Impediments to Headquarters – Subsidiary Knowledge Transfer in Chinese Multinational Enterprises (MNEs)

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ABSTRACT

At a time of rapid expansion for China MNEs (e.g., Huawei, Tencent, Lenovo, Haier, and others), intra-company knowledge transfer has become a critical issue in achieving global competitiveness. In the race to compete with global competition from the developed economies, of particular importance is the speed by which China MNEs can upgrade and transfer technical know-how and working practises among their network of subsidiaries. This calls for a better understanding of intra-organisational knowledge transfer. This thesis focuses on the intra-MNE transfers between China headquarters (HQs) and subsidiaries.

Prior studies of intra-company knowledge transfer have focused on factors associated with knowledge stickiness such as complexity (degree of tacitness), motivation to transfer, adaptability, absorptive capacity, type of knowledge (technical know-how versus working practices) and the incentives to transfer. Given the focus is cross-border transfer, efficacious transfer is defined as a problem related to perceived cultural differences. Therefore, the main aim of the research is to uncover some of the major impediments to knowledge transfer of China MNEs. Following a review of prior literature, the thesis develops a conceptual framework and from this six sets of hypotheses are deduced. The thesis adopts the objectivist epistemological stance prevalent in the knowledge management literature on the premise that knowledge is an asset or a resource that can be replicated only imperfectly.

Data has been obtained from a survey questionnaire using snowball sampling, a typical non-probability sampling method commonly used in business research of the type encountered in this study. In total, 550 copies of questionnaires were distributed of which 289 met the validity criteria for this study. A combination of Chi-square tests, Poisson distribution in one sample Kolmogorov-Smirnov tests, Kruskal Wallis and regression analysis were performed to test the hypotheses. The main findings are that the variations in perceived cultural differences between MNE

HQ China managers and subsidiary managers are significant and perceived cultural differences affect managerial dispositions to transfer knowledge. The four dimensions of managerial dispositions (trust, ties, competences and absorptive capacity) used in the study together with managerial competences and absorptive capacity impact significantly on the effectiveness of transfer. The thesis makes contributions to the intra-MNE knowledge transfer literature and responds to the call for more social-psychology informed research in the field of international business (IB).

Keywords: China MNEs, Knowledge Transfer, Perceived Cultural Differences, Managerial Dispositions, Knowledge Structure, Effectiveness of Knowledge Transfer

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LIST OF ABBREVIATIONS

Abbreviations	Full
KT	Knowledge transfer
MNE	Multinational Enterprise
MNEs	Multinational Enterprises
HQ	Headquarters
EMNEs	Emerging Country Multinational Enterprises
FDI	Foreign Direct Investment
DMNEs	Developed Country Multinational Enterprises
SPSS	Statistical Product and Service Solutions
KM	Knowledge Management
SECI	Socialization, Externalisation, Combination and Internalisation
U.S.	United States
OECD	Organization for Economic Cooperation and Development
UK	United Kingdom
IB	International Business
IM	International Management
RBV	Resource-Based View
SCVDs	Societal Culture Value Dimensions
EU	European Union
R&D	Research and Development
ANOVA	The Analysis of Variance
ESS	European Social Survey
HRM	Human Resource Management
OFDI	Outward Foreign Direct Investment
CQ	Cultural Intelligence

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CHAPTER 1 INTRODUCTION

1.1 Introduction

This thesis examines intra-organisational Knowledge Transfer (KT) and, in particular, focuses on the impact of perceived cultural differences, managerial dispositions and knowledge structure on KT from Multinational Enterpises (MNEs) headquarters (HQ) to overseas subsidiaires. It also aims to uncover impediments for the transfer and how they can be alleviated. The empirical analysis sets the focus on China MNEs. The study not only aims to advance the extant literature but also will contribute to China MNEs' competitive position and consequently, their economic value creation and sustainability in the international market. The research problem and research significance have been identified and discussed in this introductory chapter, as follows.

The extant literature reveals that there is the epochal significance that the world developed from an agricultural economy to an industrial economy and to today's knowledge economy. Knowledge has now become the major power driving the third industrial revolution (Chang et al., 2012; Vaara et al., 2012; Harzing et al., 2016). The knowledge economy is based on continuous innovated knowledge, which takes talents as the dominant element, and shows a knowledge-intensive pattern. In the era of the knowledge economy, the theoretical route of corporate management is knowledge infinity and the increasing return of knowledge investment (Driffield et al. 2010; Hernandez et al., 2015), which importantly, intensifies the liquidity and flow of economic activities worldwide. MNEs make transactions through multinational value chains (investing, designing and producing), which then construct the global network. Knowledge management (KM) plays a crucial role in this global network of MNEs as it contributes to cultivate and consolidate adjustment capacity as well as the creativity of organisations (Song, 2014; Berry, 2015).

As the global economic environment becomes more dynamic, complicated and uncertain, MNEs have paid attention to its learning capabilities on a global scale, to create knowledge. Yet one predominant factor guaranteeing successful knowledge innovation is the effective transfer of knowledge within MNEs. Effective KT can quickly extend the knowledge stock and knowledge base of MNEs and may enable MNEs to learn more quickly than their competitors are able to imitate, thus giving them a global, sustainable competitive advantage (Inkpen & Tsang, 2016; Qin et al., 2017). However, the heterogeneous backgrounds and contexts (e.g. perceived cultural differences) of actors of intra-MNE KT (e.g. between managers at MNE HQ and their host country subsidiaries) would often impede the effectiveness of the transfer. This is because the perceived cultural differences would often bring different motivations and capacities of managers in the transfer (Vaara et al., 2012; Peltokorpi & Vaara, 2014) and create different knowledge structure that also impact the effectiveness of the transfer (Jensen & Szulanski, 2004; Sarala & Vaara, 2010). Taking the social-psychological perspective (Swidler, 1986; Cabrera, 2003), this thesis centres on the concept of perceived cultural differences, managerial dispositions, and knowledge structure as they relate to the effectiveness of intra-firm KT within China MNEs. Uncovering knowledge impediments and how they can be alleviated could provide a better understanding of how Emerging Country MNEs (EMNEs) create and sustain economic value and competitive advantage as they expand their overseas operations. The following sections present the context of the research problem, identify research gaps in prior literature, demonstrate research contributions, clarify the research aim and objectives and introduce the structure of the whole thesis.

1.2 Context of the Research Problem

The successful transfer of knowledge (its creation, sharing, and adoption) within the MNE plays a crucial role in strengthening the innovation capabilities of MNEs, as knowledge (e.g. technology and managerial know-how, best practices) is an essential source of a firm's competitive advantage (Hallin & Lind, 2012; Berry, 2014; Song, 2014). At a time of rapid expansion for China MNEs (e.g., Huawei, Tencent, Lenovo,

Haier, and so on), intra-company KT has become a critical issue in achieving global competitiveness. Of particular importance is the speed by which China MNEs develop new geographic markets through innovation and the transfer of 'best practices'. This calls for a better understanding of intra-organisational KT.

There are two practical motivations for focussing on KT of China multinationals in this project. On the one hand, the rapid internationalisation of Chinese companies requires them to successfully manage multinational KT, which is a big challenge to many Chinese MNEs. The statistics from *Ministry of Commerce of the People's Republic of China* indicate the fast speed of growth of Foreign Direct Investment (FDI) during the past decade. Specifically, in 2018, China FDI has reached to 134.97 billion US dollars (increasing by 3% on 2017) with the result that China has become the world's second largest foreign investor. Also, in 2018, Chinese domestic companies have set up 60,533 FDI companies in over 180 countries (regions). Yet, China MNEs face challenges in realizing successful intra-MNE KT due to the differentiated contextual issues between HQ and their overseas branches. For instance, China's TCL Group purchased Germany's Schneider Electronics AG in 2002 and the French Thomson television business in 2004 but suffered huge financial losses soon after and so withdraw from the European market in 2006 (Zhang & Yang, 2009). One major reason why TCL Group did not integrate into the European market is that the company did not successfully integrate heterogeneous contextual issues (e.g. perceived cultural differences) between its HQ and subsidiaries (Zhang & Yang, 2009; Wu, 2011). Another case is Lenovo Group who failed to deal with the contextual differences between HQ and overseas subsidiaries (e.g. perceived cultural differences) after purchasing the American IBM in 2006 (Deng, 2009; Hsieh, 2014). How China MNEs deal with the contextual challenges in transferring, integrating and applying multinational knowledge has become a practical issue in their international development in order to realise competitive advantage through global knowledge.

This topic is of particular interest to the author, who is sponsored by a Chinese local company which expects to develop business in the international market in the coming five to ten years. The author is expected to join in the research centre of the company that requires academic knowledge, experience and skills in the field of KM. Therefore the choice of KT as the topic for this thesis is valuable to enhance the personal employability and competence of the author.

