level of knowledge sharing outcomes as staff reported that they work in a hostile environment where a low level of information transparency and corruption is widespread. Therefore, staff try to keep silent rather than expose themselves to risks. Paranoia or the achievement chasing syndrome which exists among teachers and researchers has prevented them from looking at their actual abilities in order to determine a career development strategy. This syndrome probably comes from the psychology of lower class people who try to avoid being criticized for their weaknesses, thus they must find a good reason to do so. The achievement chasing syndrome and the achievement chasing syndrome discussed above have created a false impression of Vietnamese higher education institutions (HEIs), the false impression being that the quality of academics and graduates in Vietnam is high, whereas the reality is the opposite. This explains why there are many “Paper doctor” in Vietnam nowadays.

The organizational factor is another critical influence in knowledge sharing outcomes in the context of Vietnamese higher education. When people have to leave their home for work, the organization is a second home for staff, thus the organizational environment is key for work effectiveness and creativity. As discussed in section 7.3.3, it can be concluded that in a hostile work environment where people do not fully trust each other, people use tricks to advance their career rather than relying on their actual abilities. A lack of trust and support leads to a waste of talent. As they feel lonely and vulnerable in the organization, their departure is inevitable, therefore only incompetent staff who cannot find another job stay in the organization. This results in a high number of staff but low job efficiency, thus poor research and teaching quality is a consequence. Two other organizational factors that were found to have an influence on knowledge sharing outcomes are government support and evaluation standards. Poor knowledge sharing outcomes were found to be related to a lack of funding support from the government and
staff fear of expressing opposite views. A lack of a staff evaluation standard also caused staff to be unmotivated to share knowledge as they felt unfairly treated in terms of their performance.

Economic status influences knowledge sharing outcomes as it results in staff neglecting their research and sharing knowledge. Staff either spend most of their time earning money to cover their basic needs or they lose interest in research and knowledge sharing due to insufficient incentive and support from universities. Research and knowledge sharing requires time and effort, as well as innovative thinking. If staff are only able to think about how to feed their family and how to cope with a lack of food, they cannot stay in their office and focus on knowledge creation which has little immediate economic return. Thus, the economic status of staff has a strong relationship with research performance and knowledge sharing outcomes.

Technology, on the other hand, influences research performance, as it is a significant facilitator of research. In the context of Vietnam, poor technology support has prevented the effective sharing of knowledge. Firstly, only a small percentage of staff are able to use and exploit technology effectively. Secondly, technology, especially the Internet and supporting software, is believed to help Vietnamese researchers access knowledge from all corners of the world, and also become a part of the world academia society. However, insufficient English proficiency prevents most Vietnamese researchers from accessing the open access databases. They are only able to read translations in the Vietnamese language, thus it not only loses its original meaning, it may also be out of date. Thus, an inability to use technology efficiently has a negative influence on poor knowledge sharing outcomes. Staff not only lack knowledge due to their inability to access technology, it also results in them having a negative attitude toward using it as they perceive that technology is not easy to use. Therefore, it can be concluded that knowledge sharing patterns in Vietnamese higher education is reflected in the Theory of Planned Behaviour. All critical factors: people, culture, organizational structure, economic status and technology either have a positive or negative relationship with research performance. Thus, within the context of this study, the findings of this study have confirmed the research model as shown in Figure 7.1.
7.4 Contextual factors of sharing knowledge

The following discussion focuses on three issues that are believed to have a great impact on the knowledge creation and sharing performance in Vietnamese higher education. These are management issues, infrastructure, and training as represented in the theoretical model (see Section 3.7, Chapter 3).

7.4.1 Management

Management has proven a critical role in supporting or hindering knowledge sharing behaviour and success. It creates a two-way interactive environment, in that people, culture, organizational structure/policies, economic status of employees and technology are influenced and reflect back to management. Therefore, a positive relationship between them would create a positive sharing outcome and vice versa. The findings have shown that there are two major issues of management
that create negative outcome for knowledge sharing bureaucratic issues and management vision issue.

### 7.4.1.1 Bureaucratic issues

Management in Vietnam in general and in higher education in particular is facing difficulties. Perhaps the Vietnamese economy has not yet completed its transformation from a central-based economy to an open-market economy. The simple fact is that the generation who was trained in and influenced by the central-based economy (in Russia and other Eastern countries such as Hungary, Bulgaria, or Slovakia) account for most of the leaders currently working in the higher education system and they play a key role in developing the operational policies and influencing the policy makers. As a consequence, this is considered to be a factor which causes obstacles to new management approaches.

One of the main management issues which directly affects knowledge sharing effectiveness and the quality of higher education is bureaucracy. Bureaucracy is a typical management approach in a command economy and in a complex hierarchical system. Bureaucracy itself in the past was good, and it used to be the model for many states and governments. However, in today’s world, especially with the globalization of economies and knowledge, bureaucratic management is considered a critical hurdle to creativity and innovation. Bureaucracy only focuses on tasks and procedures and is management based on official reports which is sometimes a far cry from reality as reports are not always accurate, especially if they are written with a specific intention. Reports are also sometimes fabricated or falsified (see Section 5.2.1.1, Chapter 5). However, nobody takes responsibility for the mistakes due to a lack of autonomy (see Section 5.2.10, Chapter 5). It is difficult for a permanent staff member is sacked by the university. It is not only the system which prevents them from arbitrary dismissal. It is also due to corruption, because if the incompetent staff member has a close relationship with the top leaders, then the middle managers
cannot exercise what they should have done, and if they try to do so, they might lose their position before they can sack the incompetent employee (see Section 5.1.10, Chapter 5).

As bureaucracy only focuses on tasks and procedures, the human element is neglected. The contribution of each individual is slowly diminishing due to a lack of job satisfaction and customer satisfaction. Therefore, people who would like to devote their full talent and creativity to helping other people are deterred. This is why knowledge sharing activities in Vietnamese higher education are not particular numerous (see Section 2.8, Chapter 2). As the encouragement for creativity and innovation is lacking due to bureaucratic management, the scientific output of Vietnam is always ranked the lowest in Southeast Asia (UNESCO, 2010). The findings from the discussion also indicate that bureaucratic management is the cause for the long wait for a research project to be approved which leads to many researchers abandoning their research pursuits (see Section 5.2.1, Chapter 5). This, in turn, de-motivates other researchers and reduces their innovation and creativity in sharing knowledge (see Section 5.2.5.3 and Section 5.2.6.2, Chapter 5).

An extremist comment was made about the management in higher education as follows: “Our education is currently managed by uneducated people” (Interview Informant 4). This is not absolutely true, however, it reflects the way that many people, including the most talented people, are not happy with MOET policies. Several policies were issued by MOET with which the vast majority of staff and students nation-wide disagreed and as a result, these were ultimately scrapped by the issuer after a few days (Choi, Lee, & Yoo, 2010; Wu & Sukoco, 2010).

Many leaders are working as if they were in the age of guaranteed employment, that is when becoming a state servant meant employment for one’s entire career, and regardless of performance, the employee receives a monthly salary. This was expressed by one Informant as follows: “The state budget like a big milk jar” (Interview Informant 1). Employee evaluation does not take into consideration the employee’s actual performance, such as the number and
quality of their research publications, the students’ feedback, or the projects in which they have been involved; rather, the focus is on compliance and not making mistakes. Thus, staff try not to make mistakes by minimizing the activities that could lead to mistakes or unsure outcomes, or even by keeping quiet, thus, as a consequence, they lack innovative ideas, they do not engage in risk taking and they become more passive in knowledge sharing and knowledge acquirement. This finding accords with the analysis of Huang, Davison, and Gu (2011), C.-P. Lin (2007), and Young, Kuo, and Myers (2012).

According to the qualitative (Section 5.2.3.4, Chapter 5) and quantitative (see Table 7.2 above) data, the major finding for the first question reveals that staff in Vietnamese universities have a serious deficit in terms of a lack of information from outside of their country. In other words, they are isolated from the rest of the world. This leads to academic staff in higher education doubting the effectiveness of using information technology and infrastructure, moreover, this issue also raises questions about the interaction between staff in terms of career improvement, that is, how they communicate, and what do they communicate to enhance their career. Therefore, from a management perspective, managers and leaders in universities should investigate what their employees are doing, how effective they are in terms of their work, their actual outcomes, the issues or problems they are facing. More importantly, the transparency of management where employees are treated equally and there is fair assessment of performance to encourage them to devote themselves to their work.

7.4.1.2 Management vision

The results from the discussion (Section 5.2.1.3, Chapter 5) indicate that university development strategies are important in encouraging or discouraging staff from collaborating and sharing knowledge in both tacit and explicit forms. For example, the strategy to become a learning organization, such as, “Sharing knowledge will ignite the ability to learn, that is, lifelong learning both at the personal and organizational level” (Interview Informant 2). Or “Sharing
will not only help one person but the whole organization will benefit and this will create movement towards a learning organization and will encourage people to learn more (Focus group 1 Informant 3). University development strategies provide a general vision on the knowledge needed and the processes to achieve it. For example, if a university’s vision is to reach international standards in ranking, then it must focus on increasing the quality and quantity of research and international publications. Thus, staff should be guided to improve their research skills by sharing experiences between more experienced and novice researchers. More policies should be implemented to encourage staff to participate in research collaboration and knowledge sharing. “We need both incentive and recognition policies for people to improve and nurture their innovative abilities” (Interview Informant 1). On the other hand, if a university’s vision is to increase their income to the highest amount possible in a short time, they might decide to enrol as many students as possible and staff will be expected to increase their teaching load, therefore, sharing knowledge will not be a priority. Sadly, this is true for most universities in Vietnam.

Universities are trying to attract the highest number of students possible, so the number of students they enrol exceeds their capacity several times, and as a consequence, classes are overloaded and the student/staff ratio is substantially high, as much as 1:30 (World Bank, 2012b). University lecturers spend most of their time teaching and many become a victim of teacher burnout (see Section 5.2.4.2, Chapter 5).

Thus, the current management approach in Vietnamese higher education influences knowledge sharing outcomes through people, culture, organizational structure, economic status and technology, as shown in Figure 7.2. Bureaucracy and the psychology of subsidy result in people relying on the government and universities, and they often become passive thinkers. Management has an influence on culture in terms of creating trust and motivation, however in this study, management did not have a positive influence on trust and motivation; rather, it negatively impacted them. Similarly, management has an influence on the organizational structure and policies, as due to bureaucratic issues, the organization operates with insufficient autonomy and
thus knowledge sharing and research performance becomes less effective. Management also has strong relationship with economic status and technology in terms of research performance. Staff feel less satisfied with their salary and lack the incentive to produce innovative ideas. This, together with their ineffective use of technology, results in poor research and knowledge sharing outcomes.

![Diagram of Contextual Management factor and other critical factors]

**Figure 7.2 Contextual Management factor and other critical factors**

### 7.4.2 Infrastructure

The results (as discussed in section 5.2.2, Chapter 5) indicate those technological and basic infrastructures are important factors that assist the sharing of knowledge, both tacit and explicit. There are two separate findings from the analysis, the inadequate use of information and communication technologies (ICT) among staff and universities, and insufficient computer skills and Internet access.

The rate of utilizing ICT have recently increased significantly in Vietnam, see Table 7.3 below, which is helping people to communicate and share knowledge easier, as knowledge can be shared regardless of time and place. Even though the knowledge economy index of Vietnam is very low,
being ranked almost at the bottom of the regional list, it is interesting to note that despite the ICT index of Vietnam being higher than China and Philippines, the innovation and education index of Vietnam is as low as half the indices of these two countries, as shown in Table 7.3. These matches with the findings that show that despite improving the ICT infrastructure, many staff are not able to exploit it effectively (see section 5.2.2 Chapter 5). This negatively impacts knowledge sharing behaviour (see Section 6.8.1, Chapter 6).

Table 7.3 The knowledge economy index and knowledge index of East Asia and Pacific countries in 2012

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>KEI</th>
<th>KI</th>
<th>Economic Incentive Regime</th>
<th>Innovation</th>
<th>Education</th>
<th>ICT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>New Zealand</td>
<td>8.97</td>
<td>8.93</td>
<td>9.09</td>
<td>8.66</td>
<td>9.81</td>
<td>8.30</td>
</tr>
<tr>
<td>2</td>
<td>Australia</td>
<td>8.88</td>
<td>8.98</td>
<td>8.56</td>
<td>8.92</td>
<td>9.71</td>
<td>8.32</td>
</tr>
<tr>
<td>3</td>
<td>Taiwan, China</td>
<td>8.77</td>
<td>9.10</td>
<td>7.77</td>
<td>9.38</td>
<td>8.87</td>
<td>9.06</td>
</tr>
<tr>
<td>4</td>
<td>Hong Kong, China</td>
<td>8.52</td>
<td>8.17</td>
<td>9.57</td>
<td>9.18</td>
<td>6.38</td>
<td>9.04</td>
</tr>
<tr>
<td>5</td>
<td>Japan</td>
<td>8.28</td>
<td>8.53</td>
<td>7.55</td>
<td>9.08</td>
<td>8.43</td>
<td>8.07</td>
</tr>
<tr>
<td>6</td>
<td>Singapore</td>
<td>8.26</td>
<td>7.79</td>
<td>9.66</td>
<td>9.49</td>
<td>5.09</td>
<td>8.78</td>
</tr>
<tr>
<td>7</td>
<td>Korea, Rep.</td>
<td>7.97</td>
<td>8.65</td>
<td>5.93</td>
<td>8.80</td>
<td>9.09</td>
<td>8.05</td>
</tr>
<tr>
<td>8</td>
<td>Malaysia</td>
<td>6.10</td>
<td>6.25</td>
<td>5.67</td>
<td>6.91</td>
<td>5.22</td>
<td>6.61</td>
</tr>
<tr>
<td>9</td>
<td>Thailand</td>
<td>5.21</td>
<td>5.25</td>
<td>5.12</td>
<td>5.95</td>
<td>4.23</td>
<td>5.55</td>
</tr>
<tr>
<td>10</td>
<td>Mongolia</td>
<td>4.42</td>
<td>4.45</td>
<td>4.30</td>
<td>2.91</td>
<td>5.83</td>
<td>4.63</td>
</tr>
<tr>
<td>11</td>
<td>China</td>
<td>4.37</td>
<td>4.57</td>
<td>3.79</td>
<td>5.99</td>
<td>3.93</td>
<td>3.79</td>
</tr>
<tr>
<td>12</td>
<td>Philippines</td>
<td>3.94</td>
<td>3.81</td>
<td>4.32</td>
<td>3.77</td>
<td>4.64</td>
<td>3.03</td>
</tr>
<tr>
<td>13</td>
<td>Fiji</td>
<td>3.94</td>
<td>4.60</td>
<td>1.96</td>
<td>4.65</td>
<td>5.27</td>
<td>3.87</td>
</tr>
<tr>
<td>14</td>
<td>Vietnam</td>
<td>3.40</td>
<td>3.60</td>
<td>2.80</td>
<td>2.75</td>
<td>2.99</td>
<td>5.05</td>
</tr>
<tr>
<td>15</td>
<td>Indonesia</td>
<td>3.11</td>
<td>2.99</td>
<td>3.47</td>
<td>3.24</td>
<td>3.20</td>
<td>2.52</td>
</tr>
<tr>
<td>16</td>
<td>Lao PDR</td>
<td>1.75</td>
<td>1.84</td>
<td>1.45</td>
<td>1.69</td>
<td>2.01</td>
<td>1.84</td>
</tr>
<tr>
<td>17</td>
<td>Cambodia</td>
<td>1.71</td>
<td>1.52</td>
<td>2.28</td>
<td>2.13</td>
<td>1.70</td>
<td>0.74</td>
</tr>
<tr>
<td>18</td>
<td>Myanmar</td>
<td>0.96</td>
<td>1.22</td>
<td>0.17</td>
<td>1.30</td>
<td>1.88</td>
<td>0.48</td>
</tr>
</tbody>
</table>

The discrepancies between ICT development and knowledge innovation and education come from a lack of skills in relation to Internet use (Bodewig & Badiani-Magnusson, 2014; Tran & Gorman, 1999; Williams & Rich, 2014) and computer use. There are a number of staff, especially senior staff, who are not able to create their own emails, hence they rarely use emails for communication (as discussed page 29 and 30 of this chapter). According to a recent report on global information technology by the World Economic Forum (WEF), Vietnam is ranked 84/144 countries in terms of network access, with only 35% of the total population using the Internet (Bilbao-Osorio, Dutta, & Lanvin, 2013). This problem is common for leaders because all communication is communicated via their assistants which is typical in higher education, as a
head of department or their assistants assist deans. In addition, a lack of English proficiency also prevents staff from using computers and the Internet for updating and sharing knowledge. Most staff use a computer only when they want to create a document and prepare their lectures. For most staff, as many participants admitted, a computer is only used to perform the functions of a typewriter and for playing games. For example, “Many staff do not know how to use a PC for their job. They just use it for typing their lessons and playing games” (Focus group 2, Informant 3). Thus, improving ICT should accompany an improvement in knowledge and skills in relation to how to apply technology in work and life (Hollow & Masperi, 2009; Kozma, 2008).

Furthermore, with the globalization of the world’s economy and knowledge, each staff member has to make an effort to improve their foreign language skills. Especially English, to not only be able to update and share knowledge but also to create more opportunities for collaboration with international colleagues, as expected by universities and society (Dave & Koskela, 2009; Lopez-Nicolás & Merono-Cerdán, 2009; Shih, 2011).

ICT is a key to development and it is a tool for fighting corruption, which will be discussed in Section 7.5. From the findings (section 6.8.1, Factor 5 Chapter 6), it can be seen that an inability to use ICT impedes knowledge sharing behaviour. In relation to the lack of access to academic databases and books in Vietnamese higher education libraries, (H. Nguyen, 2012) indicates that 20% of Vietnamese universities have either no library or a library without books or resources. Thus, ICT is a key communication medium through which staff can exchange and share their knowledge. Therefore, it is suggested that it is necessary for schools to consider encouraging and training staff to use the Internet to share and update their knowledge in training and publications.