In the field of strategic management, culture (the underlying values, beliefs, art forms, ceremonies, codes of practice, language, and gossip) influence action by shaping the repertoire of habits, skills and styles from which people construct "strategies of action", from the sociological and psychological perspective (Swidler, 1986; Cabrera, 2003). That is, cultural issues such as symbolic experiences, practices of a community/group, creating norms and motivations as well as means of forming social constructs, and providing resources for companies establishing strategies of action (Swidler, 1986; Cabrera et al., 2006). These cultural issues are thought to play an essential role in the successful strategies of companies managing knowledge since cultural factors largely shape the organisational context that would cause individuals' different perceptions, motivations, abilities and behaviours in knowledge sharing (Dalkir, 2011; McAdam et al., 2012). Additionally, social and cultural factors are often the key to shaping the success or failure of KM activities in organisations (Hislop, 2013; Cavaliere & Lombardi, 2015).

Intra-MNE KT can be defined as a problem related to cultural differences. Culture operates at different levels-societal, organizational, and individual. Perceived cultural differences are consistent with the thinking on organizational culture, which is defined as the perceived differneces in shared beliefs and preferences (Chatman & O'Reilly, 2016; Li & Van den Steen, 2019). Transfers of the kind between the HQ and subsidiaries of MNEs are separated by space and time, culture, system and language (Vaara et al., 2012; Castellani et al., 2013; Peltokorpi & Vaara, 2014). Consequently, spatial and temporal separation raises issues related to micro-level factors such as

individual experiences, attitudes and cognitive representations, which could lead to differences in the willingness to transfer, and capacity to absorb knowledge. Further, some of these factors may affect the effectiveness of KT (Tippmann et al., 2012; Michailova & Mustaffa, 2012), and as evidenced in prior studies, the efficacy of KT has consequences for knowledge integration (the successful application of transferred knowledge), and then for financial performance (Chang et al., 2012; Berry, 2015) and innovative behaviour (Tippmann et al., 2012; Tseng, 2015). More explicitly, in the context of HQ-host nation subsidiary transfer, the challenge for knowledge transfer includes those consequences associated with the complexity that stems from variant cultures and social norms, which not only influences preferences and consumer demand, but also impacts the ability to administer policy and skills, matching capacity of knowledge, and hence enhance the competencies of MNEs. Indeed, these issues require further attention by the research community.

To highlight, firstly, KT in the context of HQ-host nation subsidiary requires MNEs to develop learning capabilities for absorbing, integrating and developing knowledge from the process. Secondly, the issue involves managerial micro-foundations, for instance, managerial motivations, managerial experience and capabilities that relate to intention and choice in KT. Crucially, such issues concern the capacity for adaptive dynamics of MNEs in global competitive business markets. The transfers, in effect, imply knowledge in managing across borders and reducing uncertainty in developing new business ventures. Thirdly, and more crucially, successful KT and integration demand that MNEs deal with the consequences that inevitably arise from discrete situations (due to cross-border operations) where variant situational discrepancies may cause different managerial motivations and capabilities in transferring and integrating knowledge. Yet, despite their importance, the extant literature shows that they remain under-researched, especially in EMNEs (Chang et al., 2012; Michailova & Mustaffa, 2012; Berry, 2015). This thesis is especially designed to address these critical issues, namely perceived cultural differences, motivation to share knowledge and absorptive capacity and relate these issues to the transfer and consequently the integration of knowledge, by focusing on the largest emerging

economy, specifically, China. In doing so, the study, advances theory in the extant literature by contributing models and mechanisms for intra-MNE KT.

1.3 Gaps in the Prior Literature

A review of the prior literature has revealed that major conceptual gaps and concerns reside within the following areas. Firstly, researchers have argued that cultural differences between MNE HQ and host country subsidiaries play an essential role in the effectiveness of intra-MNE KT. This is because the different contexts and backgrounds will impact individual thoughts, motivations, attitudes, capabilities and intentions in sharing knowledge (Vaara et al., 2012; Harzing et al., 2016). However, the understanding of how perceived cultural differences affecting intra-MNE KT is incomplete, especially in EMNEs (Heirati & O'Cass, 2016; Qin et al., 2017). If cultural difference is important, it might expect intra-MNE KT processes to vary across nations with heterogeneous contexts. It might expect cultural differences to create variances in the effectiveness of transfer as it would cause different managerial dispositions in the context of the transfer. There is therefore the potential for exploring the reasons for the variability of effective KT when transfer takes place across diverse aspects of cultural differences. It follows that we might also expect MNEs to adopt different knowledge integration and management strategies specifically to match these multiple contexts.

Secondly, researchers have tended to examine the impediments of intra-MNE KT from the individual level perspective, recognizing the heterogeneity of individuals in terms of values, beliefs and cognitive framing that are created by the perceived cultural differences, as well as differences in motivation and the willingness to act in transferring knowledge. As a result, individuals have variable capabilities for absorbing and integrating dispersed and differentiated knowledge. However, recent studies (Peltokorpi & Vaara, 2014; Schleimer & Pedersen, 2014; Reiche et al., 2015; Haas & Cummings, 2015; Tseng, 2015) examining the effects of language and values on KT, have produced conflicting results among many of the key variables such as

motivation, willingness to transfer, and absorptive capacity. In response to these findings, this thesis considers cognitive theories and social psychology theories (Swidler, 1986; Cabrera, 2003; Cabrera et al., 2006), by which to extend prior studies, and thus examine individual differences in motivation, willingness, capability and cooperation in KT, and how these variables consequently induce variant results in intra-MNE KT. This test would inform research on heterogeneous individuals who are accounted for as active actors to enable performance differences. This would also update research by exploring the efficacy and effectiveness of relevant theories and approaches that researchers have deployed in testing various relationships.

With regard to intra-MNE KT, much of the literature focuses on knowledge flows from Developed Country MNEs (DMNEs) to emerging countries (Tippmann et al., 2012; Peltokorpi & Vaara, 2014; Awate et al., 2015). Relatively few studies analyse KT from EMNEs to developed countries. Dissimilarities between emerging economies and developed economies in terms of internationalisation paths, modes of entry and market situation, suggest that KT processes for EMNEs may have unique aspects in knowledge generation, integration and application (Michailova & Mustaffa, 2012). This gap demonstrates the need to focus on KM activities of EMNEs, identifying that EMNEs should adjust the knowledge network system to adapt to the dynamic needs of the home country and host country market, in order to make both MNE HQ and subsidiaries fit with their knowledge, capacities and strategies and to maintain a competitive position in the global market environment.

1.4 Research Questions, Aim and Objectives

This research aims to uncover some of the major impediments to KT within China MNEs. The research objectives are:

(1) To compare the perceived cultural differences between managers at MNE HQ and managers at host country subsidiaries in the context of KT;

(2) To examine the influence of perceived cultural differences on knowledge structure (stickiness and adaptability) and managerial dispositions (trust, ties, competences and absorptive capacity) in the process of KT.

(3) To evaluate the impact of managerial dispositions on the effectiveness (benefits and degree) of KT through identifying psychological and social-psychological factors that affect the transfer.

(4) To assess how knowledge structure affects the effectiveness of intra-MNE KT from MNE HQ China to host country subsidiaries.

(5) To establish the mechanism of knowledge development and management of China MNEs by identifying the associations between perceived cultural differences, knowledge structure, managerial dispositions, and effectiveness of KT.

1.5 Structure of the Thesis

This thesis consists of seven chapters in total. Following this introduction, the second chapter is the literature review. It firstly reviews definitions of knowledge in organisations, along with KT within organisations in terms of mechanisms of KT and influential factors of KT (i.e. features of knowledge, motivations and capabilities of KT actors as well as contexts of KT). Chapter Two goes on to specifically examine literature related to intra-MNE KT, which reviews process and mechanisms of intra-MNE KT, assesses contextual issues and managerial dispositions in intra-MNE KT, along with knowledge structure. It also evaluates the literature regarding effectiveness of intra-MNE KT.

Chapter Three is the conceptual framework and hypothesis development. This chapter constructs mechanisms and processes with respect to intra-MNE KT along with six sets of hypotheses explaining the interactions between perceived cultural differences, managerial dispositions, knowledge structure and effectiveness of KT within MNEs. To be specific, the first set of hypotheses focus on the impact on KT of

perceived cultural differences between managers at China MNE HQ and managers at host country subsidiaries. The second set of hypotheses looks at the relationship between perceived cultural differences and managerial dispositions, along with the third set of hypotheses which deals with the impact of perceived cultural differences on knowledge structure in the context of intra-MNE KT. In the fourth set of hypotheses, the relationship between managerial dispositions and effectiveness of KT is examined, followed by the fifth set of hypotheses which proposes the effect of knowledge structure on managerial dispositions. The last set of hypotheses proposes the relationship between knowledge structure and effectiveness of intra-MNE KT.

The next chapter discusses the research methodology. This chapter justifies the philosophical stance of the thesis focusing on both ontological and epistemological positions of the philosophy. It then presents and justifies the research approach as well as the methodological choice, followed by the justification of research strategies. After that, the design of the questionnaire survey is justified. An introduction to the pre-test of the questionnaire is also presented, followed by the sampling procedure and data collection for the survey. The methods of data analysis are then introduced, along with a discussion of the ethical considerations of the thesis.