Thus, it can be seen that infrastructure plays a significant role in enhancing and facilitating research performance and is directly linked to people, culture, organizational structure, economic status and technology application. This confirms the relationship, as described in Figure 7.3, as a part of research model below.
7.4.3 Training

Training can have a significant impact on one’s learning ability as well as the capacity to learn. This notion has been proved through the research of Nonaka (1994). Thus, training and knowledge absorptive capacity have a strong relationship with each other, at individual, group, and organizational level. This is a reason why many organizations pay heavily attentions to invest in research and development (R&D) programs. Absorptive capacity influences knowledge sharing effectiveness and behaviour (see Section 2.5.5, Chapter 2). O’Dell and Grayson (1998) and Szulanski (2003) listed four major barriers to internal transfer: ignorance of the knower; no absorptive capacity caused by a lack of money, time, and management resources; a lack of a pre-existing relationship or trust; and a lack of motivation. The results from the findings indicate that the major issue in sharing both tacit and explicit knowledge is the quality of staff who are currently working in universities (see Section 5.2.3.2, Chapter 5). The issues of training academic staff will be discussed in four sections: (1) issues of evaluation; (2) absorptive capacity; (3) lack of resources; and (4) English skills.
7.4.3.1 Issues of evaluation

The findings from section 5.2.6.3, Chapter 5 indicate that there is a lack of staff evaluation in terms of research and publication at the international standard. This issue explains why there are presences of many associate professors and professors in Vietnam who work ineffectively in terms of knowledge sharing in relation to their research activities and international publications due to ineffective performance monitoring system (see Section 2.8, Chapter 2). Thus, in order to have wider recognition internationally, Vietnamese higher education must adopt international evaluation standards to evaluate the performance of academic staff. For example, Vietnamese higher education could use Science Citation Index (SCI) papers, Engineering Index (EI), Index to Scientific & Technical Proceedings (ISTP) papers as a standard by which to evaluate staff performance. Only academics who have published in high impact factor journals should be leaders in sharing knowledge. China has successfully applied the above standard and since doing so, they have achieved a greater output of academic papers in recent years to become the country with the second highest international publication rate globally (Shao & Shen, 2011).

7.4.3.2 Absorptive capacity

Publishing academic papers and participating in seminars and scientific conferences are important activities to improve knowledge and the knowledge sharing behaviour of staff in universities. However, the sharers and receivers must have certain ability for knowledge exchange and absorptive capacity through their ability to identify, assimilate, and understand. This absorptive capacity is influenced by time, money and management capacity factors. O'Dell and Grayson (1998, p.17) ranked absorptive capacity as the second greatest obstacle to knowledge transfer after the ignorance factor. The findings of this study are explained in Sections 5.2.3 and Section 5.2.4, Chapter 5 clearly show that this is true of the higher education sector in Vietnam.
Szulanski (2003) emphasized that a recipient’s lack of absorptive capacity will mean he is unable to recognize the value of new knowledge, will find it difficult to recreate this knowledge and thus will be unlikely to apply new knowledge successfully. The findings (Section 5.2.9, Chapter 5) show that a lack of absorptive capacity is a consequence of corruption, which occurs widely across the country. For many years, the issue of corruption in education frequently ranks at the top of the list of the most corrupt sectors in Vietnam (Chow, 2013), even ranking as the second most corrupt sector in 2010 (Razafindrakoto, Rouaud, & Salomon, 2011).

7.4.3.3 Lack of resources

The findings from 5.2.3.3 Chapter 5 clearly show that Vietnamese higher education lacks the resources to facilitate knowledge sharing and research. Firstly, a lack of funds together with a lack of incentive or rewards discourages staff from investing their time and effort in innovation and research ideas. Secondly, as discussed in the findings on infrastructure (Section 5.2.2, Chapter 5) and technology (Section 5.2.8, Chapter 5), it is clear that staff face difficulties in acquiring new knowledge from different resources, such as online databases or book references in libraries. Thirdly, as the need to cover basic living costs takes the majority of staff’s time and focus, they do not invest sufficient time in knowledge sharing activities.

7.4.3.4 English skills

The study revealed that English proficiency is a significant barrier for researchers having their articles internationally published. Firstly, the lack of English skills prevents researchers from updating and enriching their knowledge. For example, “Most of the university’s staff have been isolated from the outside world as a result of insufficient English skill especially in speaking, reading and writing” (Focus group 2, Informant 5) (see more in section 5.2.3.4, Chapter 5). Secondly, writing errors not only cause a high rate of rejection but also discourage other authors from contributing for fear of being subjected to the same rejection. “I do not know how to publish internationally because my English is not so good. My friends have given up their dream of
publishing an article in an international journal because of their poor English proficiency” (Focus group 2, Informant 7) (see Section 5.2.3.4, Chapter 5). This is possibly because, as Hyland (2007) indicates, “In a context where editors are overwhelmed with submissions and are often looking for reasons to reject manuscripts, non-standard language may serve as good a reason as any to justify this” (Hyland, 2007, p.5).

A lack of information or new knowledge might stem from the English proficiency problem, as almost all journal articles are published in English (Gustafson, 2012; Hyland, 2007). Writing in English is also a problem; however, even though staff can understand the language and have proper Internet access, paying to access journals also is a problem and due to their low salaries, they spend a great deal of time earning a living or on other more useful things (see Sections 5.2.4.2 and Section 5.2.7, Chapter 5).

A lack of English skills results in lecturers and researchers becoming passive and less confident in searching for knowledge. While knowledge is updated continuously day-by-day in English and in a variety of sources, native resources are limited and almost out of date in many research fields, and in some cases, there is no information at all (see Section 5.2.3.4, Chapter 5). This will limit their chances of exploring the new knowledge of staff, as due to their limited understanding of English, staff have to wait for a translation in order to fully comprehend it. More importantly, there is no guarantee that all translations are correct. This passive action negatively affects one’s ability to complete the job on time and it may decrease motivation for doing research and publishing. This accords with the findings of Flowerdew and Li (2009) who pointed to the disadvantages of scholars from non-English speaking countries.

Saving face and especially saving face at work is very important in Confucian culture (Young et al., 2012) and this is a specific cultural barrier to sharing knowledge. However, a lack of confidence also contributes to not participating in knowledge sharing and low confidence is a result of a lack of English skills and limited access to the Internet which leads to a lack of new
knowledge and weak absorptive capacity, where researchers do not believe in their capability thus they lack the desire for growth.

ERG theory suggests that failure is a part of growth. In fact, in the context of Confucian culture, researchers avoid making mistakes by not being willing to share knowledge whether or not they are capable. This reduces the opportunities for generating knowledge. It is not easy for non-native English speaking people to reach scientific publication standards and it is even more difficult for researchers who are living in countries with a very low English proficiency index (EPI), of which Vietnam is one (EF EPI, 2012). Writing and publishing a paper is a laborious task and if a researcher has to resubmit it many times due to a lack of language proficiency, the researcher will be discouraged. More importantly, as evidenced by the research respondents, they have many things to do to earn money rather than playing with uncertainty like publishing internationally, which is not a mandatory academic activity in Vietnam (Trang & Huong, 2012). Thus, English proficiency is a barrier for researchers from low EPI countries. This is even more so in the context of Confucian culture and economic constraints.

Thus, training is a significant factor that directly influences individual capacity in terms of learning and creativity. Training, which includes the evaluation of staff in acquiring new knowledge and skills, individual capacity to digest and exhibit new knowledge as well as funding to support research and English proficiency, all influence people, culture, organizational structure, economic status and technology. Thus, it will impact the knowledge sharing outcomes. These findings support the research model presented in Figure 7.4.
There is no doubt that corruption is a consequence of inefficient management and economic issues. While corruption can also be linked to issues of power, the findings of this study indicate that in this instance, corruption has strong link with monetary gain. This finding is in accord with Heyman (2011) who found that in Vietnam, Cambodia, South Asia, Eastern Europe and the former Soviet Union, the motivation for corruption is for monetary gain. Looking at the corruption map of Transparency International (http://www.transparency.org/cpi2012/results), most corruption comes from developing countries where income is low or middle level, for example in Southeast Asia such as Myanmar, Cambodia, Laos, Indonesia and Vietnam. In higher education, low salary levels and constant payment arrears have affected the morale of academics and provided a fertile ground for the professional misconduct of a teacher (Hallak & Poisson, 2002; Temple & Petrov, 2004). Corruption through trading degrees and buying power has resulted in a number of incompetent staff and as a consequence, their ability is far below world standards. This problem has led to research misconduct by many researchers who were not
properly trained (Anderson, 2011). As found in section 5.2.3 Chapter 5, researchers are not able to recognize the value of new knowledge, thus sharing knowledge with other colleagues is almost impossible.

Maslow (1943) stated when people lack food, safety, love or esteem, their motivation to hunt for food is greater than anything else. Alderfer (1969) stated that while the needs of a person remain active but unsatisfied, he tends to turn back to existence needs, seeking material gratification. In this frame, we can clearly see that corruption in higher education in Vietnam has become a norm at all levels, so it is not surprising that students engage in cheating to acquire their degrees.

People do whatever they can in order to satisfy their basic or existence needs. Teachers sell grades, thesis examiners pass substandard theses for the norm of reciprocity, that is, you pass my students, I will pass yours, and researchers cheat on projects to obtain funding. As a result, graduate students are not able to secure jobs because their quality is too low. As a vivid example, only 40 of 2,000 students qualified to work for Intel (Minh, 2008). Scientific outputs are at the lowest level in the region (Trang & Huong, 2012; UNESCO, 2010; Vallely & Wilkinson, 2008) despite the fact that there are more than 9,500 professors and more than 25,000 PhD students working in Vietnam (Trang & Huong, 2012).

A low salary leads to corruption at the management level and with individuals who have some degree of power (World Bank, 2012a). Low salaries also create unreasonable pressure on teaching staff as they have to stretch themselves to earn extra to compensate for their low income. Thus, if there is no or a weak incentive for sharing knowledge, they will not bother to participate. As confirmed by an Informant, “We are young people, we need money to survive...we have too many things to consider for living. If there is no incentive to share knowledge or if it is not mandatory, we will not bother to do it” (Interview Informant 1).

ERG theory suggests that the less that ‘existence’ needs are satisfied, the more they will be wanted (Alderfer, 1969). Motivation and incentives play an important role in encouraging people
to engage in working and sharing knowledge. This is particularly applicable in the context of low income and constant payment arrears (Bartol & Srivastava, 2002; Bastick, 2000; Bock, W., Kim, & Lee, 2005). As a consequence of their low salary and the weak incentive system, staff do not have the motivation to spend time on activities that do not bring them more money up front because they are already overloaded with work both at school and outside (see Section 5.2.4.2 Chapter 5). In developing countries and in Vietnam in particular where financial resources are limited, one’s gain is another’s loss therefore, people try hard to earn money as much as they can to satisfy their existence needs, so teachers have to teach many hours because of their low salaries (Trang & Huong, 2012).

In this circumstance, it is understood that staff in developing countries spend more time on earning their living than on time for professional development as their goal is to satisfy their existence needs that are unfulfilled including food, school fees, healthcare, rent, and life events. Some participants said that they received their salary early in the month but after a week, there was nothing left despite their thrift. “My husband’s and my salary only covers half a month’s expenses, so we have to borrow from friends and return this to them when the next payment comes. This has been the situation for more than 10 years till now” (Focus group 1, Informant 12) (see more in Section 5.2.7, Chapter 5).

This study found that there is little cooperation between researchers, as individuals spend almost all their time earning a living, and that staff require something in return before they will participate in collaboration because if not, they will do other things to earn a salary. As one participant said, “I have too many things to do”. Thus, the pressure of time and earning money prevent researchers from collaborating.

7.6 Leadership

Autonomy, as defined by Arcia, Macdonald, Patrinos and Porta (2011), is giving a school the right to make its own operational decisions without interference from any outside authority.
According to the findings (section 5.2.10 Chapter 5), a lack of school autonomy creates a huge obstacle in gaining a competitive advantage and has a negative impact on the creativity and innovation of school and academic staff. Universities cannot decide on their own goals and operations, rather, they must ask MOET for approval. Private universities have somewhat more rights in relation to making their own decisions because they do not receive financial support from the government, however, they do not have the right to decide how many students can be enrolled, or the criteria for student enrolment. In particular, receiving research funds from the government is almost impossible.

From the staff perspective, the lack of autonomy deters their motivation to share knowledge. This is not only because they have to wait a long time to have their research project approved, (see section 5.2.1.1 Chapter 5), it is also because this could take away opportunities in terms of time and inspiration or enthusiasm of researchers and also creates opportunities for corruption exist and develop (see section 5.2.9.3 Chapter 5). In fact, if a researcher does not have a close relationship with one of the funding approval officers or leaders, it is very difficult for him to obtain approval (see Section 5.2.9.1, Chapter 5).

Knowledge creation and creativity are born in a negative stress-free environment (negative stress environment includes hostile, unfair competitive or non-transparent environment), as does the sharing of knowledge. The results from the discussion (see Section 5.2.10, Chapter 5) show that staff are fed up with the lack of academic freedom and individual academic autonomy as they have very little power in deciding what to teach and how to deliver the lessons. Thus, this will destroy their innovation and creativity, therefore the quality of knowledge and knowledge sharing activities will be negatively impacted.

This finding is also in line with the literature that shows that Vietnamese higher education is facing serious difficulties due to the insufficiency of institutional sovereignty and institutional self-determination which has led to the low quality of training and international publications and
their low international ranking, due to the fact that they are not able to adapt to the new reality (Akhavan, Hosnavi, & Sanjaghi, 2009; Cho et al., 2007; Quin, Ramburuth, & Wang, 2008; Siakas, Georgiadou, & Balstrup, 2010). This problem contributes to poor knowledge sharing, both tacit and explicit knowledge, in universities nation-wide.

_Political influence and democracy_

Data findings from qualitative and quantitative research imply that the influence of the political system and a lack of democracy have impeded debate and discussion that leads to a lack of sharing knowledge publicity in Vietnam in general and in higher education in particular. Like several other communist socialist countries in the world, including China, North Korea and Cuba, people in Vietnam are reluctant to voice opposite opinions, especially to leaders. Due to the culture of collectivism and seeking consensus and agreement, any opposing ideas or opinions can be considered as violating regulations, hence a discussion only focuses on one side and neglects any possibility of opposite ideas (Ngo, 2011; Vaagan, 2011; Williams & Rich, 2014). The ideas or opinions of a leader are considered the most important and correct, as they are believed to have been given consensus from someone in a higher position.

The other constraint to sharing knowledge between staff in Vietnamese higher education that relates to political influence is that most staff and high ranking staff are members of the Communist Party, therefore they must obey all the rules of the party, one being compliance and solidarity, so they must try to avoid conflict and being contrary. As a consequence, telling someone that they are wrong or engaging in an open debate should be minimized because it might lead to the generation of ideas that are outside communist ideology, as warned by the Informants. Thus, instead of telling the truth, the staff say something that the other people would like to hear and gradually, this has become a norm. Staff do not trust others, believing that they are playing the same trick as they themselves play on others. This could explain why trust has a negative relationship with self-worth and subjective norm in knowledge sharing behaviour (see Table 6.12, Chapter 6, and Section 5.2.5.3, Chapter 5).
From the findings (see Section 5.2.1.1, Section 5.2.10, Chapter 5), it is suggested that in order to raise education and scientific standards to catch up with both the Asian region and globally, universities should respect diversity in opinions. Diversity does not mean the discussion never comes to a consensus; on the contrary, leaders can examine the issue thoroughly in many aspects. It also allows staff to become inspired and nurture their innovation and creativity, and from this, more knowledge will be generated and shared. In fact, in science, diversity is a criterion for development, as different approaches are encouraged to solve a similar problem.

7.7 Conclusion

This chapter has thoroughly discussed the current issues that prevent academic staff from sharing their knowledge, despite realizing the benefits and strengths of sharing knowledge with other university staff to increase the nation’s competitive advantage in relation to international education. However, there is huge obstacle to this even though many academic staff would like to engage in research and improve the quality of their teaching in the current Vietnam context. First, the management approach from leaders and MOET needs to give more autonomy to universities so that they have right to nominate and fire employees if the employees perform poorly. Secondly, greater autonomy should be given to universities in relation to how they manage and implement their curriculum, and MOET and the government should only play as an advisory and monitoring role rather than telling the university what they must or must not do. As MOET and the government have the ultimate say, such as limiting and controlling the numbers of students enrolled and mandating what universities must teach in terms of specific subjects, universities will lose their motivation to improve their capacities and will lose their competitive advantage as they rely on MOET and the government to do all the hard work. As a consequence, Vietnamese universities have gradually lagged behind the rest of the world in terms of academic excellence.

National culture and organizational culture influence staff behaviour. National culture has an impact on individuals’ interactions and actions and it also has the potential to promote openess
and the capacity for collaboration. Organizational culture facilitates knowledge creation and
knowledge sharing. National culture is the national identity that cannot and should not be
changed as discussed in Section 2.4.4, Chapter 2. However, organizational culture can be
changed to suit the job design and global trends. Thus, in order to promote the sharing of
knowledge and research, and expertise and experience in universities, schools must adapt to the
knowledge sharing environment where every staff member, regardless of rank or position, has the
right to access knowledge repositories such as journal databases with English translation help.
Everyone should be able and encourage to freely exchange their ideas without hesitation or fear
of losing face or the face of other academic staff. More importantly, the working environment
should be free of corruption, fraud or dishonesty. Corruption will not only cause the system to be
deteriorated and creates a false impression that graduates and academics in Vietnamese
universities are more qualified than they really are. It also places the wrong person in the wrong
position. Higher education will go nowhere if the best way for lecturers to earn more money is by
forming alliances with leaders and managers to attain benefits. Corruption is the worst enemy of
education (Darriulat, 2014).

Corruption, together with cheating, will decrease the level of trust which will influence people’s
knowledge sharing behaviour and team collaboration, thus fighting corruption is the way to build
trust and encourage people to share what they have to help others to become better. Along with
fighting corruption and cheating, universities should encourage debate and accept opinions from
different viewpoints. In addition, sufficient incentives should be applied to encourage staff to
contribute to knowledge sharing and research publications and develop their research skills.
There also should be transparency in awarding salaries and promotions. As Vietnam is a poor
country with insufficiency of social welfare, most people work to meet their basic needs, thus
ensuring they are paid a salary that is sufficient is necessary. More importantly, the right people
must be selected for the right positions. Leaders must show their skill and take more
responsibility for their organizations, and must act as examples in sharing, collaboration and
research outcomes rather than continually using trite platitudes about stamping out cheating and corruption. On the other hand, staff need to change from being passive to active in increasing their knowledge, taking more responsibility for research and development.

Many people blame the lack of research facilities for the poor research outcomes in Vietnam. This is partly true, but Vietnam lacks highly skilled people (Dao, 1996). Many international organizations, such as UNESCO, UNDP, FAO, World Bank have donated a large amount of high tech equipment to Vietnam, but this has been kept in storage for many years because no one can operate them (Darriulat, 2014). According to Global Finance, in 2011, the Vietnamese agricultural sector accounted for 20 percent of the national GDP, compared to 12.2 percent of Thailand, 12.3 percent of the Philippines and 10.2 percent of Malaysia (Vietnam Country Report, 2014). This indicates that the contribution of industry and services in Vietnam is much lower than its neighbours. Research and technological development in Vietnam is still at a very low stage (Adams & Tran, 2010) due to the lack of competent people who are able to lead and change the stage of science and research development and encourage knowledge sharing and collaboration in research in higher education. This is important not only to train highly skilled graduates but teachers, as researchers, must produce innovative and creative research outputs to contribute to the country’s development.

Two new issues have emerged from the discussion: corruption and leadership issues. These play a critical role in knowledge sharing effectiveness in Vietnamese higher education. These two factors have an influence on both contextual and critical factors. As corruption, such as selling marks and degrees, is widespread, the morals of many staff have deteriorated which adversely influences people’s behaviour, trust is reduced, the culture is distorted and organizational structure/policies are examples of interest groups. It also results in unfair treatment between staff and between managers and staff. Moreover, these corrupt academic staff contributes to the creation of a false impression of the high quality of Vietnamese research, Vietnamese graduates and Vietnamese academics.
The consequence is that many employees and university staff lack absorptive capacity and they are not able to conduct quality research, thus it has a negative impact on training, it weakens management, and more importantly, it results in the misallocation of funds that leads to inappropriate investment in infrastructure. Therefore, the quality and quantity of research publications in Vietnam is reducing.

Similarly, due to corruption, leaders who have been appointed to a position but not based on their real abilities cannot act as examples in knowledge sharing. Therefore, they are unable to lead which possibly results in poor decision making and negatively impacts management, infrastructure investment, training, people, organizational culture, organization structure, economic status and technology support in an organization. Moreover, in an attempt to hide their weakness, they apply bureaucratic management to control staff. On the other hand, a lack of autonomy in decision making has decreased the motivation of managers and leaders to lead and manage as well as allocate resources effectively. Thus, knowledge sharing effectiveness becomes a difficult target to achieve.

As discussion above, the findings have confirmed the research model that was developed in Chapter 3 that knowledge sharing outcomes, in Vietnamese higher education institutions context, are heavily dependent on people, culture, organizational structure, economic status and technology support. These factors in turn are controlled by management, training, and infrastructure factors. These factors are reflected within the TPB and ERG theories. Specifically, as discussed in Section 3.1, Section 3.3, and Section 3.4, Chapter 3 that, people, culture factors influence attitude towards behaviour of intention to share knowledge, for example, saving face and age respect characteristics. Culture, organizational structure/policies, and economic status are the factors influence subjective norms that decide sharing knowledge behaviour, for example, staff weight their time and efforts of pursuing knowledge sharing with income from other activities. Technology and organizational structure/policies factors, on other hand, influence
individual feeling of confidence and ease to share knowledge that reflected in the weaknesses of ICT’s skills and knowledge among academic staff.

In term of ERG implication a gain the findings support model developed in Chapter 3, show that the influence of motivation especially motivation to satisfy existence, relatedness needs, and growth needs in the Vietnamese context. Existence needs are nested in economic, infrastructure and organizational structure/policies factors they are determinants of knowledge sharing behaviour and sharing outcome. Relatedness needs on other hand, are reflected in training, culture and organizational structure/policies factors where absorptive capacity, income security, eager to represent oneself without fearing face lost, and recognition are more prominent. People, research performance are represented the growth needs. People expressed their wishes of eliminating bureaucracy, lower workload so that they would have more freedom to pursue their career and personal development.

The results show that multiple needs as nested and happened at the same, thus, the Vietnamese higher education sector needs to address these factors as effectively as possible in order to increase both the quality and quantity of training as well as research publications and knowledge sharing. Figure 7.5 clearly shows how research performance or knowledge sharing outcomes of Vietnamese higher education is strongly influenced by management, training, infrastructure, people, culture, organization structure/policies, economic status, and technology.
The next chapter will summarise the answers to the research questions, and will details the implications, contributions and the limitations of the research.
CHAPTER 8: CONCLUSION AND FURTHER RESEARCH RECOMMENDATIONS

E.R.G. theory

8.1 Introduction

This chapter presents the conclusions drawn from, and the implications of this research. Chapter 7 presents the findings from the qualitative and quantitative studies (Chapters 5 and 6) which were synthesized to arrive at a consolidated view of the knowledge sharing issue in Vietnamese higher education. The findings confirmed the relationships between the theoretical model presented in Figure 3.4 Section 3.6, Chapter 3 and the two emergent factors which were added to the model which clearly portrayed the factors which influenced knowledge sharing in Vietnamese higher education, as shown in Figure 7.5, Section 7.7, Chapter 7.

This research explored the critical factors that influence knowledge sharing outcomes in Vietnamese higher education institutions (HEIs) in the context of higher education struggling with its role because of the low research publication output, the low number of patent registrations, and the low quality of graduates. The study also sought to propose measures by which the government and MOET could support knowledge sharing and research effectiveness in universities, and how to improve the expertise of lecturers as researchers in order to improve the quality of graduates, the research publications, and patents. The theoretical literature on this subject, specifically in the context of Vietnamese higher education, was ERG and TPB but these were inconclusive in relation to the research questions. The study sought to answer four questions:

1- What are the key factors that promote knowledge sharing in Vietnamese higher education institutions (HEIs)?

2- What are the major obstacles that hinder knowledge sharing in Vietnamese HEIs?
3- Of the key knowledge sharing determinants in questions 1 and 2, what are the better predictors of knowledge sharing issue in Vietnamese HEIs?

4- What measures can be supported by MOET and the Vietnamese government to improve knowledge sharing strategies and knowledge sharing activities in universities?

This chapter presents (1) the empirical findings to answer each research question; (2) the theoretical and policy implications; and (3) the limitations of this research and future research directions.

8.2 Empirical findings

This section synthesizes the empirical findings from the study and answers the four research questions as follows.

1. What are the key factors that promote knowledge sharing in Vietnamese higher education institutions (HEIs)?

This research found that the key factors are organizational strategies, individual benefits and intellectual property and copyright.

a) This research finds the need for specific organizational strategies to address this. Of interest is that this confirms the statement of O'Dell and Grayson (1998) that if only we knew what we know is very important and what we do not know about our staff will cost us which could deter or even destroy organizational and individual efforts. This demonstrates that knowledge sharing issues in Vietnam are in the very early stage.

b) Individual benefits from knowledge sharing: This research finds that sharing knowledge not only proves to the organization that one has the ability to absorb and share knowledge, it also shows that sharing is an opportunity for an individual to learn from the mistakes made by others. Sharing is closely linked to learning. It is rare that people succeed in their research area without any failures. What is important, however, is that they learn from these mistakes...
to become more effective. In the case of Vietnam, the culture of saving face is problematic in that it prevents people from exposing themselves to learning from their mistakes and the mistakes of others. Further, sharing knowledge is an opportunity to connect with colleagues, both at the local and international level, to collaborate to share experience and expertise. Thus, this also means there is a chance to conduct research and work in the global arena.

c) **Intellectual property right and copyright:** Sharing is one of many methods to show that the origin of knowledge belongs to the sharer. Many Informants highlighted that sharing not only helps other to access knowledge, it also provides evidence of the ownership of the intellectual property from the sharers. This, therefore, reduces the chance of plagiarism and copyright violation. Plagiarism is seen as a critical issue in the Vietnamese academic context (Section 5.2.4.1 and Section 5.2.4.3, Chapter 5) as a result of weak management, a lack of information and a lack of technical knowledge. Thus, many staff are reluctant to share their knowledge for fear of knowledge loss. Thus, the evidence supports the need for the protection of property rights.

It is therefore found that organizational strategies, individual benefits, intellectual property rights and copyright are the key factors that are able to promote knowledge sharing in Vietnamese HEIs.

2. **What are the major obstacles that hinder knowledge sharing in Vietnamese HEIs?**

The major obstacles revealed in this research are management, organizational infrastructure and technology, organizational structure and policies, economic status, corruption, and leadership issues.

a) **Management:** As discussed in section 5.2.1 and section 7.4.1, bureaucratic management offers less support for knowledge sharing due to the top-down direction and bottom-up reporting mechanism. As a result of this, cheating, dishonesty and corruption appeared (section 7.5). Further, bureaucratic management creates ‘asking-giving’ mechanism which is
believed a cause to increase inequality in term of accessing resources. Bureaucratic management has resulted in the demotivation of staff to share their knowledge as Bureaucratic management restricts the autonomy of the university and staff to make their own decisions. Therefore, it can be said that bureaucratic management is the major contributor to the hampering of knowledge sharing behaviour and against the development of innovative ideas. This management style in Vietnam is in strong contrast to Singapore, a country that has achieved great success in knowledge management with top-down support by management for bottom-up KM initiatives (Hogan & Gopinathan, 2008; Salleh, 2006).

b) **Organizational infrastructure and technology:** The majority of universities are not able to access knowledge resources and are weak in using technology which results in poor knowledge sharing outcomes. The evidence from section 5.2.2, section 5.2.8, Chapter 5 and section 6.8, Chapter 6 show that academic staff face great difficulties in relation to knowledge sharing and knowledge improvement. They lack research resources, have weak English proficiency and weak technology skills. These deficiencies limit their motivation for research and knowledge sharing. In many cases, people abandon their ambition, as they cannot overcome this lack of resources.

c) **People:** The study discloses a significant relationship between individual absorptive capacity and knowledge sharing outcomes (Section 7.3.1 and 7.4.3, Chapter 7). A lack of absorptive capacity, as a result of lack of time, money or other resources as described by Szulanski (1996), were found in this study. In addition, a significant portion of academic staff are not qualified for their job, but were recruited through corruption (Section 7.5) which is also a contributing factor to the high number of staff with a deficit in absorptive capacity. Thus, it can be confirmed that underqualified academic staff are a major cause of the poor knowledge sharing outcome.

d) **Organizational structure and policies:** A complicated and centralized organizational structure, with command and control environments (Section 5.2.10 and Section 7.3.4) and an insufficient incentive system (Section 7.3.1) have been causal in poor knowledge sharing
outcomes. Granting more autonomy to staff to increase responsibility and decision rights, and the decentralization of such responsibilities is therefore required for better information flow. Greater autonomy and less centralized management models will lead to more interaction between staff and will result in better knowledge sharing behaviour and outcomes. This confirms evidence from previous studies (Liao, Chuang, & To, 2011; Mahmoudsalehi, Moradkhannejad, & Safari, 2012; Zheng, Yang, & McLean, 2010).

e) **Economic status:** The majority of staff highlighted their poor salary as a factor that caused them to place less emphasis on improving and sharing knowledge (Section 7.3.1). A poor salary resulted in reduced motivation and job satisfaction (Section 5.2.7, Chapter 5). The salary which is paid is not based on the value and performance of an individual but is based on the time they have served, hence, the longer individuals work in an organization, the higher the salary they are paid. Thus, this causes talented staff to leave universities for other employment sectors that offer a higher salary and better career opportunities (Section 7.3.3). The remaining staff become teachers rather than researchers and lectures. As discussed in Section 7.3.3, when teaching, a teacher will use one lesson for many classes and for several years without making the effort to revise their teaching materials. In contrast, research requires extensive effort in terms of time, financial support and other resources. Thus, it can be concluded that a low salary contributes to the low quality of sharing knowledge through teaching and research.

f) **Corruption:** This thesis has demonstrated that poor research outcomes are strongly linked to the corrupt practices in Vietnamese higher education. Corruption was discussed in Section 2.7, Chapter 2, Section 5.2.9, Chapter 5, and Section 7.5, Chapter 7, and has shown that corruption impacts every aspect of education from selling marks to students, buying an academic position, buying degrees including Doctoral degrees and passing low quality PhDs. Due to these forms of corruption, Vietnamese society is swamped with poorly qualified graduates at all levels. In turn, these unqualified graduates become lecturers and
researchers and many hold key positions in society with a lack of required absorptive capacity to develop new knowledge or other necessary knowledge and research training required for their job. As a secondary impact, it can be suggested that corruption in higher education has caused Vietnamese qualifications to lose value both in local and international workforces.

g) **Leadership:** Data presented in Section 5.2.10, Chapter 5 and discussed in Section 7.6, Chapter 7 revealed that leadership strongly influences research performance in each university. When leaders are unable to lead and set an example in knowledge sharing, this is found to be a major problem in relation to knowledge sharing outcomes (Section 5.2.10). As indicated in the literature and in the discussion section (7.6), knowledge sharing requires support from leaders to facilitate sharing. However, as many are unable to lead, many leaders in departments or universities rely on taking instructions or orders from higher level management in order to avoid their responsibilities. This is a consequence of the limited autonomy and democratic management in the Vietnamese system. Thus, it can be said that incompetent leaders directly cause poor knowledge sharing and indirectly support and perpetuate the existence of bureaucratic management in the leadership cycle.

It is therefore found that the major obstacles that hinder knowledge sharing in Vietnamese HEIs are management, organizational infrastructure and technology, people, organizational structure and policies, economic status, corruption, and leadership factors.

3. **Of the key knowledge sharing determinants in questions 1 and 2, what are the better predictors of knowledge sharing issues in Vietnamese HEIs?**

There is an existing body of rich literature on knowledge sharing in business and the development of knowledge sharing literature in higher education is becoming richer as discussed in Chapter 2. The findings of this research are unique and the data it represents in the Vietnamese context may be found in other developing countries with the same conditions. This research has presented three new and substantive findings: bureaucratic management, poor salary, and
corruption are found to be typical and endemic throughout the Vietnamese higher education context. As shown in the correlations in Section 6.8.2 of the data, and in the rich material presented in Section 5.2, then discussed in Sections 7.3, 7.4, 7.5, and Section 7.6, these factors are the best predictors of knowledge sharing issues in Vietnamese HEIs.

a- **Bureaucratic management**: Bureaucratic management is found to restrain internal knowledge dissemination as it is a complicated and time consuming communication channel (Ekvall, Arrvonen, & Nystrom, 1987). However, bureaucratic management is still supported in Vietnam as a consequence of incompetent leaders, as shown above. Importantly, bureaucratic management is also linked to asking and giving practices, as described in Section 5.2.1. Therefore, it is linked to corrupt practices whereby the payment of money has more chance of achieving their goals.

b- **Poor salary**: As discussed in Section 2.6 Chapter 2, the motivation to share knowledge includes both extrinsic and intrinsic factors. However, as discussed in Chapter 5 and Chapter 7, this extrinsic factor was identified as a critical factor driving people to work as satisfaction is closely link to pay level (Heneman, Greenberger, & Strasser, 1988; Malik, Danish, & Munir, 2012). In particular, living in a low income university environment like Vietnam, many low paid staff implemented a variety of strategies to supplement their incomes. This cost them much of their time, and thus they were able to invest less effort in knowledge sharing or research, as they perceive the salary allowed to be of little or even no incentive at all. Thus, poor salary is one of the critical factors that hinder knowledge sharing in the Vietnamese HEIs context.

c- **Corruption**: Corruption in Vietnam has become a norm rather than an exception (see Section 5.2.9.1, Chapter 5). A poor income creates both an incentive and opportunity for corruption (Chene, 2009). As corruption in higher education occurs, it diminishes the value and quality of education. Thus, it creates a false value and low qualified staff, together with other factors such as a lack of time and a lack of autonomy. As a consequence, Vietnam has a large number of apparent PhDs holders but poor knowledge
sharing and research outcomes. Corruption is a cause of low trust as presented in Sections 2.8, Chapter 2 and Section 7.7, Chapter 7, which thus directly influences knowledge sharing effectiveness.

This thesis, therefore, finds that bureaucratic management, poor salary, and corruption are the key factors that lead to typical knowledge sharing issues in Vietnamese HEIs.

4. What measures can be supported by MOET and the Vietnamese government to improve knowledge sharing strategies and knowledge sharing activities in universities?

The improvement of knowledge sharing has been found to be contingent on the following factors: transparency, infrastructure and technology, autonomy and freedom of expression, small class size and reduced teaching workload.

a- Transparency: To fight corruption, to encourage people to share their knowledge in universities, transparency is considered the most important key. Academic staff should be able to access information on employment, career development, promotion, statistics, budget spending, and other financial support. In addition, the criteria for staff evaluation should be public and reach international standards rather than local, so that higher education can attract foreign talent as well as Vietnamese overseas to collaborate in knowledge sharing.

b- Infrastructure and technology: Due to the political structure in Vietnam, without MOET and government support for financial aid to universities, there cannot be a large investment in buildings and expensive equipment. Therefore, investment in modern libraries and research equipment that will provide researchers and lecturers access to necessary information for their research is important. ICT infrastructure and technology support must be available to university staff to improve their technological readiness and enable knowledge sharing in universities. In addition, state and local libraries must provide sufficient resources for knowledge improvement and research as well as support access to paid journal databases (Sections 7.3.3 and Section 7.3.5). Furthermore, policies
to support low income staff should be available to help them focus on research and career development rather than let them continue to struggle with their income. Also, providing incentives to high performing staff to inspire and retain talent is important. Finally, the government should ease or remove controls over salary payments for individuals and give more autonomy to universities to decide salary levels.

c- **Autonomy and freedom of expression:** Throughout this study, there has been much discussion relating to the lack of autonomy which prevents universities and staff from sharing knowledge. Giving greater autonomy to universities will enable them to fire low performing staff and reward high performers (Section 7.6). More importantly, greater autonomy enables universities to implement talent retention programs and offer cash incentives for high performing staff. If given greater autonomy, universities can reengineer and utilise their competitive advantage, as currently, most universities have the same courses and are controlled by MOET. To enhance knowledge sharing effectiveness, journal publications, freedom of expression and diversity of thinking are important. Freedom of expression encourages staff to debate publicly without fear of being imprisoned (Section 5.2.10). Diversity of thinking encourages staff to investigate issues from different angles and more importantly, diversity of thinking frees staff and researchers from being constrained to one ideology, such as communism or capitalism.

d- **Reduce class size and teaching workload:** One of the causes of teacher burnout is work overload and class size is a contributing factor, as mentioned in Section 2.7.4, Chapter 2 and Appendix 1. A small class size not only helps students to attain more help from the teacher, it also allows the teacher more time to search for new knowledge. The high number of compulsory teaching hours per week hinders teachers in their efforts to become researchers and therefore reduces their opportunities for self-improvement and to engage in research collaboration.
8.3 Contribution to theory

This research is significant in that it again to provide clear evidence of the link between corruption, absorptive capacity, trust, and knowledge sharing effectiveness. The results of this study confirm that knowledge sharing effectiveness is strongly influenced by people, culture, organizational structure/policies, economic status, and technology as presented in the research model in Chapter 3.

This research is significant in that contributes to new knowledge through the combination of ERG and TPB with knowledge sharing motivation in a country with a single rule party that experienced both long wars and poverty, and recently made efforts to join and compete globally, Vietnam. In addition, the example of Vietnam has converged almost of the typical issues faced by a developing country, such as problem of management, poor infrastructure, lack of technology readiness, low level of transparency as well as widespread of corruption.

The results of this study support the finding that human factors such as motivation, interpersonal trust, and absorptive capacity have a strong relationship with knowledge sharing effectiveness. In this context, extrinsic motivation influences the knowledge sharing intention as monetary rewards can compensate for a low-income salary. Low trust leads to a low level of sharing, as people are working in a low level of transparency and a hostile environment. A lack of absorptive capacity due to a lack of time, limited resources and a lack of ability are significant influences in knowledge sharing effectiveness.