The fifth chapter outlines the results and analyses. This chapter presents the statistical outcomes via the software of Statistical Product and Service Solutions (SPSS) 22.0 version. The descriptive statistics present sample profiles, along with reliability tests for the questionnaire scales. Key statistical tools in terms of nonparametric tests (Chi-Square Test, Kruskal-Wallis Test and One-Sample Kolmogorov-Smirnov Test) as well as the linear regression analysis are employed to test the six sets of hypotheses, presenting statistical results regarding the interactions between perceived cultural differences, managerial dispositions, knowledge structure and effectiveness of intra-MNE KT

Chapter Six discusses the findings based on outcomes of hypothesis testing in Chapter Five, based on comparisons with prior literature. This chapter firstly

discusses perceived cultural differences between managers at MNE HQ and at host country subsidiaries. It then discusses the effect of perceived cultural differences on managerial dispositions (trust, managerial ties, managerial competences, and absorptive capacity) in the context of KT. After that, the chapter analyses the impact of perceived cultural differences on knowledge structure, the effect of managerial dispositions on effectiveness of KT, the impact of knowledge structure on managerial dispositions and also on the effectiveness of KT.

The last chapter concludes the entire thesis based on discussions of the research findings. It also emphasises the research contributions and implications, along with suggestions for the practical implementation of KM in China MNEs. In addition, this chapter identifies research limitations and recommends orientations of future research.

1.6 Summary

Whilst recognising the importance of successful KT to strengthen the competitive advantage of China MNEs in the international market, this thesis emphasises that the effective transfer, however, is often impeded by heterogeneous contexts between KT actors due to the perceived cultural differences between MNE HQ and host country subsidiaries. Taking the social-psychological approach, this thesis argues that the perceived cultural differences would affect intra-MNE KT because of the effects on managerial dispositions (motivations, actions and capabilities) and on knowledge structure. Therefore, this thesis intends to uncover some of the major impediments of intra-MNE KT in China, by linking perceived cultural differences with managerial dispositions, knowledge structure and effectiveness of KT together. This chapter introduces the research context and rationale, identifies literature gaps and emphasises the research contributions. It also presents the research aim and objectives, followed by the introduction to the structure of the thesis. The next chapter is the literature review, which will mainly explore literature regarding knowledge transfer and intra-MNE KT.

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

From the knowledge-based view, a firm's knowledge is viewed as the most vital resource which is difficult for competitors to imitate due to its uniqueness. As such, intra-firm KT is essential to companies to gain competitive advantage facilitated by the ability to share and exchange scarce, valuable knowledge within organisations. In the era of the knowledge economy, the effective sharing, integration and application of knowledge internally between MNE HQ and subsidiaries contributes to the MNE establishing global competitive advantage. Yet, the cultural differences between MNE HQ and subsidiaries largely influence the effectiveness of knowledge through the impact upon knowledge structure and managerial dispositions (capabilities and motivations). The major purpose of this thesis is to examine these factors that might impede or support intra-MNE KT between HQ and subsidiaries. This chapter firstly reviews literature about knowledge and KT in general, e.g. mechanisms of KT and influential factors of KT. After that, it specifically reviews literature about intra-MNE KT, particularly focusing on contextual issues (cultural differences, knowledge structure and managerial dispositions) involved in intra-MNE KT, and the effectiveness of transfer.

2.2 Knowledge in Organisations

2.2.1 Definition of Knowledge

In the knowledge economy era, knowledge has gradually replaced labour and capital to become the most valuable element in economic activities. As such, knowledge has been viewed as a valuable asset for companies to earn competitive advantage. In the broad sense, knowledge is the sum of individual understanding and experience in practices of knowing and remaking the world (Dalkir, 2011). In essence, knowledge belongs to the scope of cognition but has a rich connotation and broad extension. Yet, this thesis, is concerned about knowledge that is directly linked with an

organisation's survival and development, for instance, technical knowledge, management knowledge and market knowledge.

In the historical development of knowledge management, different types of content require management, from data to information and to knowledge (Dalkir, 2011). Many researchers define knowledge by comparing it with the definitions of data, and information. For instance, according to Davenport and Prusak (1998: 2), there are distinctions between data, information and knowledge as follows. Data refers to "*a set of discrete, objective facts*" about incidents; information refers to "*a piece of message*" which could be in the form of a document or an audio or video communication; knowledge is the dynamic mixing of constructed experiences, values, contextual information and insights that provide a framework for assessing, generating and developing new information, practice and experience. Similarly, Boisot (1998) argues that data is a series of observations, measures and facts; information is the meaningful pattern based on integrating and analysing data; knowledge is the application of information and it can be perceived or understood via experiencing or learning. Many subsequent comparisons about the meaning of data, information and knowledge, for instance, Zack (1999), Dixon (2000) and Bender and Fish (2000), share a similar view, saying that compared to data and information which tends to be simpler, more objective and stable, knowledge is more complex, subjective and dynamic. There is an interaction between knowledge and information. Knowledge creation needs information, whilst the development of information requires the application of knowledge as well. Through means of explaining, assessing, interpreting and analysing, information can be transformed into knowledge. Similarly, Schulz (2003) defines knowledge as a wide concept containing insights, suppositions, explanations and contextual information. That is to say, knowledge is created and applied in the minds of those who possess it (Dalkir, 2011).

Alavi and Leidner (2001) summarise the theoretical perspectives of organisational knowledge. From different perspectives, knowledge is: *(1) a state of mind, (2) an*

object, (3) a process, (4) a condition of having access to information, or (5) a capability (Alavi & Leidner, 2001: 109), seen in Table 2.1. Different definitions of knowledge cause different understandings of what knowledge management is (Carlsson et al., 1996). If viewing knowledge as an object or target, or equal to information access, the key focus of knowledge management is to increase and manage knowledge stocks. If viewing knowledge as a process, the key to knowledge management is knowledge flows and knowledge cyclic process. If viewing knowledge as a capability, the core of knowledge management is to establish the organisation's competitive advantage, recognising the strategic advantage of knowledge skills in creating knowledge capital.

Table 2.1 Knowledge perspectives and implications for (KM)

Knowledge perspectives	Definition of knowledge	Implications for KM
Knowledge is different to data and information	Data is the raw numbers and facts; information is the processed and interpreted data; knowledge is individualised information.	The key of KM is to facilitate individual access to information and information absorption.
State of mind	Knowledge is a state of knowing and understanding	KM is to enhance individual ability of learning and understanding via information supply.
Object	Knowledge is an object to be stocked and disposed.	The key to KM is how to manage knowledge stocks.
Process	Knowledge is a process of applying expertise.	The key of KM is knowledge flow and the process of creating, sharing and distributing knowledge.
Access to information	Knowledge is a condition of access to information.	The core of KM is to create the advantageous condition of facilitating access to information and updating knowledge.
Capability	Knowledge is a capability of impacting actions.	KM is to establish core competence and reinforce strategic knowledge skills.

(Data source: Alavi & Leidner, 2001)

Discussions about definitions of knowledge in previous literature have revealed the following key points. Firstly, knowledge is different to data and information. Disorganised information is almost useless, as information must be manipulated, managed and clearly understood in order to facilitate the knowledge creation process. Secondly, different interpretations of organisational knowledge are formed as researchers focus on different organisational contexts or different disciplines. In this case, researchers can define the meaning of knowledge according to a specific research context. Thirdly, knowledge is the synthesis of explicit elements (texts, pictures, videos, audios, signals, scientific tools and standardised task procedures) and implicit elements (expertise, experience and evaluations). In other words, knowledge is not only embedded in documents or databases but also in organisational practices, operations and routines as well as employee minds. Organisational knowledge (Crespo et al., 2014), consists of both technology knowledge (for instance, product design and manufacturing-related) and managerial knowledge (such as management and marketing skills, organisational culture and employee behavioural norms/values, as well as business strategy) (Ambos et al., 2006; Tallman & Chacar, 2011; Reiche et al., 2015).

2.2.2 Tacit and Explicit Knowledge and Individual-Organisational Knowledge

In the field of knowledge management, there is a widely accepted type of knowledge discussed in prior literature: the tacit-explicit knowledge.

The classification of tacit and explicit knowledge originates from the research of Polanyi (1962, 1966) which emphasises knowledge tacitness, saying that tacit knowledge exists somewhere between what people know and what people can express, so that it is restricted to the specific context and is difficult to communicate. Based on the view of Polanyi (1962, 1966), many subsequent studies, for instance, Hansen (1999), Levin and Cross (2004), Riusala and Smale (2007) and Gnyawali et al.

(2009), argue that explicit knowledge refers to objective knowledge which is context independent, being separate from an individual and social value system. As such, explicit knowledge can be easily codified and articulated being of a tangible form such as texts, recordings and images. Due to these features, explicit knowledge can be taught, so that it can easily be shared and transferred through products, services and documented processes (Dalkir, 2011).

On the other hand, tacit knowledge is more informal, subjective and personal, linked with how people think, perceive and act. As such, tacit knowledge is difficult to codify and articulate into an explicit form since it is associated with an individual's cognitive frames and skills (Hislop, 2013). Consequently, it is difficult to transform tacit knowledge into an explicit form such as words, documents and pictures. It is also difficult to share, since it is personal and context-specific and as such, its transfer requires coaching, mentoring, and face-to-face communications (Dalkir, 2011). Yet, it should be noted that tacit knowledge is often more valuable than explicit knowledge. While explicit knowledge tends to be know-that, tacit knowledge is more about expertise, know-how, know-why, know-who and care-why. Once tacit knowledge is understood, shared and successfully applied in organisational operations and management, it becomes an essential and valuable source of a company's competitive advantage (Minbaeva, 2007).

Nonaka and Takeuchi (1995) propose the SECI model to explain the conversion of tacit knowledge to explicit knowledge, namely Socialization, Externalisation, Combination and Internalisation. The process of socialisation emphasises the sharing and exchange of knowledge to reach a shared understanding, and refers to the conversion of tacit knowledge to tacit knowledge via various means of social interactions, such as face-to-face communication, chatting and brainstorming. The process of externalisation emphasises the articulation of tacit knowledge and converts it into explicit form via propositions, concepts, formulas, models and frameworks. This process systematically combines discrete explicit knowledge into a

new form for instance, into the firm's knowledge database. The final step of knowledge conversion, i.e the process of internalisation, emphasises the acquisition, digesting and integration of a new form of knowledge into an individual tacit knowledge base. Nonaka and Takeuchi's (1995) SECI model explains the conversion process from tacit knowledge to explicit knowledge, yet this model does not explain how individuals and companies make decisions in this process and how the conversion contributes to maintaining the competitive advantage of knowledge in organisations (Gourlay, 2006).

Many researchers, however, have questioned the tacit-explicit knowledge distinction, saying that such a dichotomy is rather absolute; instead, the tacit-explicit features of knowledge should be viewed as a continuum. Kogut and Zander (1993) argue that knowledge is not strictly the two extremes of tacit and explicit but rather there is a continuum between them with tacit knowledge and explicit knowledge at both ends of this continuum. In this case, Kogut and Zander (1993) propose the measure of knowledge explicitness by three sub-constructs: codifiability, teachability and complexity. Kogut and Zander (1993) classify knowledge by measuring the degree of knowledge tacitness or explicitness. Many subsequent studies, for instance, Riusala and Smale (2007), Blomkvist (2012) and Oluikpe (2012), have adopted this same approach to measure knowledge features. It is often difficult to absolutely define a kind of knowledge to be tacit or explicit; yet, it is easier to evaluate the implicit or explicit degree of knowledge, which could be more appropriate.

2.3 Knowledge Transfer (KT) Within Organisations

2.3.1 Mechanisms of Knowledge Transfer (KT)

Teece (1977) proposes the concept of KT emphasising that the transfer of technology could contribute to the accumulation of directly applicable knowledge for companies. Gupta and Govindarajan (1991), define the flow of specialised technology or knowledge or market information as part of the strategic value of intra-firm KT. Wherein, internal knowledge comprises purchase procedure, product

design procedure and the marketing plan, the external market information contains information related to suppliers, customers and competitors. Szulanski (1996) argues that KT refers to the knowledge exchange between the source unit and the recipient unit, demonstrating a dyadic flow. Both sides of KT, namely knowledge senders and recipients will transfer, acquire, absorb and apply knowledge in the interaction process. Szulanski's (1996) study emphasises that KT is not simply the diffusion of knowledge, but rather both sides of the transfer units purposefully and deliberately sharing knowledge. In the study of Davenport and Prusak (1998), the flow of knowledge can be seen as a formula: Knowledge flow= Knowledge delivery+ Knowledge reception, meaning that the prerequisite for KT is that knowledge is absorbed by the recipients. Many subsequent studies, for instance, Inkpen and Tsang (2005), Ambos and Ambos (2009), and Schomaker and Zaheer (2014), emphasise that successful KT can be defined as the successful accumulation and application of new knowledge by recipients.

There are multiple mechanisms of KT, for instance, introducing knowledge via external direct investment, engaging with external knowledge sources, copy or imitation, market transaction, intra-firm transfer, education training and seminars, visiting and interviewing. Roughly these different means of KT could be summarised into two categories, intra-firm transfer and inter-firm transfer (Li, 2005). Also, KT can happen at multiple levels, for instance, among individuals, between individuals and groups, among groups, between groups and organisations, and among organisations (Alavi & Leidner, 2001). Researchers have proposed different models of KT from different perspectives, aiming to uncover how to transfer knowledge among different subjects. This section reviews several major KT models.

Szulanski (1996) argues that the transfer of best practices within a company has essential importance to practitioners, and emphasises that KT is different to knowledge diffusion. KT emphasises the intra-firm knowledge movement which is a clear and definite experience transfer, rather than a gradual dissemination process.

Szulanski (1996, 2000) proposes a process model of intra-firm KT containing four stages: initiation, implementation, ramp-up and integration. There are milestone events in each stage of the transfer (seen in Figure 2.1).

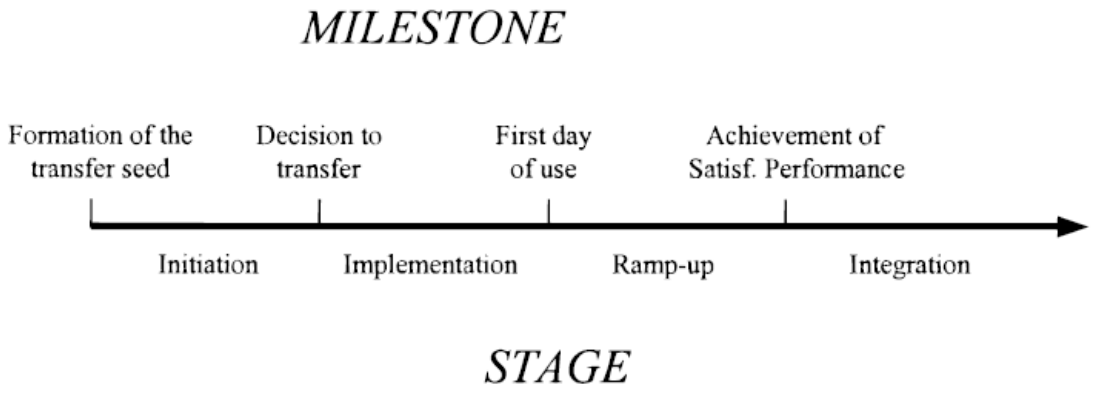

Figure 2.1 Process of KT

(Data source: Szulanski, 2000: 13)

In the stage of *initiation*, the transfer seed is formed when there is the opportunity of transfer. The transfer opportunity emerges when there is a knowledge gap within the firm. The key focus in this stage is to discover the opportunity to transfer knowledge and decide whether to make that transfer. Once firms or individuals realise the lack of knowledge and the need for it, they then make the decision to transfer knowledge. The stage of *implementation* recognises that a relationship that should be developed between senders and receivers for effective KT. And companies should consider how to bridge the communication gap between knowledge senders and recipients. In the *ramp-up stage*, recipients start to use new equipment, or adopt new procedures and new systems. In other words, in this stage, recipients start to apply the acquired new knowledge and evaluate the performance of knowledge post use, to determine whether to continue to use the new knowledge and whether to systematise and normalise the application of new knowledge (Vaara et al., 2012). The *integration stage*, sees recipients routinising and systematising the application of new knowledge once they obtain satisfactory knowledge performance (Van Wijk et al., 2008). Szulanski's (1996) study classifies the whole process of KT into four stages and analyses milestone events in each stage. However, since KT is a

continuous process, it could be difficult to clearly differentiate between the various stages of the transfer process.

Gilbert and Cordey-Hayes (1996) also propose five stages of KT, namely knowledge acquisition, communication, application, acceptance, and assimilation. The *acquisition* stage comes before KT, and organisations seek knowledge sources via either external acquisition or internal creation, for instance, prior experience, work practices, market transactions and continuously searching and learning. Prior knowledge influences the way in which an organisation acquires and searches for subsequent knowledge. In the *communication* stage, organisations need to be aware of potential impediments to information dissemination and should establish communication mechanisms and channels (could be either textual or oral) for effective KT. In the *application* stage, organisations should use the transferred knowledge to solve problems and encourage the spirit of organisational learning, so that knowledge can be retained within the organisation. In the *acceptance* stage, companies recognise that there is knowledge communication and acceptance not only among executives and top managers, but also reaches middle-level and front-line employees. The *assimilation* stage, it emphasises the conversion of learnt knowledge into organisational routines and should be embedded in the daily work of all organisational members. Assimilation is the most vital stage of KT as well as the outcome of knowledge acceptance.

In Gilbert and Cordey-Hayes' (1996) five stage model, time is a determinant of KT. This is because, before new knowledge is accepted by the firm, there is a series of activities: learning by doing, learning from histories, monitoring, supervising and feedback. Finally, it forms the assimilation of knowledge. Gilbert and Cordey-Hayes (1996) also emphasise the dynamics of KT, saying that KT is a series of interacting learning processes whereby organisations can reach the expected goal via continuous learning. Similarly, Nonaka and Takeuchi (1995) argue that the acquisition of knowledge is based on interaction, where the process of knowledge

creation is a continuous spiral of explicit knowledge and tacit knowledge. In this process, KT is the most important procedure. From the knowledge perspective, the process of knowledge conversion and diffusion is the continuous transfer and interaction between individuals, groups, intra-firm and inter-firm. Yet, Gilbert and Cordey-Hayes' (1996) five stage model only considers inter-firm KT emphasising its role in successful technological innovation.