Secondly, culture, especially a saving face culture, inhibits knowledge sharing. The higher the sensitivity to saving face, the less openness there is to mistake sharing. Thus, in order to overcome the negative aspects associated with inhibitions due to saving face, it is necessary for an organization to encourage staff to seek recognition and enhance their reputation and respect from others by their actual performance and tolerance rather than focusing on their weaknesses and face value.
The findings of this study confirm the findings of Zheng et al. (2010), and Chen and Huang (2007) about organizational structure and policies which impact knowledge sharing. In the context of Vietnam, the organizational structure does not support knowledge sharing as its structure is heavily complicated and centralized. Therefore, information flow is affected and social interaction between different levels in an organization is limited.

Economic status which is associated with extrinsic motivation has been clearly found to influence individual sharing intention. This pattern is consistent with that presented by Choi, Kang, and Lee (2008), Bartol and Srivastava (2002), Barachini (2009), and Hansen, Nohria, and Tierney (1999). This is particularly true in the context of low income countries where money is the most important priority for work. Thus, this study’s results suggest that extrinsic rewards should be linked to knowledge sharing activities and until sharing knowledge becomes a norm and mature in higher education.

The greatest consequence of the study is the finding that corruption in higher education is found to be a significant inhibitor of knowledge sharing effectiveness in education. The study results confirm that corruption causes a low level of trust. These findings also support the results of the Transparency Corruption Perception Index (2013) which highlights Vietnam with its high level of bribery and corruption. The findings of this study indicate the link between knowledge sharing effectiveness, absorptive capacity, trust and corruption.

The study results confirm the strong effect of leadership in knowledge sharing effectiveness. If a leader is not able to lead by example or does not have sufficient privilege or autonomy to make a decision, then the outcome of knowledge sharing is likely to be poor. In an organization or in a team where a leader is trying to take advantage of an employee’s ideas, then it has been found that both low levels of trust and low levels of knowledge sharing effectiveness are inevitable. Thus, this finding adds depth to the findings of Riege (2005), Srivastava, Bartol, and Locke.
(2006), and Lee, Gillespie, Mann, and Wearing (2010) about the role of leadership in knowledge sharing facilitation.

TPB and ERG theories were used as major tools to examine and explain the current knowledge sharing issues in Vietnamese higher education context. They help in terms of answering questions of how and why HEIs in Vietnam is far lagged behind its neighbours such as Malaysia, Thailand, or Philippines. These issues are reflected in number of international journal publication and patents as well as quality of graduates. The derivation of theories which embraced people, culture, organizational structure/policies, economics, technology, management, training and infrastructure factors have clearly provided insight of knowledge sharing success is vulnerable to variety of factors that also extend to region and political, particularly in the Vietnamese higher education context.

This study reveals that individual knowledge sharing behaviour is strongly influenced by a sense of self-worth and expected action. In other words, university staff believe that they share knowledge to improve organizational and individual knowledge, values, and competitive advantage and thus only a person who believes in his abilities and knowledge would be willing to participate in knowledge sharing and knowledge discussions. This study finds that, before sharing knowledge, staff reviewed the environment to see if anyone has shared their knowledge previously or if the sharer can benefit from sharing knowledge. Therefore in this study, knowledge sharing for reward is found to positively change motivation.

Thus, it is found that regardless of regional and cultural differences, knowledge sharing behaviour is influenced by the knowledge confidence of the sharer as well as the anticipation of reciprocity. Perceived control is also found to have a significant relationship with knowledge sharing, in particular, a lack of technical knowledge causes negative perceived usefulness and ease of use in technology that causes inefficiency of knowledge creation and sharing.
ERG theory, on the other hand, provides evidence of the motivation driver of knowledge sharing effectiveness. While a large number of studies were thoroughly discussed in Section 2.2 and 2.6.2, Chapter 2 concluded that intrinsic motivation plays a significant role in knowledge sharing behaviour. This study clearly demonstrates that individual knowledge sharing behaviour is influenced by extrinsic motivation. Firstly, an individual perceives sharing knowledge as an action of engaging in extra working hours in addition to teaching hours, but if there is no recognition for what they have done, they will ignore this type of action. Secondly, if there is no stick and carrot policy in knowledge improvement and sharing, academic staff will put less effort into their knowledge enrichment which will result in poor international publications and the low quality of graduates. Thus, this study confirms and concludes that extrinsic motivation is an influential factor that drives people to share knowledge and collaborate. Furthermore, there is limited study in the literature that explores the characteristics of extrinsic rewards in relation to the economic status of knowledge sharing participants. Thus, we have found that in the context of low income that happens in less developed and developing countries, extrinsic rewards are necessary to sustain motivation to share knowledge. This further confirms the application of the theory of needs (Alderfer, 1969; Maslow, 1943) to knowledge sharing behaviour.

8.4 Contribution to practice

This study provides clear evidence that this empirical study’s findings show that the reason for the low level of knowledge sharing through journal publications is the weak research culture, as defined by Hallinger and Bryant (2013). The fact is that many doctoral graduates return to faculty positions because they are not able to undertake research due to a lack support and lack of research facilities. In addition, many of them lack absorptive capacity as a consequence of trading degrees. Moreover, heavy teaching workloads also prevent them from investing time into research and sharing. Thus, creating a strong research culture might be a good choice where real talent can be inspired and possibly reduce teaching workloads and support research with research facilities such as computers, the Internet and access to journals.
The results of this study indicate that leadership role in knowledge sharing is weak. Leaders do not lead by example and provide supports when necessary. The empirical findings suggest that there is a need for greater autonomy for leaders and empowering staff in their decision making. In order to do so, the crucial step is to select the right people for the right positions, in other words, transparency in human resource recruitment is important in order to remove incompetent staff from holding key positions in the organization.

8.5 Recommendations for future research

The future research suggested from this study is that if necessary, there is a need for a code of conduct in higher education to regulate dealings between older, more experienced staff and younger staff in order to facilitate innovation and encourage the creativity of young people while maintaining cultural respect and a supporting environment. If this can be achieved, the culture of saving face can be overcome and thus will accelerate knowledge sharing effectiveness.

Future studies can be conducted on a wider scope, in other words, nation-wide, possibly separating public and private universities. Furthermore, based on the findings of this study, further research could be targeted at countries with similar problems and characteristics to Vietnam, for example Arab countries or nations of the former Soviet Bloc. In addition, further research can be done by either a quantitative or qualitative method but with a larger sample size. Finally, it is interesting to have cross-case studies between countries in order to have a better picture of knowledge management in the higher education sector.

8.6 Limitations of the study

This study has several limitations, classified into area specific, sample size and limited to the Vietnamese setting.

The sample in this study is limited to the North of Vietnam where the average income is lower than in the South. Therefore, there is potential bias when these findings are generalized to the
whole population due to non-probability sampling method used for collecting data. However, the North of Vietnam is chosen due to the fact that Hanoi is the capital city of Vietnam and has the highest number of universities, including MOET’s headquarters. Secondly, MOET controls the same policies all over the country with no exceptions. Lastly, there is no difference in culture between the North and the South of the country. Therefore, choosing a sample in the North of Vietnam as the subject of the study is an acceptable choice.

This emphasis of this study is universities in Vietnam, thus the findings might not be applicable to higher education elsewhere. However, the causes and consequences of the findings from this study may be useful for countries that are in the initial stages of change or in the middle of change, either politically and economically, where corruption and bureaucracy is widespread in many sectors, including the education sector. If the Transparency Corruption Perception Index (2013) is seen as evidence of corruption widespread in the world, developing countries account for the most.

Finally, this study focuses on examining contextual factors and critical factors as a two-way relationship with knowledge sharing outcome. Despite there is a little or no change to the result of the thesis, the examination on the relationship among critical factors is another focus of further research.

8.7 Conclusion

This research has achieved the research objectives which were set out in Chapter 1. It uncovered the factors that both support and hinder knowledge sharing in Vietnamese higher education. The research also successfully highlighted key issues that seem to be unique to the Vietnamese context. Thus, it provides significant recommendations to overcome knowledge sharing problems and increase the international publications both in terms of quantity and quality.
This study further confirms that knowledge sharing in Vietnam and in developing countries is facing more difficulties than in developed countries. The issues of knowledge sharing in developing countries are not only similar to those in developed countries. There are also particular difficulties such as poor infrastructure, a lack of technical knowledge, poor management, and widespread corruption. This research clearly implies that universities in Vietnam must ensure they improve incentive systems to attract talent and encourage knowledge creation and sharing. More importantly, they must fight corruption especially in awarding degrees and in recruiting staff in order to have high quality academic employees to absorb and digest new knowledge. There is also a clear need to increase salaries and to reduce workload if institutions and their funding bodies are to effectively create and disseminate knowledge through research and publications, and to improve the quality of their teaching. Finally, roles of leadership and leading by example need to be given special attention in order to create and improve the research culture in universities. In order to do this, there is a need for every member of every university to make a concerted effort with the full support of MOET and the government, as a single person or a small group of people cannot effect such monumental change.

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APPENDIX 1: HIGHER EDUCATION IN VIETNAM

Introduction

“The university is the key institution in society that is capable of mediating between the mode of knowledge, the articulation of cultural models and institutional innovation” (Delanty, 2001, p.9). Any university in Vietnam is also not exceptional from this definition, majority outcomes of a university are the quality of graduation students and employment jobs relate to university studies, scientific product such as international publications and patents. University is not only a place which provides a highly skilled workforce to the labour market, it is also a place where innovative ideas and creativity is nurtured and developed. To understand the knowledge sharing issues which exist in the Vietnamese higher education sector, this chapter provides a cutting edge overview of the structure of the higher education, management, teaching and research activities as well as the international publication of Vietnamese researchers in recent years.

The education system at glance

Like most education systems in the world, Vietnam’s education system is organized as follows:

- Pre-primary education with nursery and kindergarten aged from 0 to 5 years
- General education with primary education, secondary education, senior education and adult community education
- Professional education with professional secondary education and vocational training (2-3 years)
- Higher education undergraduate, postgraduate
Vietnamese education system

- Kindergarten (3 years) from 3-2 years old
- Senior Kindergarten (3 years) from 3-5 years old
- Primary Education (5 years) from 5-11 years old
- Secondary Education (4 years) from 12-15 years old
- Senior Secondary Education (3 years) from 16-18 years old
- Adult Community Education (3 years)
- Specialized Secondary Education (2 years)
- Post Graduate Education (1.5-2 years)
- TAFE and College (3 years)
- Vocational Education (2 years)
- University (4-6 years) from 18 years old

Doctorate
Student quantity

Overall, the number of students enrolled in post-secondary education has significantly increased. The figure shows the positive results of the government’s efforts to provide more skilled workers to the labour market. The trend also indicates that Vietnamese families pay more attention to knowledge workers than basic labourers, despite their low living standards, and parents try their best to ensure their children are able to attend schools, in the hope that they will have a better future.

![Student quantity graph](image)

*Student quantity (Source: MOET 2013)*

School quantity

In alignment with the increasing number of students, the number of schools in Vietnam is increasing significantly, especially universities, more than doubling over a ten-year
period (from 87 schools in 2003 to 207 in 2013 according to MOET report 2013). The number included existing colleges which were upgraded to universities and newly built universities, even though the rapid increase in the number of universities raises questions in relation to adequacy of infrastructure and the quality and quantity of academic staff. There is concern that some of the figures reported in official documents in relation to applications to develop new universities may be misleading, and the concept of ‘ghost teachers’, as discussed later in this chapter, is also of concern. The increasing number of schools also indicates the effort of government and MOET to provide higher education and training for its citizens.

Staff numbers

Due to the number of students and schools increasing dramatically, staff numbers have also increased to meet this demand. According to the MOET report in 2013, the total number of university lecturers in Vietnam was 61,674, which is more than double the number of staff in 2003. Currently, higher education in particular is short of staff, both in
quantity and quality, due to the rapid increase in schools and student numbers. In fact, a shortage of university teaching staff and especially a shortage of quality staff has been documented for many years in higher education (Lam, 2009; L. H. Pham & Fry, 2004b; T. H. T. Pham, 2006). The Vietnamese government implemented a program called the 322 project over a ten-year period (from 2000-2010) which aimed to recruit twenty thousand academics with PhDs by 2020 to address the shortage of staff (MOET, 2012). So far, the number might not be achieved partly because the current policies do not support young PhDs who have graduated from overseas, for example, young researchers find it difficult to be awarded a research project due to corruption and perceptions that they lack experience, or that the current infrastructure in their university is not sufficient for them to undertake their research, making it difficult for them to apply the teaching methods they learnt abroad (Lam, 2009). Therefore, many young PhD students decide not to return to Vietnam, rather they choose to stay in the country which will help them undertake further research. However, if they return to Vietnam, many decide to change their career direction and join a foreign-owned company where they are treated better, have a better working environment and also have a higher wage.
Form of schools

Vietnamese higher education comprises a public and a non-public system, which is similar to education systems around the world. While public universities receive funds for teaching and research from the government, non-public universities receive no subsidy from the government. However, both public and non-public universities are under the control of the government specifically, the Ministry of Education and Training (MOET) except for two national universities, namely Hanoi National University and Ho Chi Minh National University both of which are under the governance of the Cabinet and the Prime Minister.

University governance

Due to its history of colonization and war, the Vietnamese education system moved from a Confucian model before 1888 to a French model from 1890 to 1945 and a Russian
model (McLeod & Dieu, 2001) until recently where an emphasis was placed on universities which only provide training and research institutions for research. Currently, higher education in Vietnam is adopting credit learning to replace unit learning in the education system. This will allow students to choose their favourite subjects to study rather than having to study predetermined subjects by universities as unit learning entailed (Education Law, 2005a).

University governance in Vietnam is complicated and fragmented. Every ministry has its own universities and colleges to manage, for example the Ministry of Trade and Commerce manages all universities and colleges that provide industry-related training. The Ministry of Health manages all health education. The Ministry of Agriculture manages their own university and colleges on agriculture issues. The Ministry of Defence manages universities and colleges on national defence issues. The Ministry of Public Security manages all universities and colleges on security issues. Therefore, besides being under the management of its ministry, a public university is under the governance of MOET for academic quality, the Ministry of Finance which provides salaries and funds for research, the Ministry of Planning and Investment which makes decisions regarding investment in universities, and the Ministry of Science and Technology for research projects. In fact, there are thirteen ministries which have line management responsibilities for public universities (Harman, Hayden, & Nghi, 2010). Private universities are exempt from the ministry management level, but are under the management of local government, such as the province or city where the university is located. Private universities are also under the management of MOET in relation to academic integrity.

Except for two major national universities, Hanoi and Ho Chi Minh National universities, and eight regional universities, all other universities are small and lack teaching and learning facilities, according to a MOET report (MOET, 2010). Some universities,
especially non-public universities, have to rent classrooms for teaching, as they do not have an official place to build their school, such as Dong Do University. According to MOET’s report in 2013, there are 421 universities and colleges across the country, and nearly one third of them (130) were upgraded from previous colleges or upper secondary technical and vocational schools. These non-public universities and colleges only accounted for a small portion of the education system (54 universities and 29 colleges).

Libraries in universities

The library is the soul of a university. For over sixty years, the number of libraries in Vietnam has risen to 1,500 and public book holdings across countrywide have more than 6,000 members (K. T. Pham, 2013b; Van, 2008). In addition, some Vietnamese libraries have become members of International Federation of Library Associations (IFLA) and the Congress of Southeast Asian Librarians (CONSAL) to boost knowledge sharing skills in higher education system (K. T. Pham, 2013b). Despite their recent achievements, libraries in universities are facing many difficulties as not all universities in Vietnam have their own libraries. Of the 200 universities and colleges (13%) that were examined, 26 did not have a library (Le, 2010). Many universities, especially small and medium universities, have poor libraries with out of date holdings.

Many universities still use equipment and facilities which have been in place since the mid-1960s or 1970s. Libraries in many universities are small and outdated in both quality and holdings. Foreign language literature is still mainly Russian, dating back to the mid-1970s. Even in those universities with access to English language literature, the rate of use is minimal due to the low English capability of staff and an overload of teaching. As a result, the teaching curricula are old, repetitive and lack innovative approaches and new knowledge. Moreover, there has been a lack of electronic links with a national library or central information and librarian system (N. C. Tran, 2006, p.11)
In addition to a lack of books, poor infrastructure also deters students and lecturers from updating their knowledge. Often, there is not sufficient Internet access to update knowledge, as most academic staff cannot access high-ranking journal databases, as few universities pay for this access. Only staff and scientists can access free journal databases but even then they have limited access.

A lack of updated knowledge also is a result of a low level of English proficiency for academic staff and librarians. As concluded by K. T. Pham (2013a), a typical weakness of Vietnam academics and librarians is English proficiency and research skills. The problems for librarians are not being able to find high quality books written in English for universities, therefore, quality books are a scarce resource, which is not a problem in other developed or English speaking countries. In terms of academic staff with insufficient English proficiency, documents, articles and books in English are difficult for them to understand. Academic staff who trained in Russia and other Eastern countries such as Hungary, Czech Republic now have to learn English in order to update their knowledge, as the number of documents written in Russian is decreasing day by day. This is partly due to the fact that English is becoming a popular language for journal articles and is easy to access, and secondly there is less free aid coming from Russia as happened during the wars, therefore, in order to have Russian books, academics have to pay a higher price, so they have become less popular.

The insufficient English proficiency of both academic staff and students has not only led to new knowledge becoming a scare resource but also a waste of knowledge as books in English displayed on library shelves are rarely touched and were covered by dust (Le, 2010). Le (2010) cited a report from MOET which indicated that, in general, there are many libraries in universities that are not able to meet the needs of academics in terms of their study and research. Most libraries lacking facilities such as tables and chairs, computers and have poor resources.
Staff recruitment

Academic staff recruitment in Vietnamese public universities is different from their private counterparts. Staff recruitment in private universities is flexible and there are not many constraints on the university. For example, they can leave after a while if they feel the place is not suitable for them, or the university can terminate a contract if employees do not perform at the desired level.

Staff recruitment in public universities is more rigorous and thus sacking takes a longer time, and sometimes the process becomes difficult. Therefore, more people prefer to become a university public servant than a private university public servant as they feel their position is safer despite their salary being much lower compared to their colleagues who are working for private universities and in other sectors.

The recruitment process must follow the decree of the recruitment of public servant number 24/2010/ND-CP, which was signed by Prime Minister Nguyen Tan Dung. According to this decree, any staff who signed a contract with a university and wishes to be a permanent member of staff must sit an entrance evaluation, which is called a public servant test organized by that university. In general, a process of recruiting new staff in university divided in the following steps:

Step 1: At the unit level, according to the needs and workload, the head of unit submits a recruitment request to the head of department, the school human resource management, training curriculum department for verification.

Step 2: After verification, documents will be forwarded to the head of school or rector for approval.

Step 3: After being approved by the head of school or rector, the documents will be returned to step 1 for implementation.

Step 4: The unit will start recruiting new staff with the public servant test.
Step 5: The result of recruitment will be forwarded to the head of school or rector for confirmation of legal approval.