Dixon (2000) proposes five types of KT: serial transfer, near transfer, far transfer, strategic transfer, and expert transfer. Each type of KT has varying contexts and requires different elements to guarantee successful transfer. *Serial transfer*, it refers to the transfer of personal knowledge, specific to individuals, into the group public space, which is then integrated as group knowledge. The team then transfers this group knowledge to the next context i.e. a different time and space but the same task features. In the *serial transfer*, both knowledge senders and recipients are the same group and have the same contexts and tasks. As such, it could be adapted for the transfer of both tacit knowledge and explicit knowledge. Regarding *near transfer*, community members with similar work tasks and backgrounds share explicit knowledge. In other words, the knowledge in a particular team is transferred to another team to do similar work. In *near transfer* however, knowledge senders and recipients are different groups, although they have similar backgrounds and tasks and the works are routine. As such, this model is only adaptable to the transfer of explicit knowledge via documents and electronics (computer and internet). *Far transfer,* refers to the two-way exchange of experience among different community members. The tacit knowledge acquired by a group through the implementation of non-routine and non-repeated tasks is repeatedly applied by other groups for similar tasks in the organisation. In this case, the tasks implemented by the knowledge recipient group are similar to the knowledge source group, yet the tasks' backgrounds are different and tasks happen frequently but not routinely. *Strategic transfer* refers to transfer of complicated knowledge that is used to integrate organisational knowledge for non-frequent but key tasks amongst the whole organisation. Tasks implemented by the knowledge recipient group will impact the

entire organisation and the backgrounds of these tasks are different to those of the knowledge source group where the tasks are infrequent and non-routine. *Expert transfer* refers to the situation when the group faces a technological problem whose solution requires the scope of knowledge that is beyond the knowledge scope of the group. Consequently, the group has to seek help from other experts in the organisation. In *expert transfer*, the knowledge being transferred is explicit knowledge. Tasks implemented by the knowledge recipient group are different to the knowledge source group but have the same background. The tasks are not frequent but routine.

To sum up, KT reflects the process of knowledge exchange between knowledge actors (senders and recipients) via different channels, such as information communication systems, face-to-face communications and meetings. Several researchers have proposed different models of KT, for instance, Szulanski (1996), Gilbert and Cordey-Haye (1996) and Dixon (2000). These studies have classified the KT process into different stages. . They tend to emphasise that effective KT takes place when recipients are able to successfully integrate and utilise the newly received knowledge within the existing knowledge base (converting individual knowledge to be organisational knowledge).

2.3.2 Influential Factors of Knowledge Transfer (KT)

Prior literature has widely discussed reluctant factors that impact the success of KT. According to issues involved in the transfer process, these factors can be summarised into three aspects: features of knowledge, capabilities of KT actors (senders and recipients), and contexts of the transfer, which are discussed in this section.

2.3.2.1 Features of Knowledge

Rogers (1962) and Winter (1987), Kogut and Zander (1993) propose three features of knowledge: codifiability, teachability and complexity, which are discussed widely in

later studies about impact of knowledge features on KT. Zander and Kogut (1995) empirically test the influences of these three features on the speed of KT. They find that both codifiability (the extent that knowledge can be codified) and teachability (the extent that knowledge can be taught) play a significant role on the speed of KT. *Codifiability*, refers to the extent to which knowledge can be articulated via words and language. Explicit knowledge is easy to articulate and codify, so that it can be transferred faster and easier via documents, texts and multimedia. Yet, tacit knowledge is difficult to articulate and express, and so requires more time and costs to transfer via learning by doing and imitating in practice. That is to say, the more likely that knowledge can be codified, the faster and easier it will be to transfer (Park & Park, 2004). *Teachability* refers to the extent to which knowledge can be taught to individuals via training and teaching. For instance, in practice, companies often provide training programs, establish internal schools and universities and send experts and skilled workers to other branches to transfer knowledge. If knowledge can be taught more easily, then transfer shall be more feasible and cost less time and resources (Riusala & Smale, 2007; Murray & Peyrefitte, 2007).

Though Zander and Kogut (1995) do not find complexity to play a significant role in KT, many subsequent studies, for instance, Simonin (1999), McEvily and Chakravarthy (2002), and Riusala and Smale (2007), have found that complexity is a major impediment to effective KT. Complexity reflects the complexity extent of knowledge-related technological difficulties, experiences and skills, organisational structure and quantity of resources. More complex knowledge is more ambiguous, so that its transfer could be more difficult and less effective. Szulanski's (1996) study finds that causal ambiguity of knowledge is a major impediment of KT. Causal ambiguity means that people cannot clearly understand the reasons for success or failure in imitating a capability in a new situation. Such kind of ambiguity creates difficulty in replicating knowledge, especially implied knowledge that is deeply embedded in human skills in complex knowledge (Szulanski, 1996). Further, Winter and Szulanski (2001) argue that the causal ambiguity of knowledge, results in knowledge stickiness and impedes knowledge replication and transfer (Szulanski &

Cappetta, 2003). Similarly, Simonin (1999) uses knowledge ambiguity to describe the difficulty of knowledge flow and finds that the level of knowledge ambiguity negatively correlates with KT. The higher the level of knowledge ambiguity, the greater the difficulty in transferring knowledge.

2.3.2.2 Motivations and Capabilities of Knowledge Transfer (KT) Actors

KT actors refer to both knowledge source (senders) and recipients (receivers). Prior literature about the abilities of KT actors mainly concerns motivational factors and absorptive capacity.

Motivational factors, such as motivation to disseminate and motivation to transfer, are influenced by the concerns of knowledge actors and so this can impact upon whether they intend to share knowledge with others. Ko et al. (2005) point out that both knowledge senders and receivers spend time, energy and monetary resources in facilitating KT, and so given this investment, they may not expect to share knowledge with each other. Gupta and Govindarajan (1991) have found that lack of motivation to transfer will increase knowledge stickiness and so reduce the quantity of knowledge being transferred. Similarly, the research of Hau et al. (2013) argues that a lack of incentives would give knowledge senders and recipients a negative attitude toward knowledge sharing. Szulanski's (2003) empirical study shows that when the knowledge source lacks motivation to transfer, it impedes the effectiveness of both the implementation and application stages in the KT process.

On the other hand, absorptive capacity is a key determinant in the process of KT since it reflects the ability to identify the value of knowledge, and to internalise and apply it. Cohen and Levinthal (1990) propose the concept of absorptive capacity, which is the ability to identify the value of new, external information and to digest it and apply it appropriately as shown in Figure 2.3. Cohen and Levinthal's (1990) study emphasis claims that absorptive capacity is the function of prior knowledge and such capacity is the key to organisational innovation. Based on this, Todorova and Durisin

(2007) propose the five-dimensional model of knowledge absorptive capacity, by distinguishing identification value from knowledge identification, saying that the identification value of knowledge is the motive for knowledge identification.

The empirical study of Gupta and Govindarajan (1991) has shown that absorptive capacity influences the amount of knowledge to be transferred, saying that the knowledge source unit should have effective transfer capacity so that recipients can more effectively receive knowledge, whilst knowledge receivers should have effective intra-organisational transfer capacity so that received knowledge can be more effectively digested and applied. From the macro-level, Mowery and Oxley (1996) view absorptive capacity as a set of skills adopted by companies to deal with the tacit knowledge in technological transfer, as well as externally introduced technologies. Zahra and George (2002) view absorptive capacity as a set of organisational routines and processes that are helpful to develop the firm's dynamic capacity through acquiring, assimilating, transforming and exploiting knowledge. The empirical study of Szulanski (2003) has found that in the implementation stage of KT, weaker absorptive capacity of recipients is a major barrier to effective KT. The following Table 2.2 summarises different definitions of absorptive capacity.

Table 2.2 Summary of knowledge absorptive capacity

Definition	Content	Reference
Capacity to evaluate, digest and apply new knowledge for commercialisation purposes	- Ability to evaluate knowledge - Ability to digest knowledge - Ability to apply knowledge	Cohen & Levinthal, 1990; Szulanski, 1996; Cockburn & Henderson, 1998; Vanden Bosch et al., 1999
A set of capacities including externalising tacit knowledge and internalising external knowledge	- Human resources - Technological resources	Kim & Dahiman, 1992; Mowery & Oxley, 1995; Glass & Saggi, 1998

A set of capacities including knowledge acquisition and knowledge creation	-	Knowledge accumulation Learning capacity Effort	Kim, 1998; Zahra & George, 2002; Jessen et al., 2006

2.3.2.3 Contexts of Knowledge Transfer (KT)

Context is a vital factor in KT. How KT actors respond to the cultural background, cognitive structure and technological field will directly impact the efficiency of KT. Many aspects of organisational culture (one major contextual factor), for instance, encouraging innovation, tolerance of failure and attention to knowledge and talent all have a large influence on KT (Alavi et al., 2005; Zheng et al., 2010). In the knowledge system constructed by Leonard-Barton (1992), one key dimension of this system is the context, which emphasises the importance of the context-embedded aspect of knowledge. Similarly, Foss (1996) suggests that differences in organisational contexts determine differences in knowledge, which then results in differences in the performance of companies. Based on Szulanski's (1996) four stages of KT, Lam (1997) proposes the contextual model of KT by emphasising that knowledge is embedded in organisational culture, communication methods, task procedure and organisational structure. Knowledge cannot be transferred within companies effectively without understanding these contexts. According to Lam's (1997) model, in the initial stage both sides in the KT process need to identify their mutual knowledge contexts. When there is a mutual fit of KT channels, the knowledge source unit should adjust the knowledge being transferred to satisfy the needs of knowledge recipients. Recipients then adjust the received knowledge to suit their own context and reuse the adjusted new knowledge. Finally, recipients systematically integrate the knowledge into the firm's knowledge base.