Step 6: The unit head of the human resource management office will sign a contract with a new employee.

Step 7: Human resource officer implements the contract which puts the new employee on the payroll system and stores all personal documents of the new employee.

Depending on each university, the requirements for a lecturer might vary. The larger and better the university, the higher the requirements for a lecturer. For example, the Hanoi National University requires a candidate to have at least a distinction grade in a Master degree with at least a distinction grade in a Bachelor degree. In addition, the candidate must have at least an English certificate level C, have proficiency in information technology such as Microsoft Office, be no more than 50 years of age for an associate professor and professor; no more than 45 years of age for a Ph.D. holder; and no more than 35 years of age for a Master degree holder.

The process of recruitment is rigorous, however, the results of recruitment seem not to reflect the process. The reflection in why quality of higher education is decreasing, poor international publication, many lecturers are not able to read and understand basic English in books or social media, many of them do not have e-mails.

Staff recruitment is also constrained by the financial conditions ruled by the government, especially in public universities. A rector cannot decide how much a university can pay a lecturer but must follow government regulations, regardless of how old the staff are and if they just started working at the university wherein they only receive the basic salary which is very low, and is, in fact, equivalent to a salary that a factory worker receives (Lam, 2009). Similarly, a rector is unable to dismiss or sack his employees because of their poor performance if the employees are an official state employee or a permanent
payroll staff (Lam, 2009). In addition, promotion and salary increases are based on seniority not merit or performance (Doan, 2000; Lam, 2009). Thus, permanent staff do not worry about their positions and promotion opportunities, therefore, it is difficult for universities to inspire and motivate teaching staff to update their knowledge and pursue a research role.

Knowledge workforce in Higher education

According to MOET’s 2013 report, there are more than 25,000 PhD holders in Vietnam. Of these, 9,500 are associate professors and professors. However, only 6500 PhDs are working in higher education, accounts for 26% of total PhD holders. The actual number of professors and associate professors engaged in teaching and research accounts for approximately three percent (3%) or about more than one thousand (1,100) (Academy of Journalism and Communication, 2013; Duong, 2013).

![Lecturer's qualification year 2012-2013](chart)

It is interesting to note that despite the improvement in education, the scientific output of Vietnamese researchers is the lowest in the region. For example, Ho Chi Minh National University, the second largest university in Vietnam, produces most of the scientific
output in the nation, however, between 2006-2010, of their 2300 published articles, only 720 were published internationally (Academy of Journalism and Communication, 2013). Within ten years (1999-2009), Vietnamese researchers only published approximately six thousand papers internationally, just equal to one fifth of Thailand, a country which has a higher student-to-faculty ratio than Vietnam. The number of articles published by Vietnamese researchers is equal to one-tenth of those published by Singaporean researchers and is only one-third of papers published by Malaysian researchers. With low scientific output and a low number of patents, as shown in scientific papers and citations table below (page 363), reaching international standards and integrating into the global education seems to be a very long way off for Vietnam’s higher education system. Vietnamese researchers and scientists have to find ways to work more efficiently and collaborate to ensure there is a flow of knowledge between researchers and potential researchers.

**Working hours**

All academic staff must obey the Education Law 2008 and circular number 06/2011/TTLT-BNV-BGĐĐT issued by MOET. According to the circular, all academic staff from lecturers to professors must work 1,760 hours annually, of which 900 of these hours are for teaching, which is based on a 40-hour working week. The number of hours per annum which staff are required to work for different tasks for each position is shown in table below.
Working allocation for university academic staff

<table>
<thead>
<tr>
<th>Duties</th>
<th>Teaching</th>
<th>Research</th>
<th>Professional activities and other tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecturer</td>
<td>900</td>
<td>400</td>
<td>460</td>
</tr>
<tr>
<td>Senior Lecturer; Associate Professor</td>
<td>900</td>
<td>500</td>
<td>360</td>
</tr>
<tr>
<td>High ranking Lecturer; Professor</td>
<td>900</td>
<td>600</td>
<td>260</td>
</tr>
</tbody>
</table>

Thus, each lecturer has to spend the majority of their time teaching in the classroom as required by MOET (51%) compared to the time they spend on research (23%) and other professional activities, such as service and administration (26%). In addition, the average ratio between academic staff and students in Vietnamese universities is considered significantly high compared to other countries in the region. According to MOET’s 2013 report, the total number of students studying in colleges and universities nation-wide was more than two million (2,177,299) while the total number of academic staff, including line managers and support staff was more than eighty thousand (87,682), therefore the ratio is 1:24. According to the World Bank (2012, p. 75), staff-student ratio in Vietnam is 30:1 which is the second highest in the region, after Thailand, as shown in Table below.
Source: Chapman 2010; UIS Data Centre

Thus, besides devoting time to teaching which is a compulsory duty, each academic staff must spend time managing a large number of students.

**Research role**

Research is a crucial activity of a lecturer in a university, as by doing research, a lecture can engage in learning, and thus improve the quality of his teaching and the quality of the training provided by a university.

**Government and MOET policies on research activities in Universities**

In order to increase the quality of training in universities in Vietnam, the government budget spending on education is increasing each year.

**Budget for education (2008-2012)**

<table>
<thead>
<tr>
<th>Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Billion VND</td>
<td>74,017</td>
<td>94,635</td>
<td>120,785</td>
<td>151,200</td>
<td>170,349</td>
</tr>
<tr>
<td>Government spending %</td>
<td>11.83</td>
<td>12.35</td>
<td>12.05</td>
<td>14.98</td>
<td>20.0</td>
</tr>
</tbody>
</table>
Aiming to increase the quality of higher education in Vietnam to an international standard, in 2009 the government spent more than four hundred million US dollars ($400,000,000) on investing in four major universities in Vietnam to ensure they met international standards. These universities are: Viet Duc University in Ho Chi Minh City, Hanoi University of Technology, Da Nang University and Can Tho University (Ha, 2009). Talented staff are the spirit of a country and the government is not only interested in investing in infrastructure but also investing in people by sending thousands of talented people overseas to absorb new knowledge in order for them to share knowledge with colleagues in Vietnam.

MOET issued decision number 64/2008/QĐ-BGDDĐT which indicated that research is a compulsory activity for an academic staff member: “Every year, each lecturer has to publish their research on a specific outcome, or publish a paper in a peer-reviewed journal” (p.10).

Academic staff must spend 400 hours per year on their research (Table 3.1). However, research activity has not been narrowed to the publication of a paper, rather it includes consultation, participating in scientific and technological activities, attending seminars or experiencing practical activities that relate to teaching areas.

**Scientific and Research outcomes**

After nearly thirty years of open policy (since 1986), Vietnam has achieved significant improvements in almost every social and economic aspect. While the knowledge economy index (KEI) of almost every country in the Asian and Oceania region has tended to remain the same or decline, Vietnam shows a positive increase, from 2.94 in 2005 to 3.4 in 2012. Despite having almost the lowest ranking for the innovation and education index, Vietnam shows a steady improvement in these areas, the success of
these improvements being due to the effort of the higher education sector, see Table below

Knowledge economy index and knowledge index for Southeast Asia and Oceania

2013

<table>
<thead>
<tr>
<th>Country</th>
<th>KEI</th>
<th>Economic Incentive and Institutional Regime</th>
<th>Innovation</th>
<th>Education</th>
<th>ICT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Recent 1995</td>
<td>Recent 1995</td>
<td>Recent 1995</td>
<td>Recent 1995</td>
<td>Recent 1995</td>
</tr>
<tr>
<td>Australia</td>
<td>8.88</td>
<td>9.27</td>
<td>8.56</td>
<td>8.80</td>
<td>8.92</td>
</tr>
<tr>
<td>Singapore</td>
<td>8.26</td>
<td>8.40</td>
<td>9.66</td>
<td>9.62</td>
<td>9.49</td>
</tr>
<tr>
<td>Malaysia</td>
<td>6.10</td>
<td>6.26</td>
<td>5.67</td>
<td>7.16</td>
<td>6.91</td>
</tr>
<tr>
<td>Thailand</td>
<td>5.21</td>
<td>5.57</td>
<td>5.12</td>
<td>6.61</td>
<td>5.95</td>
</tr>
<tr>
<td>Philippines</td>
<td>3.94</td>
<td>5.07</td>
<td>4.32</td>
<td>4.57</td>
<td>3.77</td>
</tr>
<tr>
<td>Fiji</td>
<td>3.94</td>
<td>5.11</td>
<td>1.96</td>
<td>4.24</td>
<td>4.65</td>
</tr>
<tr>
<td>Vietnam</td>
<td>3.40</td>
<td>2.94</td>
<td>2.80</td>
<td>2.64</td>
<td>2.75</td>
</tr>
<tr>
<td>Indonesia</td>
<td>3.11</td>
<td>3.68</td>
<td>3.47</td>
<td>4.08</td>
<td>3.24</td>
</tr>
<tr>
<td>Cambodia</td>
<td>1.71</td>
<td>2.77</td>
<td>2.28</td>
<td>2.12</td>
<td>2.13</td>
</tr>
</tbody>
</table>

In the table below, scientific paper of Vietnam ranks as lowest compare to its neighbours. The quantity was tens time lower than the amount of Singapore and one fifth of the amount of Thailand.
Scientific papers and citations of authors from Southeast Asia and Oceania, 1999-2009

<table>
<thead>
<tr>
<th>Country/territory</th>
<th>paper</th>
<th>Citations</th>
<th>Citation per paper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>284 272</td>
<td>3 304 072</td>
<td>11.62</td>
</tr>
<tr>
<td>Cambodia</td>
<td>566</td>
<td>4197</td>
<td>7.42</td>
</tr>
<tr>
<td>Fiji</td>
<td>633</td>
<td>2 955</td>
<td>4.67</td>
</tr>
<tr>
<td>French Polynesia</td>
<td>456</td>
<td>3 805</td>
<td>8.34</td>
</tr>
<tr>
<td>Indonesia</td>
<td>5 885</td>
<td>45 156</td>
<td>7.67</td>
</tr>
<tr>
<td>Malaysia</td>
<td>17 980</td>
<td>79 098</td>
<td>4.4</td>
</tr>
<tr>
<td>New Caledonia</td>
<td>950</td>
<td>7 780</td>
<td>8.19</td>
</tr>
<tr>
<td>New Zealand</td>
<td>55 253</td>
<td>575 803</td>
<td>10.42</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>741</td>
<td>7 318</td>
<td>9.88</td>
</tr>
<tr>
<td>Philippines</td>
<td>5 370</td>
<td>44 295</td>
<td>8.25</td>
</tr>
<tr>
<td>Singapore</td>
<td>58 371</td>
<td>498 782</td>
<td>8.49</td>
</tr>
<tr>
<td>Thailand</td>
<td>26 896</td>
<td>188 759</td>
<td>7.02</td>
</tr>
<tr>
<td>Vietnam</td>
<td>5 878</td>
<td>41 043</td>
<td>6.98</td>
</tr>
</tbody>
</table>

In terms of patent registration, the table below indicates that the creative and innovative ability of Vietnam is very low compared to its neighbours. For more than twenty years, Vietnam has only contributed to the world most critical knowledge 20 patents which less than twenty times of Indonesia and less than 40 times of Philippines.

**Patents by Country, State, and year - Utility Patents (December 2012)**

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>10680</td>
<td>707</td>
<td>705</td>
<td>876</td>
<td>859</td>
<td>902</td>
<td>953</td>
<td>910</td>
<td>1325</td>
<td>1265</td>
<td>1291</td>
<td>1221</td>
<td>1748</td>
<td>1921</td>
<td>1525</td>
<td>26888</td>
</tr>
<tr>
<td>Indonesia</td>
<td>120</td>
<td>5</td>
<td>6</td>
<td>4</td>
<td>7</td>
<td>9</td>
<td>4</td>
<td>10</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>202</td>
</tr>
<tr>
<td>Malaysia</td>
<td>140</td>
<td>30</td>
<td>42</td>
<td>39</td>
<td>55</td>
<td>50</td>
<td>80</td>
<td>88</td>
<td>113</td>
<td>138</td>
<td>152</td>
<td>158</td>
<td>202</td>
<td>161</td>
<td>210</td>
<td>1678</td>
</tr>
<tr>
<td>New Zealand</td>
<td>1357</td>
<td>114</td>
<td>107</td>
<td>124</td>
<td>140</td>
<td>135</td>
<td>142</td>
<td>122</td>
<td>136</td>
<td>113</td>
<td>105</td>
<td>127</td>
<td>168</td>
<td>180</td>
<td>223</td>
<td>3293</td>
</tr>
<tr>
<td>Philippines</td>
<td>184</td>
<td>11</td>
<td>2</td>
<td>12</td>
<td>14</td>
<td>22</td>
<td>21</td>
<td>18</td>
<td>35</td>
<td>20</td>
<td>16</td>
<td>23</td>
<td>37</td>
<td>27</td>
<td>40</td>
<td>482</td>
</tr>
<tr>
<td>Singapore</td>
<td>603</td>
<td>144</td>
<td>218</td>
<td>296</td>
<td>410</td>
<td>427</td>
<td>449</td>
<td>346</td>
<td>412</td>
<td>393</td>
<td>399</td>
<td>436</td>
<td>603</td>
<td>647</td>
<td>810</td>
<td>6593</td>
</tr>
<tr>
<td>Thailand</td>
<td>77</td>
<td>20</td>
<td>15</td>
<td>24</td>
<td>44</td>
<td>25</td>
<td>18</td>
<td>16</td>
<td>31</td>
<td>11</td>
<td>22</td>
<td>23</td>
<td>46</td>
<td>53</td>
<td>36</td>
<td>461</td>
</tr>
<tr>
<td>Vietnam</td>
<td>9</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>20</td>
</tr>
</tbody>
</table>
Institutional autonomy

The institutional autonomy of Vietnamese higher education had not been mentioned in education law until a recent law on higher education was passed, this being number: 08/2012/QH13, which took effect in 2013.

In 2005, the Vietnamese government issued a law on education which stipulated for the first time that every citizen has the right to pursue study, regardless of race, religion, belief, family status, social position and economic situation in any state educational institution. In this legislation, neither law nor autonomy were mentioned in any aspect in relation to management. In 2009, the government revised this law. However, autonomy for education institutions was once again absent from this law. This indicates that the state wants to retain control over how many students universities can enrol, and how much university lecturers are paid. The system thus, does not provide the Vietnamese higher education system the incentive to compete or innovative (Vallely & Wilkinson, 2008).

However, the new higher education law, for the first time in history, mentioned autonomy in university education which included:

- Removing the government cap on tuition fees, however, the government still controls the framework for tuition fees in public universities.
- Allowing universities to issue degree to their graduates. However, the Minister of MOET in charge of issuing and printing degrees, and has control over issuing degrees, and recalling or cancelling the university degrees.
- Allowing universities to manage their academic affairs but within the curriculum set by MOET.
- Allowing universities to choose the education quality accreditation agency from a list of accreditation agencies approved by MOET.
This recently introduced law provides new steps towards greater autonomy for universities in Vietnam. However, because this law was only implemented in 2013, more time is needed to assess its effectiveness.

Despite this significant step toward greater freedom and autonomy for universities, this new law only allows autonomy within a fixed framework which has been set up by the government. Universities cannot go over a fixed line, thus universities are not able to implement their own strategic plans. Vietnamese government policies on autonomy pale in comparison with its neighbours, such as Thailand and Malaysia, let alone on the world map (Thanhnien News, 2013).

**Leadership challenges**

The literature indicates that leadership quality refers to the way managers trust staff, that is, treating staff equitably and fairly. Leadership also means acting as a role model and having the credibility to undertake the role required by the staff (Bryman, 2008).

Unfortunately, the low quality of undergraduates and the low quantity of publications, as well as professional misconduct and corrupt practices is rife in the Vietnamese education system, therefore, management practices and leadership in Vietnamese higher education cannot be considered to be effective.

There are many challenges facing leadership in the current Vietnamese higher education context, such as a lack of resources, including human and capital resources, low student outcomes, the low quality of education and ineffective educational leadership. These issues must be addressed in order for Vietnamese universities to become research universities.

Management and leadership in Vietnamese higher education faces other difficulties, such as bureaucracy, subsidy, cross management, fragmentation, unclear rights and responsibilities, which are the core weaknesses in higher education management. The government and MOET need to transform their management from heavy administration, such as controlling the number of students who are allowed to enter university, controlling the number of staff and controlling
school policies and budget and should focus more on quality and performance as well as offering more autonomy to universities (D. V. Nguyen, 2013; Xuan, 2013).

Transparency is also another issue which must be addressed by the education system to improve quality and trust in universities. If MOET keeps the current asking-giving policy, then corruption will continue, the management system will become invalid. It is possible that weak universities will have higher student quotas than strong universities if the weaker universities bribe officials, which results in inequality and mistrust (D. V. Nguyen, 2013). Recently, universities publish three transparent criteria to the stakeholders: finance, infrastructure, and human resources in order to increase the level of transparency, however, it is well-known that “ghost teachers” are a problem in many universities, especially private universities (Huu & Nguyen, 2012; Xuan, 2013). The term ghost teacher refers to the practice where universities put a teacher’s name on the payroll to show MOET and accreditation agencies, but actually these teachers have never been in the school. Thus, universities in Vietnam are facing difficulties in terms of management and leadership in order to compete in the globalized world of education and economy, where knowledge is the core competitive advantage.

**Summary**

This chapter provided an overview of the current higher education system in Vietnam, with a particular focus on governance, infrastructure, human resource management, research roles, autonomy, and leadership. The chapter has highlighted the many issues and challenges that universities in Vietnam are facing and these directly impact teaching quality, career development, competitive advantage and global integration, “too many cooks spoil the broth” is the current situation in Vietnamese higher education. There is much interference with university decisions which limit autonomy and restrict the degree of influence which schools and staff can have in relation to their own decisions which hinders any feeling of responsibility. Furthermore, staff will not be motivated to develop innovation ideas and will become passive in seeking new knowledge which will have an adverse impact on education and scientific research quality, which is
decreasing. Better and more transparent staff recruitment, reduced workloads and increased research roles are necessary to improve the quality of education and research in Vietnam’s higher education. Currently, the staff recruitment process is very strict, and most recruitment processes are based on documents rather than the person’s real capacity and knowledge, therefore, there is possible that an increasing number of public servants and academic staff are buying degrees for their career advancement (Đ.Vịnh, 2011; Nguyên, 2011; Thắng, 2012). People who buy degree have an advantage over those who have studied, because their degrees come with high distinctions in every subject, which on the surface, gives the impression that the degree holder is superior to those who actually studied to attain a degree but who may not have achieved all high distinctions. As a consequence, staff lack absorptive capacity and knowledge.

Workload and limited funding for research also impacts staff’s attitude towards knowledge improvement and knowledge sharing. A high teaching workload limits the time they have to search for new knowledge and conduct research, and as a result, the publication rate and the number of patents produced by Vietnamese researchers is very low, being ranked last in the South East Asia region. This chapter also revealed that autonomy in Vietnamese higher education is low and there is a need to increase autonomy in order to improve the quality of teaching, research and management.
APPENDIX 2: QUESTIONNAIRES

The following questionnaires measure your perceptions about knowledge sharing and knowledge transfer process in your department or university. Your answers will be kept confidentially and will be only used for research purpose. Please circle your choice which most accurately fit your opinion.

Example (Ví dụ):

To what extent do you agree with the following statements?

(Thấy, có đồng ý ở mức độ nào với các lời phát biểu sau đây?)

<table>
<thead>
<tr>
<th>Everyone should be expected to share their knowledge with others who need it because sharing knowledge is everyone’s responsibility (Mỗi người đều được mong đợi nhận được sự chia sẻ tri thức vì chia sẻ tri thức là trách nhiệm của mọi cá nhân)</th>
<th>Strongly Disagree (Hoàn toàn không đồng ý)</th>
<th>Disagree (Không đồng ý)</th>
<th>Neutral (Không ý kiến)</th>
<th>Agree (Đồng ý)</th>
<th>Strongly Agree (Hoàn toàn đồng ý)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
To what extent do you agree with the following statements?

(Thấy, Có đồng ý ở mức độ nào với các lời phát biểu sau đây?)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree (Hoàn toàn không đồng ý)</th>
<th>Disagree (Không đồng ý)</th>
<th>Neutral (Không ý kiến)</th>
<th>Agree (Đồng ý)</th>
<th>Strongly agree (Hoàn toàn đồng ý)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. My university always expects that I should always share my knowledge and experience with other staff in my department (Trường tôi luôn mong đơn rằng tôi luôn chia sẻ tri thức và kinh nghiệm với các giảng viên khác)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. My colleagues always believe that I should always share my knowledge with them (Đồng nghiệp luôn tin rằng tôi luôn chia sẻ tri thức của tôi với họ)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. I will not share my knowledge because no one else shares their knowledge (Tôi sẽ không chia sẻ tri thức bởi không có ai làm như vậy)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. I should not share my knowledge because it might be out of date or it could be wrong (Tôi không nên chia sẻ tri thức của tôi vì có thể nó đã lạc hậu hoặc có thể bị sai)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. My career would be in danger if I made mistakes in sharing knowledge (Tương lai nghề nghiệp của tôi có thể bị ảnh hưởng xấu nếu tôi chia sẻ tri thức bị sai)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

To what extent do you share knowledge in your department or university?

(Theo Thầy, Cô, việc chia sẻ tri thức trong khoa hoặc trường, được thực hiện với động cơ nào?)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree (Hoàn toàn không đồng ý)</th>
<th>Disagree (Không đồng ý)</th>
<th>Neutral (Không ý kiến)</th>
<th>Agree (Đồng ý)</th>
<th>Strongly agree (Hoàn toàn đồng ý)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. For monetary rewards (Để có tiền thưởng)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. To enhance your career (Để cải thiện hiểu biết và tương lai nghề nghiệp)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. To get recognition (Để được đánh giá cao)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Others please specify (Ý kiến khác)........................................................................................................................................
To what extent do you agree with the following statements?
(Thấy, Có đồng ý ở mức độ nào với các lời phát biểu sau đây?)

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree (Hoàn toàn không đồng ý)</th>
<th>Disagree (Không đồng ý)</th>
<th>Neutral (Không ý kiến)</th>
<th>Agree (Đồng ý)</th>
<th>Strongly agree (Hoàn toàn đồng ý)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.</td>
<td>I am more likely to share my knowledge with those who share or are willing to share knowledge with me, either face-to-face or via technology support (Tôi chia sẻ tri thức với ai đó và sẽ sẵn sàng chia sẻ tri thức của họ với tôi, trực tiếp hay qua trợ giúp công nghệ)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10.</td>
<td>I am more likely to share my knowledge with those whom I believe I can approach for help in the future, either face-to-face or via technology support (Tôi chia sẻ tri thức với người mà tôi tin có thể nhờ giúp đỡ trong tương lai, trực tiếp hay qua trợ giúp công nghệ)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11.</td>
<td>Everyone should be expected to share their knowledge with others who need it because sharing knowledge is everyone’s responsibility (Mọi người đều được mong đợi nhận được sự chia sẻ tri thức, vì chia sẻ tri thức là trách nhiệm của mỗi cá nhân)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

To what extent do you agree with the following statements?
(Thấy, Có đồng ý ở mức độ nào với các lời phát biểu sau đây?)

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree (Hoàn toàn không đồng ý)</th>
<th>Disagree (Không đồng ý)</th>
<th>Neutral (Không ý kiến)</th>
<th>Agree (Đồng ý)</th>
<th>Strongly agree (Hoàn toàn đồng ý)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.</td>
<td>My relationship with colleagues will be stronger when I share my knowledge (Mối quan hệ của tôi với đồng nghiệp thân thiết hơn khi tôi chia sẻ tri thức với họ)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13.</td>
<td>I will share knowledge with those I can trust (Tôi chỉ chia sẻ tri thức với ai mà tôi tin cậy)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14.</td>
<td>I will not share my knowledge with any newcomers in my department (Tôi sẽ không chia sẻ tri thức với người mới ở cơ quan)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
To what extent do you agree with the following statements?

(Thấy, Có đồng ý ở mức độ nào với các lời phát biểu sau đây?)

<table>
<thead>
<tr>
<th>15. My knowledge sharing helps other members in my department to solve problems</th>
<th>Strongly disagree (Hoàn toàn không đồng ý)</th>
<th>Disagree (Không đồng ý)</th>
<th>Neutral (Không ý kiến)</th>
<th>Agree (Đồng ý)</th>
<th>Strongly agree (Hoàn toàn đồng ý)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Tri thức của tôi sẽ giúp các thành viên khác trong khoa giải quyết những vấn đề mới trong giảng dạy)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>16. My knowledge sharing creates new business opportunities (e.g Consultation, new projects) for Department and University</th>
<th>Strongly disagree (Hoàn toàn không đồng ý)</th>
<th>Disagree (Không đồng ý)</th>
<th>Neutral (Không ý kiến)</th>
<th>Agree (Đồng ý)</th>
<th>Strongly agree (Hoàn toàn đồng ý)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Tri thức của tôi sẽ tạo công ăn việc làm cho khoa và trường ví dụ: tư vấn, làm các dự án)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>17. My knowledge sharing helps my department achieve its performance objectives</th>
<th>Strongly disagree (Hoàn toàn không đồng ý)</th>
<th>Disagree (Không đồng ý)</th>
<th>Neutral (Không ý kiến)</th>
<th>Agree (Đồng ý)</th>
<th>Strongly agree (Hoàn toàn đồng ý)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Tri thức của tôi giúp khoa và trường đạt được các mục tiêu đề ra)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>18. My knowledge sharing creates more opportunities for staff to improve their knowledge and skills</th>
<th>Strongly disagree (Hoàn toàn không đồng ý)</th>
<th>Disagree (Không đồng ý)</th>
<th>Neutral (Không ý kiến)</th>
<th>Agree (Đồng ý)</th>
<th>Strongly agree (Hoàn toàn đồng ý)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Tri thức của tôi tạo ra nhiều cơ hội cho các thành viên nâng cao trình độ và kỹ năng chuyên môn)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>19. I am confident that my knowledge sharing helps my organization deal efficiently with unexpected events</th>
<th>Strongly disagree (Hoàn toàn không đồng ý)</th>
<th>Disagree (Không đồng ý)</th>
<th>Neutral (Không ý kiến)</th>
<th>Agree (Đồng ý)</th>
<th>Strongly agree (Hoàn toàn đồng ý)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Tôi tin rằng tri thức của tôi sẽ giúp cơ quan giải quyết hiệu quả các tình huống bất thường)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>20. I believe that a person with high knowledge and skill always feel confident in sharing knowledge with others</th>
<th>Strongly disagree (Hoàn toàn không đồng ý)</th>
<th>Disagree (Không đồng ý)</th>
<th>Neutral (Không ý kiến)</th>
<th>Agree (Đồng ý)</th>
<th>Strongly agree (Hoàn toàn đồng ý)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Tôi tin rằng một người có kiến thức sâu rộng luôn tự tin khi chia sẻ tri thức của họ)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Will you continue to share knowledge with others, if you were in a good working environment, good attitudes and smooth co-operation?

(Thấy Cô sẽ tiếp tục chia sẻ tri thức nếu làm việc trong môi trường tốt và thái độ hợp tác tốt?)

21. I will share research expertise with members of my department more frequently than I am doing now in the future (Tôi sẽ chia sẻ tri thức với các thành viên trong khoa thường xuyên hơn trong tương lai)

Yes I will (Tôi sẽ làm) □ No I won’t (Tôi sẽ không làm) □
22. I will provide my reports and official documents with members of my department more frequently (Tôi sẽ cung cấp các báo cáo bài viết hoặc các tài liệu quan trọng cho các thành viên khác thường xuyên hơn)

Yes I will (Tôi sẽ làm) ☐ No I won’t (Tôi sẽ không làm) ☐

Other please specify (Ý kiến khác): ____________________________________________________________
____________________________________________________________________________________

23. I will share my education experience with other members in my department in a more effective way (Tôi sẽ chia sẻ kinh nghiệm giảng dạy cho các thành viên hiệu quả hơn trong tương lai)

Yes I will (Tôi sẽ làm) ☐ No I won’t (Tôi sẽ không làm) ☐

Other please specify (Ý kiến khác): ____________________________________________________________
____________________________________________________________________________________

General information (Thông tin chung)
1. Are you (Giới tính): Male (Nam) ☐ Female (Nữ) ☐
2. Are you (Tuổi đời): 22-35 ☐ 36-45 ☐ 46-55 ☐ 56-60 ☐ Over 60 ☐
3. Are you (Công chức):
Full-time Uni staff (Chính quy ☐) Part-time Uni staff (Hợp đồng ☐)

Other please specify (Khác): ___________________________________________________________________

4. Your working experience (Kinh nghiệm làm việc):
Less than 1 year (Dưới 1 năm) ☐ 1-5 years (1-5 năm) ☐
5-15 years (5-15 năm) ☐ Over 15 years (Trên 15 năm) ☐

5. Your highest academic qualification (Học vị)
Bachelor (Cử nhân) ☐ Master (Thạc sĩ) ☐ Doctor (Tiến sĩ) ☐

Others (Khác): __________________________________________________________

6. **Your position/ level as academic** (Học hàm, vị trí vai trò trong giảng dạy)

   Assistant Lecturer (Trợ giảng) ☐ Lecturer (Giảng viên chính) ☐
   Senior lecturer (Giảng viên cao cấp) ☐ Associate professor (Phó giáo sư) ☐
   Professor (Giáo sư) ☐

   Others (Khác): _________________________________________________________

7. **University (Trường đại học):** _______________________________________

*Thank you for your cooperation!*
PARTICIPANT INFORMATION SHEET

Project Title: Sharing Knowledge between Staff in Vietnam’s Higher Education

My name is Ta Van Canh, I am a PhD student at the School of Management at La Trobe University, Victoria, Australia.

This research project aims to examine and measure the current views, awareness, attitude, behaviour and knowledge sharing strategies in higher education institutions. The research aim is to determine how we can improve the quality of teaching and research of Vietnamese university staff. This research also responds to the Vietnam Higher Education Strategy 2009-2020 of MOET and Communist Party resolution (11th January 2011). Which aim to reform higher education and catch up with top regional Asian universities as well as others top universities in the world.

This research will enhance our understanding of the issues that Vietnamese Universities encounter after joining WTO since 2007, particularly in sustaining competitive advantage, reforming teaching and learning method, and specially in developing knowledge management programs. This will inform practitioners, managers, policy makers and theoreticians generally. Your views and participation are therefore very important.

Your participation is voluntary and you are under no obligation to consent to participate in part or in the entire project. You may withdraw within four weeks of completion of your participation in the project, by notifying the researcher by e-mail or telephone as below.

This questionnaire comprises 23 short questions and a section on background information. The survey should take approximately 15 minutes to complete. Your consent to participate in this research is implicit in the completion of this questionnaire.

The information collected in this research will be anonymous as there is no way of linking your name on the information and consent form. Therefore no personal data will be kept. The controls over the use of all data will be as follows:

The data will only be presented in an aggregated form. Storage of the data collected will adhere to the University regulations and be kept on University premises in a locked cupboard/filing cabinet or on a password protected computer for 5 years. The raw data will be accessible only to the researcher who is strictly controlled by the University confidentiality guidelines. The aggregate data is expected to become the subject of journal articles and to be presented at
conferences according to strict guidelines on privacy and intellectual property governed by La Trobe University.

If you have any queries or are interested in a summary of the results of the research I would be happy to provide these, please let me know if you would like me to do this. Any questions regarding this project may be directed to the investigators as follows:

Ta Van Canh
School of Management
Faculty of Law & Management
Ph: +61 401 551 642,
or 84 165 8552508
Email: vcta@students.latrobe.edu.au

Dr. Suzanne Zyngier
School of Management
Faculty of Law & Management
La Trobe University, Victoria, 3086,
ph: +613 9479 2615
Email: s.zyngier@latrobe.edu.au

If you have any complaints or queries that either investigator has not been able to answer to your satisfaction, you may contact:

The Secretary, Ms Ruchi Prasad
Faculty Human Ethics Committee,
Faculty of Law and Management,
La Trobe University, Victoria, 3086,
Ph: 9479 1603
E-mail: FLM_ERGS@latrobe.edu.au

Thank you for your co-operation and assistance.

Ta Van Canh,
CONSENSUS FORM

KNOWLEDGE SHARING ISSUES IN VIETNAM’S HIGHER EDUCATION

I________________________________________ have read and understood the participant information statement and consent form, and any questions I have asked have been answered to my satisfaction. I agree to participate in the project, realising that I may physically withdraw from the study at any time and may request that no data arising from my participant are used, up to four weeks following the completion of my participation in the research. I agree that research data provided by me or with my permission during the project may be included in a thesis, presented at conferences and published in journals on the condition that neither my name nor any other identifying information is used.

I understand that my participation is voluntary, that I can choose not to participate in part or all of the project, and that I can withdraw at any stage of the focus group interview without being penalised or disadvantaged in any way.

I agree to be interviewed by the researchers as part of the focus group and to allow the interview to be audio-taped

Name of participant:________________________________________ Date..../....../ 2011

Signature:____________________________________________________

Name of Researcher:    TA VAN CANH          Date...../...../2011

Signature:____________________________________________________
APPENDIX 4: QUESTIONS FOR DISCUSSION

QUESTIONS FOR DISCUSSIONS

Group discussion

The objectives

1. To explore university’s staff views about benefits and barriers in knowledge sharing at higher education Vietnam
2. To explore the current knowledge management issues and strategies in HEIs
3. To identify critical roles of MOET and the government in developing and supporting knowledge sharing polices in HEIs.

Discussion points

1. Benefits of knowledge sharers
2. Benefits of knowledge receivers
3. Benefits of department and university
4. Barriers to share knowledge in term of organization culture
5. Barriers in term of organizational policies
6. Sharing research, teaching experience for university’s staff
7. Rewards for sharing knowledge
8. Limitations of current knowledge sharing model in the Vietnam higher education context.
9. Possible model for knowledge sharing that suit with current context in HEIs.
10. Role of University for knowledge sharing
11. Role of MOET in knowledge sharing
12. Role of Government in knowledge sharing
13. Possible strategies for HEIs to reach regional standard
QUESTIONS FOR INTERVIEW

1. Sharing knowledge has more benefits than disadvantages, what do you think?

2. What kind of benefits are there for the receiver of information?

3. What tangible and intangible benefits are there for the university where knowledge sharing always happens efficiently?

4. What are critical reasons for not sharing our knowledge? In terms of relationship? In term of power distance? In term of mistake avoidance? In term of the effort to get new knowledge of the sharer?

5. In what ways can we encourage our colleagues to share their knowledge?

6. What activities at your university do you believe can be classified as knowledge sharing activities among staff? How important are they?

7. Are rewards for sharing knowledge at university institution is necessary? What do you think? Money? Recognition? Promotion?

8. Discuss current knowledge management models that are applied successfully in big organizations (IBM, Microsoft, UNDP, UNESCO, TOYOTA, universities). How do you think about those models?