Choi and Lee (2002) argue that in an alliance between companies, the key factors impacting KT are organisational and business cultural differences among alliance members. As such, in order to realise effective KT within the alliance, members

should pay particular attention to contextual factors, for instance, managerial and cultural conflicts, and fulfilment mechanism differences. Albino and Gorgoglione (2004) emphasise that since tacit knowledge is often related to a specific system and organisational context, KT between similar companies would be easier. As emphasised by Thompson and Walsham (2004), the real intention of knowledge senders can only be understood by recipients when the knowledge being transferred is embedded in a specific context. Knowledge itself is boundaryless, yet the context-embedded feature of knowledge determines to what extent the scope of knowledge can be exploited by companies. The following Table 2.3 summarises the key contextual factors of KT discussed in previous literature.

Table 2.3 Context of KT

Contextual factor		Reference
Culture	- Social culture - Cultural difference - Fitness of organisational culture	Adler, 1995; Odell & Grayson, 1998; Kostova, 1999; Simonin, 1999
Organisational structure/ Organisational skill	- Organisational internal relationship and knowledge communication - Organisational structure and channel for knowledge dissemination - Organisational incentives and knowledge sharing - Employee skills and knowledge acquisition	Hansen, 1990; Szulanski, 1996; Simonin, 1999; Buckley & Carter, 1999; Gupta & Govindarajan, 2000
External environment	- Industrial features - Social system	Zander, 1991; Appleyard, 1996; Barkema & Vermeulen, 1998

To sum up, influential factors from prior literature have been discussed regarding their impact on the success and effectiveness of internal KT. The first aspect contains features of knowledge (for instance, codifiability, teachability and complexity). Prior studies tend to agree that all these features determine the effectiveness of KT since

they reflect the extent of knowledge tacitness. The second aspect regards the ability of knowledge actors, for instance, motivations of the sender to disseminate knowledge and the absorptive capacity of recipients. These two ability factors of knowledge actors are emphasised by many earlier studies as the most crucial elements affecting the effectiveness of KT. In addition to these ability factors, context is the third aspect discussed widely in previous studies, whereby valuable knowledge is often embedded in contexts (knowledge stickiness) and effective KT therefore requires similar contexts between knowledge senders and recipients. Prior studies have identified cultural issues, organisational structure and external environment factors as being key contexts of successful firms' KT.

2.4 Intra-MNE Knowledge Transfer (KT)

For a long time, MNEs have been conceptualised as organisations that gain competitive advantage based on their ability to absorb and integrate newly acquired knowledge within the existing knowledge base (Bhagat et al., 2002; Michailova & Mustaffa, 2012). MNE HQ and subsidiaries are key actors in the intra-MNE KT. It is essential to understand the relationship between HQ of the MNE and its subsidiaries, which explains why MNEs exist and why they intend to engage in HQ-host nation subsidiary KT. In terms of the relationship between HQ of MNEs and subsidiaries, researchers (for instance, Birkinshaw and Hood, 1998; Fang et al., 2010; Tallman and Chacar, 2011) mainly explain the transfer based on transaction cost theory and resource-based view. Alternatively, other theories, for instance, knowledge evolution theory (Schulz, 2003) and network theory (Noorderhaven and Harzing, 2009; Reiche et al., 2009), have also been discussed by analysing KT within MNEs. Regarding transaction cost theory, Buckley and Casson (1976) argue that it is beneficial for companies to build the HQ-subsidiary relationship when the market transaction costs of these two companies are higher than the management costs of combining them together. In this sense, when firm operating activities are mutually dependent and are linked through intermediate products and when the market of intermediate products is imperfect, companies will establish internal transactions to

replace external transactions through this HQ-subsidiary relationship (Fang et al., 2010).

The resource-based view emphasises that firms are collections of unique tangible and intangible resources, including any valuable and available elements (Grant, 1996; Crespo et al., 2014). Corporate resources are asset stocks or outcomes from a resource accumulation process (Dierickx and Cool, 1989), while resources heterogeneity and means of using resources formed over the long-term then consolidate the basis of competitive advantage (Michailova and Minbaeva, 2012). Therefore, knowledge could be viewed as one of the most valuable strategic assets in firm's resource system. In this sense, the relationship between headquarters and subsidiaries is explained by the theory of knowledge (Foss and Pedersen, 2004). For instance, Zander and Kogut (1995) apply the effective transfer of knowledge and the creation of new knowledge to explain the existence value of a HQ-subsidiary relationship. Specifically, it would be easier to realise the transfer of tacit knowledge when it is codified. Yet, it will decrease a firm's competitive advantage when the knowledge is articulated, since the firm's core knowledge would then be more easily imitated by competitors (Minbaeva et al., 2014). As such, establishing the internalisation mechanism of KT within MNEs, founding subsidiaries for example, could be very helpful to reduce the risk of knowledge being leaked. In this sense, the knowledge flow only happens within MNEs (between HQ and subsidiaries or among subsidiaries), which helps to reduce the possibility of rivals or competitors imitating knowledge and consequently, guarantees the competitive advantage of MNEs.

2.4.1 Intra-MNE Knowledge Transfer (KT) Process and Mechanisms

Intra-MNE KT involves the exchange of knowledge between source and recipient units. Knowledge has the feature of a bidirectional flow and therefore, knowledge senders and recipients need to transfer, acquire, absorb and apply knowledge in this interacting process. In the process of intra-MNE KT, either MNE HQ or subsidiaries can be the source or recipient units. To be specific, within MNEs, KT could be summarised into three categories when considering the direction of flow (Michailova

and Minbaeva, 2012): one-way flow (from MNE HQ to subsidiaries), one-way reverse flow (from subsidiaries back to MNE HQ), bidirectional KT between MNE HQ and subsidiaries.

Researchers (Szulanski, 1996; Minbaeva, 2007; Tseng, 2015) have proposed various models to explain the process of KT within MNEs. For instance, Minbaeva (2007) analyses the KT between MNE HQ and subsidiaries and develops a transfer model. In the model, intra-MNE KT contains four elements: knowledge senders, knowledge, knowledge receivers, and organisation context of the transfer. Minbaeva's (2007) study argues four factors that would impact the degree of intra-MNE KT, namely features of knowledge (tacitness, complexity, non-specificity and non-availability), characteristics of knowledge receivers (absorptive capacity), characteristics of knowledge senders (disseminative capacity) and the features of relations between knowledge senders and receivers (focal subsidiary in network relations with other MNE units). Minbaeva's (2007) empirical test shows that absorptive capacity, disseminative capacity, and subsidiary network relations with other MNE units all significantly link with successful KT. Michailova and Minbaeva (2012) and Tseng (2015) also identify the similar process of KT within MNEs: the source sending knowledge to recipients through transmissions channels.

Yet, in this process of intra-MNE KT, there are critical elements that would impede or support KT in MNEs, in terms of contextual issues (e.g. cultural differences), managerial dispositions (e.g. managerial capabilities and motivations to transfer knowledge), and knowledge structure (e.g. stickiness and adaptability). All these issues might cause difficulties and impact the effectiveness of intra-MNE KT and need to be considered carefully (Jensen & Szulanski, 2004; Riusala & Smale, 2007; Chang et al., 2012; Tseng, 2015).

2.4.2 Contextual Issues within Intra-MNE Knowledge Transfer (KT)

Effective HQ-host nation subsidiary KT requires a fit between the contexts of MNE HQ and subsidiaries, due to the issue of knowledge stickiness. A number of contextual issues in intra-MNE KT are discussed in this section, i.e. the perceived cultural differences, administrative/institutional differences, and sociological and psychological factors.

2.4.2.1 Cultural Differences

Culture can be viewed as a system of beliefs, deeply embedded within society and reflected in people's behaviours (Lucas, 2006). Culture can be defined at different levels: national, organizational, and individual. In the view of Hofstede (1980) and Hofstede (2001) regarding national cultural distance, reflects the extent to which religions, beliefs, races, norms and values in one country differ from those in another. Hofstede's (1980, 1993) national cultural distance model covers four dimensions: power distance, individualism/collectivism, uncertainty avoidance and masculinity. (1) Power distance reflects individual attitudes toward social inequalities among individuals, and guides the principles whereby supervisors/top management may determine behaviours of subordinates (Kaasa et al., 2013). Therefore, power distance reflects the extent to which less powerful members of companies (e.g. subordinates) expect and accept that power is distributed unequally. In countries or organisations with low level of power distance, it is likely to support the participative approach in decision making, given that most people could feel free to exchange ideas in the process of decision making. Yet, in a situation with high level of power distance, the decision making process is likely to be based on an autocratic approach or paternalistic approach, namely subordinates following orders from leaders. In other words, in countries with high degree of power distance (e.g. in China), inequality is viewed as a good thing, namely the strong powerful members are given privileges, so that most people depend on one leader (Van Wijk et al., 2008).

(2) Individualism/collectivism reflects the extent to which self-interest is (Lucas, 2006). That is, individualism reflects to what extent a society maintains interdependence among its members (Kaasa et al., 2013). In other words, it reflects individual concerns with their own well-being versus the well-being of others. In countries with a high level of individualism (such as in the UK and US), individuals are often likely to be responsible to themselves, emphasising personal achievement. Individuals do not necessarily have to depend on organisations and groups. Yet, in countries with high level of collectivism (such as in China), individual identity is based on the relationship with and dependence upon all group members. The collective-based decisions are seen as the most desirable, and the groups protect individuals by showing individual loyalty to them (Ambos & Ambos, 2009).

(3) Masculinity reflects the expectations of gender roles. In different cultural environments, males and females are socialised differently and as a consequence play different roles (Fischer et al., 2014). A society with a high level of masculinity (e.g. in Japan), is driven by competition, achievement and success, where particularly in the context of the workplace, people want to be the best. Conversely a low level of masculinity indicates that people are more concerned about liking what they do, caring for others and emphasising quality of life (femininity) (Frenkel, 2008).

(4) Uncertainty avoidance refers to responses to future events that can never be truly known, reflecting the degree of individual tolerance to future uncertainty (Lucas, 2006; Minkov & Hofstede, 2014). Uncertainty avoidance is associated with individual intention to embrace change directly. In a society with high level of uncertainty avoidance (such as in Japan), individuals are highly intolerant to risks and uncertain facts, and so seek for commands or social systems to avoid uncertainty. In this kind of culture, uncertainty shall make people anxious and nervous (Lucas, 2006).

Much of the research on culture in the literature of International Business (IB) has focused on country level differences (the latent variable approach, e.g. Hofstede, 1980, 2001, 2010) and several frameworks and methodologies have been devised over the years, according to Peterson and Sondergaard (2011). In addition to Hosftede (1980, 2001, 2010), there is *Project GLOBE* (House & Javidan, 2004), the *Schwartz Value Survey (SVS)* (Schwartz & Sagiv, 1995; Sagiv, Schwartz & Ariella, 2011), the *World Values Survey (WVS)* (Inglehart, 1997; Inglehart & Baker, 2000). Kogut and Singh (1988) developed a measure of cultural distance based on Euclidean distance from geometry, capturing a bundle of Hofstede's dimensions of culture into one index value.

Though cultural distance studies are unsympathetic to differences within countries, there is a growing body of research within IB that have begun to acknowledge the more recent research from cultural psychology and cognitive psychology (Peterson & Barreto, 2014; Ricther et al., 2016; Peterson & Barreto, 2018; Tung & Stahl, 2018). Recognizing that culture operates at different levels – country (national), within-country subgroups or cultural groups, and individuals – the question that is the focus for much of the research, posed by Peterson & Barreto (2014: 1134): *How should survey data gathered from individuals be used to represent the values, norms, cultures, or other characteristics of societies?* The question reflects the 'level of analysis problem' – the relationship between individual-level and societal-level dimensions. In addressing this question, Peterson and Barreto (2014) have taken a more nuanced approach than many for explaining why within-country variations in culture may be significant.

According to Hofstede (1980), culture is the collective programming of the mind that distinguishes one human group members from another. From the perspective of psychology, as emphasized by Bond and Leung et al. (2004), culture resides in the minds of individuals and can be represented as a cultural toolkit (Swidler, 1986). These two contrasting views reflect the difficulties of conceptualising culture and the

problem of measuring it. In the work of Peterson and Barreto (2018: 1191), they define culture as "*patterns of social behaviour, social interactions, and conscious and unconscious influences on action that recur or typify a society*" and, "*culture represents discernible societal processes that occur regularly though not invariantly*". Here, society refers to "*a group with permeable boundaries which provides a context for members from birth that continues throught life* (Peterson & Barreto, 2018: 1191). Furthermore, Peterson and Barreto (2018) emphasize that societies of special interest to IB contain both governmentally bounded and ethnically based geographic groups (including diasporas which typically have a geographic homeland). Here, obviously diasporas include expatriates on company-directed international assignments, expatriates on self-initiated assignments, and subsidiary managers/employees with a common home country nationality such as China. Societies have been defined by societal constructs such as Hofstede's four dimensions – they're seen as national level constructs and are known as the societal cultural value dimensions (SCVDs).

Further, Peterson, Sondergaard and Kara (2018) propose that *societies* are synonymous with *cultural groups*. This then raises the question of whether Hofstede's cultural dimensions can relate to within-country subgroups. According to Peterson, Sondergaard and Kara (2018), cultural groups are groups having clearly distinct cultural heritages based on religion, ethnicity, and other markers. Another commonly used term is *cultural values,* defined by Peterson, Sondergaard and Kara (2018: 1082) as "*regularities in the range of legitimate behaviour, interaction, and thought patterns in a society's implicit institutional logics, societal norms, and commonly endorsed personal values*". In the meantime, Peterson, Sondergaard and Kara (2018: 1082) emphasize that the personal acceptance of individuals to societal values, yet, vary with personality, experiences, gender, occupation and industry.

There is an important question which Peterson and Barreto (2018) pose: *What is the relationship between SCVDs and individual level values?* In the work of Peterson and

Barreto (2018), they have identified three aspects of using SCVDs in the field of IB research that is consistent with Hofstede: (1) to construct distance measures and to use such measures as predictiors for IB decisions such as predicting Outward FDI patterns, mergers & acquisitions, and selecting international alliance partners; (2) to represent cultural context at the firm, subsidiary, or individual level; (3) to explicate a studies cultural context by using qualitative data to inform, e.g., an empirical study on distance using quantitative methods. This thesis does not adopt the SCVD approach to measure cultural distance. Therefore, the thesis focuses on (2), and examines whether cultural values can vary across individuals (from the same country), across organizations and other subgroups.

The survey of cultural subgroups of Peterson, Sondergaard and Kara (2018: 1082), has shown how removed the IB field has become from the emerging view of culture coming from cognitive psychology and cognitive sociology and the fusion between the two (Swidler, 1986; DiMaggio, 1997; Kitayama, 2002; DiMaggio & Markus, 2010; Markus & Kitayama, 2010). In line with the central question proposed by Peterson and Barreto (2018) regarding the relationship between SCVD and individual values, the cognitive dual-processing theory proposed by Kahneman (2003, 2011) contributes to a reconciliation of the different levels of culture. According to the work of Peterson and Barreto (2018: 1195), "*Cognition includes automatic, fast, habitual, largely unconscious processes* (Type 1 processing) and *deliberative, slower, reflexive and consciously monitored processes* (Type 2 processing)". The reflexive type 1 processing controls a large proportion of routine behaviour such as an individual's cognitive schemas, scripts, perceptions that automatically organize a person's experiences. Reflective type 2 processing is associated with deliberation, attention, mindfulness, important choices, *and responses to survey questions*. Automatic processing is the default setting and deliberate processing comes into force only when the control processes signal that automatic processing is inappropriate.

The crucial point for the thesis is that societal cultural value dimensions (SCVDs) "*strongly influence automatic Type 1 processes because people inevitably develop an unconscious intuition for their cultural contexts through socialization, interaction, observation, and emulation*" (Peterson & Barreto, 2018: 1196). Societal 'experts' (those well integrated in their societal culture) are likely to have developed highly tuned Type 1 processes that produce culturally appropriate behaviour across multiple contexts or social settings, though they may not always endorse a society's cultural characteristics. Thus, even the Type 1 processing may produce differences between individuals' exposure to and experience of the same home country society.

Type 2 processing relies more on the choices that individuals make from their cultural resources such as the cultural toolbox (Swidler, 1986; DiMaggio, 1997: DiMaggio & Markus, 2010; Peterson & Barreto, 2018). Societies influence deliberative cognition by providing value-based cultural resources that are available to individuals to make choices. The cultural tools that individuals have at their disposal can vary significantly because even individuals exposed to the same home societal values (as measured in cultural distance studies) deliberately choose from among different sets of cultural values because of differences in their exposure to different social settings. Moreover, "*individuals react in highly varied ways to the cultural groups that they intimately know and intuitively understand*" (Peterson & Barreto, 2018: 1198). This is reflected in the responses to survey questionnaires where, according to Peterson & Barreto (2018: 1197), the influence that the home society "*has on the personal values that individuals report on in surveys is significant but limited*".

The dual-processing theory (automatic and deliberative processing) has vital cultural implications: members of a society develop necessarily an intuition for and react to characteristics of their society in a way which is better represented by SCVDs than by reports of personal values (Kitayama, 2002; Leung & Morris, 2015). Some persons can individually support cultural values of their society more than other people. For

instance, to aspects of individualism and collectivism which are interrelated at the societal level tightly and closely, there are also differences in conscious reactions at the individual level (Tung & Stahl, 2018). In collectivist societies, members are likely to be homogenous in which they share an intuition for long-term association with a few multiple-purpose groups, the difficulty level in changing groups and the dependence level on many social benefits from groups. Yet, even in such a collectivist society, different individuals would pay more attention to some of these characteristics than on others, leading to personal differences in individual values and more individual-level than societal-level value dimensions. For instance, even in 'collectivist societies' such as China, there will be cultural value differences between individuals and this is what is being captured in the survey data in this thesis.