9. Will those models be applied successfully in the Vietnam Higher education sector, discuss?

10. If so how do we apply and where should we start? If not please give your opinion.

11. What barriers do Universities need to overcome in order to support knowledge sharing? How can universities do this?

12. How can MOET influence on knowledge sharing activities in HEIs? (Strategic way, polices, motivation?)

13. How can the government influence knowledge sharing activities in HEIs at macro level? (Legislation, infrastructure, talent attraction international)
## APPENDIX 5: CATEGORIZATION AND CODING THEMES

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Management issues (MGT)</strong></td>
<td>Managers setup focus points, priority</td>
<td>183 “The university should set up clear objectives, be more specific and give priority to knowledge sharing”.</td>
</tr>
<tr>
<td></td>
<td>Transparent management and change management</td>
<td>193,195 “Scientific management and reality should work together to deal with problems in reality”. ‘Top down management and bureaucracy has inaccurate information, it is too far from reality, which leads to inappropriate management criteria.”</td>
</tr>
<tr>
<td></td>
<td>Management problems, non-transparent policies, the system of top down direct, inflexible</td>
<td>119 “A very smart person under bad management will be invalid.” “How to multiply knowledge sharers and develop an open sharing community.”</td>
</tr>
<tr>
<td></td>
<td>Change management</td>
<td>127 “A manager recruits staff based on a money relationship, therefore, those staff are unable to share knowledge, as their skill and knowledge does not match their position.”</td>
</tr>
<tr>
<td></td>
<td>Management approaches and skills</td>
<td>154 “To encourage people to share knowledge, it is necessary to issue a sharing regulation to the organization, department, unit and down to each individual person as well as to monitor and evaluate the sharing process.”</td>
</tr>
<tr>
<td></td>
<td>Management problems (Fragmentation in management, departmentalization)</td>
<td>156 “To get knowledge, the problem does not lie only on the knowledge itself but also on the management system, as it creates a lot of unpleasant procedures for the receivers.”</td>
</tr>
<tr>
<td></td>
<td>Remove overlap and redundancy management mechanism, decentralization</td>
<td>159 “Information flow from the highest to the operational level is not completely linked. A peasant who needs information about technical support does not know how to get information from whom to get help.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>350 “I believe that the departing point is not as important as the focus on the younger generation, to change their mind and perspective on the way to possess knowledge.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>205 “One of the most important steps in change management and policies is to ‘have a good relationship’ with the top manager in order get the nod from him, so that change or policies are approved.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>352 “The mechanism of bottom-up asking and top-down giving has inhibited the motivation for KS, as performance is not as critical as the relationship with the manager.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>398 “This is a big problem. Research which is applied in reality or as a base for other research is limited. The management of this is really fragmented. MOET, the Ministry of Science and Technology, the Social science and...”</td>
</tr>
</tbody>
</table>
| Improve the culture of management | Humanity Institution and the National Institution for Political and Administration all manage and administer research projects… therefore it is a barrier for knowledge to be shared”.
398 “It is very difficult to approach/access the administrative team to get approval for a research project because of the bureaucracy and because of the begging and granting mechanism.”
| Strictly on management of “fake professors” and “fake degrees” | 405 “Managers should create their own culture of sharing, because their management culture is an example for the whole organization to follow. Once a manager is ready to share his/her knowledge, then other staff will be ready to do so.”
398 “In Vietnam, it is very difficult to fail a PhD thesis. Examiners are under high pressure because of the relationship between the supervisors and examiners. If you fail my students, in turn, I will fail your students… more importantly, there has never been a PhD thesis which has been failed. If a thesis fails, the supervisors have a lot of work to do!!!”
382 “The practice of never failing a thesis has been in place for a long time and is now a ‘norm’. Why should we fail a student if previous examiners did not do so.”
| Remove “fake democracy” in KS | 449 “Some PhD students get their degree but their knowledge is almost non-existent”.
380 “When I read a thesis, I know immediately if it has been copied from previous PhD students. I knew he had copied different parts of another thesis to make a very ‘shaky’ thesis, but I had to pass it…”
369 “The major problem is changing the culture of management. You want to retain talent but you are always obstructing him, insulting them by telling them not to apply new knowledge …people realise that the organization does not support their ideas so they go.”
| Transparent in “stick and carrot” policy | 357 “The problem here is to change the mindset of leaders. Most leaders and professors always believe that young people are beneath them and have less experience and less knowledge … therefore, there is only one way of sharing”.
357 “If managers are willing to listen to staff and learn new knowledge from them… more experienced staff will be willing to acquire new knowledge and ideas from younger staff. By doing this, the knowledge sharing in the organization will be accelerated and this will attract more talent.”
| Attach benefits and responsibility to the KS and staff | 143 “When I conduct successful research, my salary does not change. If I write a book, there is very little or no remuneration. The amount I receive is far less than I earn from conducting an extra class in other schools.”
| Begging and granting policy |
| Managers should motivate staff and inspire them | Therefore, if there are no rewards or punishments, people will not spend much time on knowledge sharing because they have to spend their time and effort on other important for their life, such as earning money from tutoring extra class or taking care their children.” |
| Encourage KS and make it compulsory | 356 “Every year, the Ministry of Finance and the Ministry of Science and Technology fund research projects based on requests from each university. This mechanism of “begging from the bottom and granting from the top” has discouraged people from pursuing new knowledge.” |
| Create sharing norm among staff and within Uni | 449, 450, 477 “Management and policies are not clear. The psychology of deference is very common. This is the consequence of not sharing knowledge because there is no different treatment between the best and the not very good. At the end of the year, everyone is successful in their job, therefore the motivation to acquire new knowledge and sharing is destroyed.” |
| Start from simple CoPs and combine with other tools such as internet, email, forum… to share KN | “Apart from the empty head PhDs, there are also many real talents. However, they do not have the habits of sharing knowledge, there is no movement to do so, as they have not been inspired to share and do not know who to approach and how to start.” |
| Need public and social support for KS | 307 “Once we have sent a person to acquire new knowledge or training, the organization needs a compulsory policy that staff must share or report what they have learned.” |
| Setup example for KS and focus more on young staff | 319 “ Universities should create a knowledge sharing habit and norm that staff will follow, and encourage them to share whenever they would like to share with their colleagues.” |
|  | 321 “Universities should encourage staff to form CoPs in order to share knowledge among groups.” |
|  | 411 “In Vietnam, research quality is low, especially in terms of applying it to real world situations. Almost all research projects have been buried because they cannot be applied. This results in the wasted time and money of the government. Researchers propose research projects just to get money” |
|  | 411 ”For knowledge to be shared smoothly, I personally think that MOET and universities need to set up a norm and standards to encourage and evaluate knowledge management.” |
|  | 343 “To encourage knowledge sharing, each department manager should create and support a knowledge sharing movement to encourage staff to discuss their experience and seek help.” |
|  | 327 “To share knowledge we need support from society, because sharing needs a community. We share knowledge in one community then each person in this community interacts with other communities. Therefore
<table>
<thead>
<tr>
<th>Set up and strengthen cooperation with international universities</th>
<th>Weak coherence between doing research and teaching, between teaching and other industries</th>
<th>Reduce departmentalization</th>
<th>Flow of Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encourage new KN from the outside world</td>
<td>333 ‘In our education context, we have many professors so young people are afraid of sharing for fear of being criticized and looked down upon.”</td>
<td>335 “I think our government should focus on new knowledge from well-known universities in developed countries, by sending our talent to countries such as America, England, Japan or Australia as well as cooperating in training and conducting research.”</td>
<td>336 “We need to learn from China. The way they send their talent and attract talent to build up their science and technology”.</td>
</tr>
<tr>
<td>380 “There are many problems related to research and teaching as well as with connections to other industries. Most students, when employed, have to be retrained to be suitable for the job because all the knowledge they learned at university is outdated.”</td>
<td>“Our higher education only focuses on quantity and forgets about quality. In addition, English skill is a barrier that both students and lectures face in exploring current knowledge. Bureaucracy in management, heavy plagiarism and copying PhD theses results in a greater number of doctors but they are just empty heads.”</td>
<td>“Top-down direct and bottom line action sometimes causes mistake as information might be missed or modified.” “Overlapping management and a complex, bureaucratic system leads to confusion at the operating level, so many staff lose their motivation to pursue knowledge.”</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Leadership issues (LED)</th>
<th>Top managers do not lead by example</th>
<th>Encourage open-mindedness and freedom, leading by example</th>
<th>Change must start from leaders</th>
<th>Need strong support from leaders and managers</th>
<th>Start with leaders, leaders should set an example</th>
</tr>
</thead>
</table>
| 119 “When an active knowledge sharer is working in an inactive environment, his motivation is inhibited” | 120 “As a leader, he should set an example and make sharing knowledge a priority.” | 122 “In an organization, any change should start from the leader and if there is no support from the leader, the staff cannot do anything about innovation.” | 179 “The leader should be the first change point in an organization because he can encourage innovation and knowledge sharing in the community. Then, all staff will follow”. | 473 “I faced a lot of problem when I applied new knowledge in my teaching and method of assessment. When I submitted my new ideas, there were many
<table>
<thead>
<tr>
<th>Change the mindset of the leader</th>
<th>Need more support from leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opponents who asked why did I do so? Why this… why that..? We need approval from the management board and so on. I am fed up with these things”</td>
<td></td>
</tr>
<tr>
<td>188 “Change not only comes from the top leaders but from all, from top to bottom. People realise that we need to change in order to share knowledge better so a new policy should be formed to guide people to explode ‘mystical knowledge castle’.”</td>
<td></td>
</tr>
<tr>
<td>190 “ One of the reasons for the crisis in higher education is the lack of bright examples in knowledge management and knowledge sharing. We need examples of people sharing their experience in teaching and conducting research.”</td>
<td></td>
</tr>
<tr>
<td>230 “The most important for a leader to realise is the important benefits of knowledge sharing to an organization. Then he will change or influence policies that support sharing.”</td>
<td></td>
</tr>
<tr>
<td>366 “An older person who holds a very high position and who has worked for a long time in an organization may find it difficult to change to a new innovation of knowledge management and it is impossible for him to accept any suggestions from young staff.”</td>
<td></td>
</tr>
<tr>
<td>404 “ If leaders or managers are not able to learn or change their mindset to do things in a better way, then there is no any spirit or aspiration for a learning organization.”</td>
<td></td>
</tr>
<tr>
<td>338 “Leaders should listen to staff and fight strongly against dishonesty and corruption within the organization he is in charge of. By doing this, we can approach a better side of knowledge and a new horizon.”</td>
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<table>
<thead>
<tr>
<th>Require more honesty for KS</th>
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<tr>
<th>Facilitate learning process</th>
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<tbody>
<tr>
<td>10,38 “ Sharing will encourage people to find new knowledge, attract more staff to participate, generate motivation for renovation and the learning process.”</td>
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<tr>
<td>20 “If you share in a group, in addition to the feedback you get from others, you might get back something you might never thought of before. You also learn from others’ views in one specific matter so if you don’t share, people won’t share with you.”</td>
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<tr>
<td>22 “By sharing, the sharer will improve the transfer of knowledge, learn from mistakes and improve their confidence in convincing others.”</td>
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<tr>
<td>361 “After each seminar in which I participated, I felt much more confident and ready to transfer my knowledge to students or other staff because I have had that knowledge shared by other members and have been critically analysed during the discussion.”</td>
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<tr>
<td>181“ I think the leader should learn how to facilitate KS, to create a friendly environment and set up the necessary infrastructure to suit a sharing environment.”</td>
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<tr>
<td>188 “ Training for KS should start with the top leaders down to university staff to realise that it is necessary to manage knowledge, to share, to</td>
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</table>
Peer assistance, coaching
Train the trainers
Create a culture of continuous learning in organization
Learn English as a means to update current international knowledge
Continuous motivation to learn
Support lifelong learning, learning organization

innovate, to create creations. Therefore, changing mindsets is crucial to changing policies to encourage open minds and sharing among staff.”

10 “Sharing will not only help one person but all the organization will benefit and create and inspire learning organization and encourage people to learn more.”
16 “Sharing knowledge will ignite the ability to learn and lifelong learning will occur at both the personal and organizational level.”
186 “Sharing knowledge helps people to learn from each other’s mistakes, and to learn how to avoid repeating the problem.”

336 “To train the trainers, we need to send trainers to learn new knowledge from developed countries and to top ranking universities. They will not only learn new knowledge but also learn ways to share knowledge as well.”
338 “The trainers need to learn to fight against dishonesty and avoid unhealthy seducements such as money or buying a position.”
357 “In any organization, we should always create a culture of learning. This is particularly important in universities, as knowledge is not stable. It needs to be revised and updated to suit contemporary times.”

357 “Learn from each other in an organization is the best way to sustain a competitive advantage. More importantly, learning should not only involve young people learning from older people but also older people should learn from the younger generation as well. A sixty-year old person should learn from a sixty-one year old person and vice versa.”
358 “By learning from younger staff, not only can older staff update their knowledge, young and talented staff feel they are useful which will encourage them to pursue more knowledge creation.”

338 “Weakness in English leads to incorrect translation and misunderstandings of the lecturer lead to knowledge distortion.”
338“ English plays an important role in approaching regional and international knowledge. Most university staff have been isolated from the outside world as a result of insufficient English skill, especially in speaking, reading and writing.”

359 “We would like to develop and sustain a real lifelong learning community in my universities, where we would like to learn how to sustain learning. These communities are absolutely voluntary. From there, we have found passion for research and sharing knowledge with other members.”
361 “ I have only been in a seminar on how to debate and communicate once. I realised that if more people participated in this seminar, the number of quarrels will be reduced to a minimum and people will only know how to be friends and sharing knowledge will be a priority.”
<table>
<thead>
<tr>
<th>Copyright and Intellectual properties (COP)</th>
<th>Involve copyright and intellectual property rights (how to manage?)</th>
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<tbody>
<tr>
<td></td>
<td>18,37,141,374 “When I shared my ideas and knowledge, I was worried about the legal framework how to protect my knowledge and how can I claim that this was my knowledge”.</td>
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<td>52,110 “In almost all universities, the violation of copyright is extremely prevalent. People take lecture notes and book chapters from other authors and they never acknowledge the author. Therefore, people do not want to share because they spend their time and effort on projects and other people take them.”</td>
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<td>52 “I think if we do share publicly and the legal frameworks is clear and strong enough, plagiarism will reduced and therefore, this will encourage people to share their work”.</td>
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<td>22, 28 “Sometimes I would like to share, because if I do not share, no one knows what I know. But the danger of this is that when someone gets this knowledge, they convert my knowledge into their knowledge and make it better without any acknowledgement, which makes them my competitor.”</td>
</tr>
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<td></td>
<td>47,78 “Sharing and capturing knowledge not only enriches the organizational knowledge repository but also when older people retire or someone leaves, other people will be able to take this job without any difficulty or disruption.”</td>
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<thead>
<tr>
<th>Innovation, creation (INO)</th>
<th>Share to increase creativity and innovation</th>
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<tbody>
<tr>
<td></td>
<td>49 “Sharing knowledge will strongly help people develop their creativity, because the interaction makes people more active and dynamic.”</td>
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<td></td>
<td>107 “When I share, I need to find knowledge that people do not have so that people will listen to me and admire me.”</td>
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<table>
<thead>
<tr>
<th>Motivation and rewards (MOV)</th>
<th>Sharing KN will stimulate KS attitude among colleagues</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10 “When one person starts sharing his knowledge, other people will feel that there is no risk to share knowledge and they will feel selfish for not sharing. Therefore, one person sharing might create a movement of sharing, as long as they receive support from leaders and all members in the community.”</td>
</tr>
<tr>
<td></td>
<td>30 “If we spend time and effort finding and discovering new knowledge, why don’t we have a knowledge market or knowledge service where knowledge is classified and ready to distribute to the customers?” (we currently have it: such as you pay for downloading articles)</td>
</tr>
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<td></td>
<td>41 “Knowledge does not belong to everyone which is why schools transfer knowledge to students. We share knowledge, it this doesn’t mean it will be less, conversely it will be multiplied.”</td>
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<td></td>
<td>130 “When sharing my knowledge, I felt that I lost some of my benefits and</td>
</tr>
<tr>
<td>Sharing KN is perceived as losing power</td>
<td>competitive advantage.” 100 “If I share my knowledge with someone, later they will become my competitor.”</td>
</tr>
</tbody>
</table>
| Necessary to have rewards, recognition, praise | 175 “Money is important, however sharing knowledge requires an open mind and should not consider the benefits and loss”.
203 “Sharing must be of mutual benefit. A person will only share when they feel safe and that their needs are satisfied, and these needs may vary.”
203 “Sharing happens only when both sides share and the receiver are active and the both sharers and receivers have at least something in common.” |
<p>| Encourage discovery and innovation | 179 “Leaders in an organization should inspire their staff by setting a good example, and then staff will follow. Otherwise, if leaders only say but do not do, there is rarely a case of people sharing.” |
| Create motivation, inspiration | 198, 254 “Rewards should be flexible because in universities each person has each a preference, for example, one person may need money but another may need recognition or praise.” |
| Rewards should be flexible to suit personal needs | 196 “One common method for rewarding knowledge sharing is converting time to conduct research and sharing to working hours” |
| Non-monetary rewards | 256 “For each publication paper, the author should be rewarded with a small sum of money and converting university working hours (900 class hours per year is compulsory for each lecturer).” |
| Recognition by converting the value of knowledge into working hours in the university | 254 “In order to get a promotion, it is a must for a person to contribute to the knowledge repository of the university and to strive for knowledge innovation and sharing.” |
| Promotion to a higher position | 254 “Within a certain period of time, staff must participate in sharing knowledge by commenting on any particular article or publishing an article in a recommended journal, or else they should be punished and their salary will not be increased.” |
| Sharing should be both compulsory and encouraged | 260, 267, 249 “Sharing knowledge not only improves the university’s knowledge repository and improve staff knowledge and skills, their publications and international rewards will increase their university’s reputation to the world.”. |
| Sharing should be associated with credit points for career promotion | 273 “Some professors share and strive for new knowledge. Their publications do not focus on money, rather they feel that working with new knowledge is their special interest and confirms their level in the academic and scientific world. So they meet and share knowledge with colleagues around the world who have the same interest with them.”. |
| Sharing will enhance the university’s reputation at an international level | 256 “We need a consistent and clear reward policy for everyone who” |</p>
<table>
<thead>
<tr>
<th>Culture specification (CUL)</th>
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</thead>
<tbody>
<tr>
<td>Encourage voluntary KS</td>
<td>Pretend to be cooperative in sharing KN</td>
<td>actively participates in sharing knowledge and it should be public to everyone.”</td>
</tr>
<tr>
<td>Lack of motivation to improve KN</td>
<td>Saving face, afraid of sharing mistakes</td>
<td>254,256  “We first must solve the basic needs of staff (Maslow’s hierarchy of needs) then staff will be motivated to share.”</td>
</tr>
<tr>
<td>Lack of incentives and reward systems</td>
<td>Culture of age respect, seniority and position respected</td>
<td>267,379  “We send people overseas to get new knowledge but they do not want to return because we do not have appropriate policies to retain talent. Not only are salaries low and are not enough to satisfy basic needs, there is an attitude of jealousy and selfishness that exists in almost every organization.”</td>
</tr>
<tr>
<td></td>
<td>Psychology of looking down on younger staff when they show off</td>
<td>116  “We are afraid of sharing knowledge with older staff because we don’t want to be though of as disrespectful. We afraid of being criticized as “show offs” which makes us vulnerable to be dismissed.”</td>
</tr>
<tr>
<td></td>
<td>Inappropriate modest attitude of younger staff toward older staff</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Individualism</td>
<td>24  “Some people only share their knowledge if they feel that it is simple and not special. Critical knowledge or knowledge which is their “competitive advantage” is rarely shared.”</td>
</tr>
<tr>
<td></td>
<td>Mass psychology (Psychology of followers)</td>
<td>117,119,138,150,301  “We are afraid of sharing in front of managers or leaders as they might think we are arrogant, cocky or smart-alecky.”</td>
</tr>
<tr>
<td></td>
<td>Afraid of disputes, afraid of debating, lack of confidence</td>
<td>117,125,146,163  “We are afraid of sharing knowledge or expressing our ideas to older people in the university because if they don’t know about that knowledge, they will feel that we are insulting them as idiots or stupid and they will lose face with other people.”</td>
</tr>
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<td></td>
<td>Corruption</td>
<td>162  “Being influenced by Confucians culture, older staff usually expect younger staff to respect them in every aspect of life, even in knowledge.”</td>
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<tr>
<td></td>
<td>Psychology of achievement chasing “being number one”</td>
<td>162  “Most younger staff have an inappropriate modest attitude toward sharing knowledge with the older generation.”</td>
</tr>
<tr>
<td></td>
<td>Psychology of liking praise rather than criticism</td>
<td>117,119  “The existence of the model that young people are deeply absorbed in the old fashioned style of thinking and they only think of themselves and do whatever they can to achieve what they want, regardless of what others might think.”</td>
</tr>
<tr>
<td></td>
<td>Specific comment “Lecturers who are researchers are working in</td>
<td>130  “In our university in particular and in society in general, people tend to look at what others are doing and follow them even if they feel that this is not right, because we are afraid of debating, afraid of losing face in front of other people. If something does not directly relate to them they do not ever participate.”</td>
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<td></td>
<td>138  “Some people become staff or senior staff not as a result of their real skill. People with a lack of skill in improving knowledge are also afraid of sharing knowledge.”</td>
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<td></td>
<td>193  “One of the reasons why we do not have many publications is that most of us think we should do and think of something really big and be number one. As a result, we have nothing and most innovations come from peasants and farmers rather than from scientists and researchers.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“There is insufficient coherence between research and reality.”</td>
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</table>
labs in universities where their responsibilities are to create and disseminate knowledge. If they do not share properly how they can help the nation to improve in terms of the economy and society."

Resistance to change
Tolerance to mistake sharing
Focus more on reality rather than “Achievement chasing” and “fault report”
Cultural differences between Vietnam and Western
developed nations versus less developed countries

Veiled culture
Individualism vs collectivism
Remove barriers between old and young staff (attitude, perception...)
Selfish, envy, greed, bureaucracy from some leaders which has existed for a long time
Negative effect of saving face culture
Develop organizational culture to support KS

Strengthen relationships, increase trust
Encourage the development of an organizational culture that support KS

169 “For some older and nearly retired people, change is considered a nightmare for them or a threat to their current position and the status quo.” “The longer they serve in an organization, the harder it is for them to change.”

195 “Management in Vietnam is top down therefore, leaders only read reports, but report from the bottom do not always reflect reality and it becomes a disaster and disease in our system “exaggerated achievement” “faulty report”.

274 “We are living in our own Confucian culture, the culture of saving face and respect for age. Young people will not show their ability, skill and innovative ideas unless they are allowed to do so.”

301 “We as young staff are never brave enough to say you are wrong or this knowledge is out of date or similar words, otherwise we will be considered as immoral and disrespectful. Therefore we need older staff to be open minded and not resentful of us when we would like to give ideas for innovation.”

274 “We are afraid of sharing knowledge because in our organization, there is an existence of a veiled culture that endangers you if you make a mistake. Either you should move out or stay silent.”

375 “Sharing can start from a small thing and everyone should keep an open mind and be ready to trade something to improve society.”

405” For knowledge sharing to be successful, it should first and foremost start with managers. A culture of sharing should develop from the “able to learn managers” and “able to learn staff” movement. Because staff might think that they will lose their competitive advantage if they share their experience, if managers are “able to learn”, they will know how to solve problems and encourage staff to share. A bad tree does not yield a good apple.”

426 “In our culture, we criticise something is not common. The norm is too strong. If someone wants to change something or do something new, he or she is immediately criticised. They use morals to compare... therefore we should respect the difference that change is for the better.”

118 “Create an environment where competition is not hostile, that is, an
### Competitive advantage (COMP)

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Supporting Quotes</th>
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</thead>
<tbody>
<tr>
<td>Save time and energy (best practice)</td>
<td>6,3,37,43,60,53,76 “People who share their knowledge save me a lot of time searching for new knowledge.”</td>
</tr>
<tr>
<td>Avoid repeating mistakes and errors</td>
<td>38 “Sharing knowledge helps to identify those who have the same ideas, thoughts and perceptions.”</td>
</tr>
<tr>
<td>Identify the source of KR</td>
<td>110 “If you don’t share, people don’t know who you are and what are your strengths.”</td>
</tr>
<tr>
<td>Enrich knowledge repositories</td>
<td>43 “People tend to share success stories rather than failed experiences, however, people learn a lot more from failed experiences than from successful experiences.”</td>
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<tr>
<td>Contribute to organizational KR, enrich organizational KR</td>
<td>110 “people give their experience initiatives would enrich organizational knowledge”</td>
</tr>
<tr>
<td>Utilise internal KR</td>
<td>45 “Sharing knowledge helps managers identify the best person to suit a job and to find the best person to solve a specific problem in an organization.”</td>
</tr>
<tr>
<td>Deal with unstable workforce</td>
<td>47 “Good knowledge sharing practices help to manage an unstable workforce, when people retire as well as people who switch to another organization.”</td>
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<tr>
<td>Increase the university’s and personal reputation, value</td>
<td>51 “Sharing knowledge and producing publications will help create a good reputation for that university and for the people who published their article.”</td>
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<tr>
<td>Encourage work and reduce intention to leave</td>
<td>67,68 “When sharing has been recognized, the sharers feel that they have been useful to the organization and they would love to stay and be devoted to their job.”</td>
</tr>
<tr>
<td>Encourage and support creativity</td>
<td>80,204,243 “When people share KN, others also need to find new knowledge which ignites innovation and creativity.”</td>
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<tr>
<td>Increase the university’s revenue</td>
<td>92 “Sharing and publications increase the university’s revenue in many way such as earnings from copyright, patents and other intangible benefits and indirect benefits such as an improved reputation which attracts more students and projects.”</td>
</tr>
<tr>
<td>Enrich intellectual and social capital (education is closely linked to social capital “W. Bank”)</td>
<td>54,242 “Sharing helps us feel closer and we enjoy it when we talk about what people like to hear which is useful for their daily life and career.”</td>
</tr>
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### Working

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<thead>
<tr>
<th>Environment</th>
<th>Supporting Quotes</th>
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<tbody>
<tr>
<td>Hostile environment, opposing ideas</td>
<td>117,130,132,134,165 “In a hostile environment such as unfair competition and unfair treatment, people are always afraid of sharing their knowledge or...</td>
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<tr>
<td>Environment (WOK)</td>
<td>Reduce barriers between old and young perceptions</td>
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<td>185 “Encouraging younger people to share their thought and ideas also encourage older people to update the knowledge frequently as well as have an open mind to new ideas.”</td>
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<td>346 “We should apply a stick and carrot policy to sharing knowledge and it should be a compulsory criterion for performance evaluation. If this were the case, as time goes by, sharing will become a habit.”</td>
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<tr>
<td>Political influence (POL)</td>
<td>Political influence on sharing</td>
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<td>Political influence on debating and sharing</td>
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<td>Lack of democracy</td>
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<td>Infrastructure/technology (TEC)</td>
<td>Support infrastructure and environment in Uni</td>
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<td>Financial support</td>
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<tr>
<td>Communication/relationship (COM)</td>
<td>Sharing to find out who has same ideas and thoughts and to identify who knows what</td>
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</table>
| | | 54 “Sharing knowledge would help people to avoid conflict. People would be
<table>
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<tr>
<th>Policies /strategies (STR)</th>
<th>Example</th>
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</thead>
<tbody>
<tr>
<td>Improve sharing skills, improve confidence</td>
<td>friendly and have more open minds.”</td>
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<tr>
<td>Improve sharing skills, improve confidence</td>
<td>54,63,80,82 “Sharing makes me feel more confident when talking in front of a large audience. I also realise that my research skills improved quickly. I learn more quickly and work more effectively.”</td>
</tr>
<tr>
<td>Improve sharing skills, improve confidence</td>
<td>2 “Sharing and debating helps staff find out what gaps they need to fill. Also, sharing contributes to the success of implementing organizational strategy.”</td>
</tr>
<tr>
<td>Improve sharing skills, improve confidence</td>
<td>157 “We are not sure about the specific strategy of sharing knowledge and research. There is a very weak link between theory and practice, between research and the everyday requirements of our society and culture.”</td>
</tr>
<tr>
<td>Improve sharing skills, improve confidence</td>
<td>181,186 “Organizations should develop policies to encourage sharing and public information in order for people who are interested in that knowledge to have a chance to approach what they would like to have.”</td>
</tr>
<tr>
<td>Improve sharing skills, improve confidence</td>
<td>181 “When we are going to share, we must feel free and no worried about any constraints therefore, an organization should create a trusting environment to encourage sharers.”</td>
</tr>
<tr>
<td>Improve sharing skills, improve confidence</td>
<td>203,204 “Nothing falls into your lap. You should actively find the knowledge you are looking for.”</td>
</tr>
<tr>
<td>Improve sharing skills, improve confidence</td>
<td>340,341 “I have marked many theses. I realise that they all copy from previous theses to some extent without acknowledgment. In some case, they copy whole chapters. They even copy wrongly spelt words. In fact, all that glitters is not gold is very true in this situation.”</td>
</tr>
<tr>
<td>Improve sharing skills, improve confidence</td>
<td>342 “We do not have any standard protocol for knowledge sharing, therefore, sharing in our universities occurs only in small groups and is almost unplanned. There is no encouragement for active sharers.”</td>
</tr>
<tr>
<td>Improve sharing skills, improve confidence</td>
<td>376 “We cannot attract talent because we do not have good facilities for them to enhance their strengths. The environment should be changed to be friendly and accepting of differences.”</td>
</tr>
<tr>
<td>Improve sharing skills, improve confidence</td>
<td>378 “We need a clear and achievable implementation strategy to share and improve knowledge for all university staff in order to lift our education from the lowest quality level in the region. In addition, we have to evaluate the resources to do that.”</td>
</tr>
<tr>
<td>Improve sharing skills, improve confidence</td>
<td>405 “We are struggling with a basic salary in order to meet our basic human needs therefore, time to search for new knowledge has been neglected. People spend most of their time earning money to survive.”</td>
</tr>
<tr>
<td>Improve sharing skills, improve confidence</td>
<td>419,436,358 “I realise that universities are absolutely isolated from department units…in my university, I do not know other departments or other professors who have published how many articles, how many seminars or anyone who has been rewarded for their knowledge and achievements and the most devastating thing is managers do not actively encourage me to find</td>
</tr>
<tr>
<td>Increase autonomy for universities (academic freedom)</td>
<td>398 “There are still many layers of management in our system, overlapping and fragmented management leads to inefficient decision making. Furthermore, whenever one policy is going to be deployed in a university, they firstly have to ask for permission regardless of the scale and level of importance of the policy.”</td>
</tr>
<tr>
<td>Focus on short-term and long-term strategies for KS</td>
<td>335,336 “Along with sharing knowledge within our universities, we should encourage talented people to go overseas and absorb new knowledge. We also need to work out how to attract them back and how to encourage Vietnamese scholars from overseas to contribute their knowledge for the development of our society and economy.”</td>
</tr>
<tr>
<td>Attract more foreign professors</td>
<td>336 “We also need to create an environment where people can show their abilities without any hesitation.”</td>
</tr>
<tr>
<td>Attract Vietnamese overseas</td>
<td>445 “Universities should encourage staff to talk about what they think and encourage people to defend their ideas so that they can improve their skills and knowledge.”</td>
</tr>
<tr>
<td>Send talent overseas to get new KN</td>
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<tr>
<td>Encourage debating, transparent policies</td>
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<tr>
<td>Renovation, innovation on how to manage staff, teaching and learning philosophy</td>
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</tbody>
</table>

| Sharing activities (ACT) | Peer review |
| | Staff meeting, workshop, seminar |
| | Annual idea competition |
| | Social interaction, debate |
| | Talk room, CoPs |
| | Internet, intranet, forums, Emails, conferences |
| | Research projects |
| | Science board |
| | Supervision (Master, PhD), coaching, mentoring |
| | Group discussion, academic discussion during break |
| | Professional exchanges |
| | Share lessons, slide, lecture’s notes |
| | 209 “We usually revise our colleagues’ examination papers before they are implemented.” |
| | 222,224 “Seminars, workshops and staff meetings in our universities” |
| | 212 “An annual best idea competition to encourage people to search for new knowledge and sharing.” |
| | 216 “We use forums and meetings to share our ideas.” |
| | 216,217,220 “Sometimes we share our knowledge in a waiting room or we divide into groups with those who have the same ideas to discuss.” |
| | 216,217,220, 230,233,235 “An email group is the second main method for us to communicate with our staff.” |
| | 222 “The science board is where we share our knowledge about how to improve or evaluate ideas or innovations from students and other researchers.” |
| | 230,238 “We share our knowledge by publishing our lessons on the website so that others can use these for teaching purpose or for a reference.” |
Choosing a best form of data analysis (adapted from Hair et al. (2006))
APPENDIX 7: SUMMARY OF SURVEY RESPONSES

This form will soon be upgraded to the new version of Google Forms. Learn more.

258 responses

Summary See complete responses

1. *My university expects that I should always share my knowledge and experience with other staff in my department*

<table>
<thead>
<tr>
<th>Rating</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>10</td>
<td>4%</td>
</tr>
<tr>
<td>Disagree</td>
<td>8</td>
<td>3%</td>
</tr>
<tr>
<td>Neutral</td>
<td>21</td>
<td>8%</td>
</tr>
<tr>
<td>Agree</td>
<td>114</td>
<td>44%</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>103</td>
<td>40%</td>
</tr>
</tbody>
</table>

2. *My colleagues believe that I should always share my knowledge with them*

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<tr>
<th>Rating</th>
<th>Count</th>
<th>Percentage</th>
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<td>Neutral</td>
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<td>52%</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>48</td>
<td>19%</td>
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3. *I am unlikely to share my knowledge because no one else shares their knowledge*

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<td>8%</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>1</td>
<td>0%</td>
</tr>
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</table>
4. I am unlikely to share my knowledge because it might be out of date or it could be wrong

| Strongly disagree (Hoàn toàn không đồng ý) | 71  | 28% |
| Disagree (Không đồng ý)                   | 142 | 55% |
| Neutral (Không ý kiến)                     | 23  |  9% |
| Agree (Đồng ý)                            | 17  |  7% |
| Strongly agree (Hoàn toàn đồng ý)         | 3   |  1% |

5. My career could be in danger if I make mistakes in sharing knowledge

| Strongly disagree (Hoàn toàn không đồng ý) | 64  | 25% |
| Disagree (Không đồng ý)                   | 116 | 45% |
| Neutral (Không ý kiến)                     | 34  | 13% |
| Agree (Đồng ý)                            | 39  | 15% |
| Strongly agree (Hoàn toàn đồng ý)         | 4   |  2% |

6. I share my knowledge for monetary rewards

| Strongly disagree (Hoàn toàn không đồng ý) | 80  | 31% |
| Disagree (Không đồng ý)                   | 99  | 38% |
| Neutral (Không ý kiến)                     | 51  | 20% |
| Agree (Đồng ý)                            | 19  |  7% |
| Strongly agree (Hoàn toàn đồng ý)         | 9   |  3% |
7. I share my knowledge to enhance my career

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<tr>
<td>Agree</td>
<td>132</td>
<td>51%</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>93</td>
<td>36%</td>
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8. I share my knowledge to get recognition from colleagues/public

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<th>Count</th>
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<td>Agree</td>
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<tr>
<td>Other</td>
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</table>

9. I am more likely to share my knowledge with those who share or are willing to share knowledge with me

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<td>29%</td>
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<tr>
<td>Strongly agree</td>
<td>43</td>
<td>17%</td>
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10. I am more likely to share my knowledge with those whom I believe I can approach for help in the future

11. Everyone should be expected to share their knowledge with others who need it because sharing knowledge is everyone’s responsibility

12. My relationship with colleagues is likely to be stronger when I share my knowledge

13. I am more likely to share knowledge with those I can trust
14. I am unlikely to share my knowledge with any newcomers in my department

Strongly disagree (Hoàn toàn không đồng ý) 11 4%
Disagree (Không đồng ý) 58 22%
Neutral (Không ý kiến) 43 17%
Agree (Đồng ý) 111 43%
Strongly agree (Hoàn toàn đồng ý) 29 11%

15. My knowledge sharing helps other members in my department to solve problems

Strongly disagree (Hoàn toàn không đồng ý) 48 19%
Disagree (Không đồng ý) 146 57%
Neutral (Không ý kiến) 38 15%
Agree (Đồng ý) 18 7%
Strongly agree (Hoàn toàn đồng ý) 5 2%

16. My knowledge-sharing creates new business opportunities (e.g consultations, new projects) for the Department and University

Strongly disagree (Hoàn toàn không đồng ý) 1 0%
Disagree (Không đồng ý) 11 4%
Neutral (Không ý kiến) 55 21%
Agree (Đồng ý) 159 62%
Strongly agree (Hoàn toàn đồng ý) 28 11%
17. My knowledge-sharing helps my department achieve its performance objectives

18. My knowledge-sharing creates more opportunities for staff to improve their knowledge and skills

19. I am confident that my knowledge sharing helps my organization deal efficiently with unexpected events
20. I believe that a person with high knowledge and skills always feels confident in sharing knowledge with others

Suppose you already participate in sharing knowledge in some situations. Would you continue to share knowledge with others, if your university provides better working environment, more positive attitude and cooperation?

21. I am more likely to share research expertises with members of my department more frequently than I am doing now

Yes I will (Tôi sẽ làm) 232 90%
No I won't (Tôi sẽ không làm) 6 2%
Other 20 8%
22. I am more likely to share my reports and official documents with members of my department more frequently

- Yes I will (Tôi sẽ làm) 227 (88%)
- No I won't (Tôi sẽ không làm) 11 (4%)
- Other 20 (8%)

23. I am more likely to share my teaching or research experience with other members in my department more effectively

- Yes I will (Tôi sẽ làm) 239 (93%)
- No I won't (Tôi sẽ không làm) 5 (2%)
- Other 14 (5%)

24. Have you ever heard about Knowledge Management in higher education?

- Yes (Có) 122 (47%)
- No (Chưa) 131 (51%)

25. If yes, please indicate how long have you known about it

- About 4 years (Khoảng 2 năm cách đây)
- About 3 years (Vì việc chia sẻ kinh nghiệm, tăng 15 năm)
1. Are you?

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<td>Female (Nữ)</td>
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2. Are you?

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3. Are you?

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4. Your working experience

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<tr>
<td>5-15 years (5-15 năm)</td>
<td>122</td>
<td>47%</td>
</tr>
<tr>
<td>Over 15 years (Trên 15 năm)</td>
<td>60</td>
<td>23%</td>
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</table>
5. Your highest academic qualification

- Bachelor (Cử nhân): 60 (23%)
- Master (Thạc sĩ): 126 (49%)
- PhD/Doctorate (Tiến sĩ): 70 (27%)
- Other: 2 (1%)

6. Your position/ level as academic

- Assistant Lecturer (Trợ giảng): 45 (17%)
- Lecturer (Giảng viên chính): 170 (66%)
- Senior lecturer (Giảng viên cao cấp): 18 (7%)
- Associate professor (Phó giáo sư): 19 (7%)
- Professor (Giáo sư): 4 (2%)
- Other: 2 (1%)

7. University

- ĐH Nguyễn Trãi
- Trường Đại học Khoa học Xã hội và Nhân văn, Đại học Quốc gia Hà Nội
- Đại học KHXH&NV Hà Nội
- Đại học Quốc gia Hà Nội
- Đại học Khoa học xã hội và Nhân văn, Đại học Quốc gia Hà Nội
- University of Social Sciences and Humanities, Vietnam National University, Hanoi
- USSH (University of Social Sciences and Humanities, Hanoi)
- Đại học Khoa học xã hội và Nhân văn, Đại học Quốc gia Hà Nội
- National Economics University
- Thái Nguyên University of Agriculture & Forestry
- Đại học Lâm nghiệp
- National Economics University
- The National Training College
- Hanoi University
- Hanoi University of Social Sciences and Humanities
- College of Education

Thank you for your cooperation!

My pleasure :-)  
Best

Regards,
You are welcome
Good luck!

Number of daily responses
## Appendix 8 Correlation Matrix

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a. Determinant = 0.002