Research indicates that Individuals switch between automatic processing and deliberative processing by means of cognitive control processes (Peterson & Barreto, 2018). Through the cognitive control processes, indivdiuals switch between automatic processing (directly shaped by culture) and the deliberative processing (depending on personally adopted values as well as the conscious usage of cultural materials). In the field of cross-cultural IB, the dual-procssing theory indicates that culturale affects individuals strongly and is evident in differences among individuals in their interpretations of events and situations (Leung & Peterson, 2011; Kirkman et al., 2017). Individual differences come from variations in the dentency of processing, situational differentiation, and different selections from cultural toolboxes based on personal values. As emphasized by Evans and Stanovich (2013), individuals differ in the extent to which they rely on automatic thinking and the degree they arouse the deliberative thinking to justify or override the automatic processes. The deliberative processing is associated with intelligence, capacity of working memory, ability and style of thinking (Stanovich & West, 1998; Evans, 2008; Evans & Stanovich, 2013).

Summarizing, through automatic and deliberative cognitive processing, a society's members necessarily develop an intuition for and react to their society's

characteristics; yet individuals personally support some of their society's culture values more than others. In Figure 2.2, Peterson and Barreto (2018: 1199) summarize dual processing as it relates to the mapping between societal values and individuals. Four sets of influences are identified.

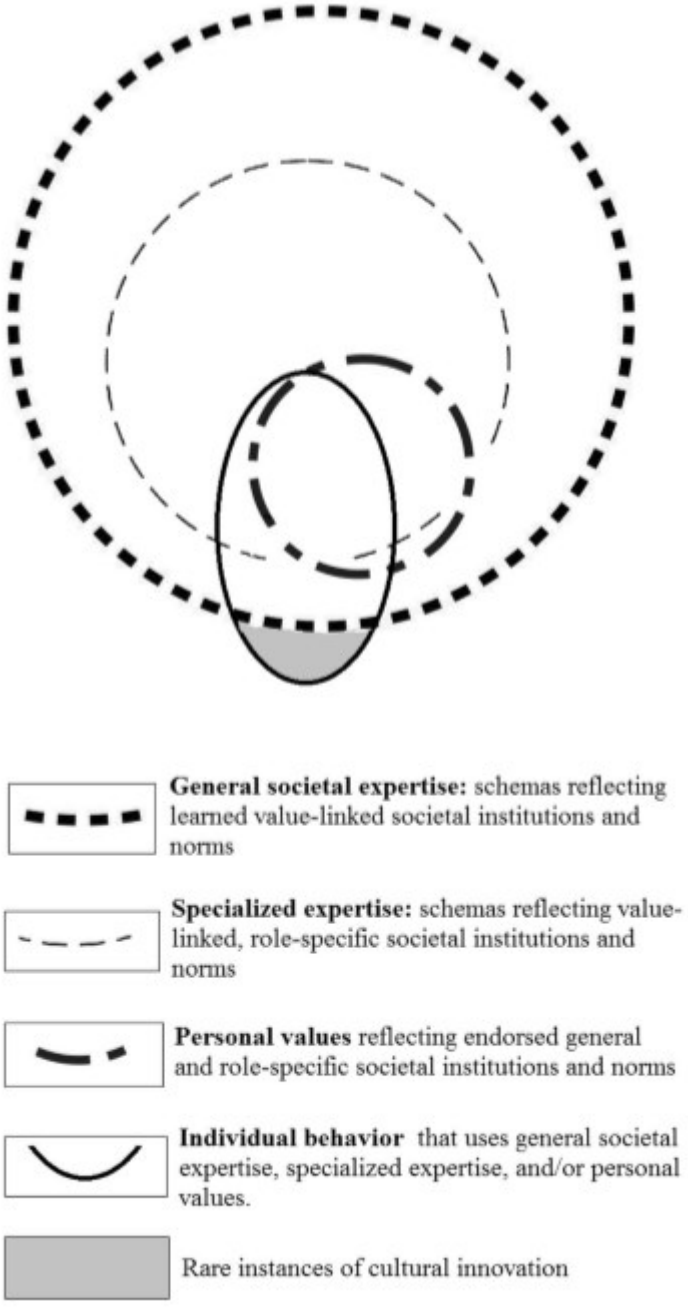

Figure 2.2 The intersection between cultural expertise and individual action

(Data source: Peterson & Barreto, 2018: Fig. 1, 1199)

(1) A society's members have broad, widely shared expertise in its culture. This expertise includes automatic, deliberative and control processes including schemas and intuitive understandings of norms about legitimate reactions to situations.
(2) A society's members develop specialized expertise in role-specific cultural characteristics.
(3) Individuals develop conscious personal values supporting some aspects of their culture more than others.
(4) Individuals behave automatically based on their general societal expertise and specialized role expertise. They also both automatically and deliberatively choose from available cultural resources. Individuals only occasionally innovative outside their societal expertise.

Figure 2.2 shows that while societal culture influences individual values, the two levels do not by any means coincide (compare the egg-shaped solid line figure that represents individual behaviour with the areas covered by the dashed lines that represent various levels of societal values and expertise. Individuals can switch between automatic processing that is directly shaped by societal culture, and deliberative processing that depends on personally adopted values and the conscious use of cultural materials (Peterson & Barreto, 2018: 1198). In explaining how individuals are influenced and react to culture, dual-processing theory helps in distinguishing between background characteristics represented by SCVDs and interpreted as reflecting the influence of societal norms on the one hand and individual values that reflect an individual's cumulative experiences of being exposed to different social contexts (Hoff & Stiglitz, 2016).

2.4.2.2 Institutional Differences

North (1990) points out that the Institution is the operating rule of the society, and as such creates the conditions that constrain human behaviour. The term 'institution' refers to both formal and informal institutions. The former one refers to rules that all social activity participators shall obey, whilst the latter one refers to the restrictions

and constraints naturally formed in interactions among people which in turn embody the shared norms, beliefs and values of society. According to Suchman (1995), the institutional environment consists of a regulatory pillar, normative pillar and a cognitive pillar, which provides structures and activities in these fields and provide stability and practical meaning for social behaviour. Based on this, Kostova (1999) proposes that the national system framework consists of three elements: regulation, norm and cognition, to explain the impact of a nations' policy, shared social knowledge and value system on organisational activities. Therein, the regulatory pillar represents the existing laws, regulations and system in the nation's environment; the normative pillar represents the national environment; the cognitive pillar represents the shared social knowledge and cognitive structure among people inside the nation's environment, as seen in Table 2.6. In the process of knowledge application, the accumulated knowledge of MNEs shall have the institutional features embed in home country and host country. As such, MNEs shall face multiple levels of institutional stresses. In this national system framework, Kostova and Zaheer (1999) further define institutional distance as the difference or similarity of regulatory, normative and cognitive between home country and host country institutions. Kostova and Zaheer's (1999) study emphasises that when the intra-MNE knowledge being transferred does not fit with the institutional environment of the host country, employees would have negative or even conflicting emotions toward implementing KT. The larger institutional distance between countries would be more likely to create an incompatible institutional environment, which then would make HQ-host nation subsidiary KT more difficult and complex.

Table 2.4 Three-pillars model of institutional differences

Three-pillars of institution	Contents	Features
Regulation	Regulations, rules, laws	Yes/ No
Norm	Norms, values, beliefs	Should/ Should not
Cognition	Cognitive structure, cultural cognition, social cognition	Can/ Cannot

(Data source: Kostova, 1999)

Xu and Shenker (2002) identify that the differences between the three pillars discussed above, explain the different factors influencing institutional distance on the internationalisation of MNEs. Therefore, regulatory distance reflects the different legal environment between home and host countries. Normative distance reflects the different social norms between home and host countries. Cognitive distance as the agent dimension of cultural differences measures the cognitive difference between countries. Bhagat et al. (2002) emphasise that when there is institutional difference between different countries, the type of knowledge being transferred directly links with the outcomes of the transfer.

2.4.2.3 Sociological and Psychological Factors Related to Knowledge Transfer (KT)

Effective knowledge management often requires companies to fundamentally reform their business operations and activities. Employees play a particularly important role in the knowledge management process since people themselves are central to any effective change (Davis, 1998). As emphasised by Nonaka and Takeuchi (1995), knowledge sharing largely depends on the social interaction between people. In this case, individual-level factors play a crucial role in determining successful KT. Prior studies (detailed below) have discussed several different individual-level factors that would impact KT.

Cabrera's (2003) study reviews individual level factors impacting knowledge sharing behaviour based on sociological and psychological theories. Cabrera (2003) summarises nine factors that would positively increase knowledge sharing among individuals (also seen in Cabrera & Cabrera, 2005): (1) high level of trust; (2) feeling of obligation to share knowledge; (3) norms that encourage open sharing of knowledge; (4) strong sense of group identity; (5) feeling of a clear reward (benefit) in sharing knowledge; (6) perceived lower level of costs in sharing knowledge; (7) feeling of reciprocity in knowledge sharing; (8) strong beliefs in individual competences and skills (self-efficacy); (9) personality traits (extroversion,

agreeableness, conscientiousness, and openness). Later, Cabrera's (2006) empirical research analysing the role of these individual factors in knowledge sharing in MNE has shown that: personality traits (agreeableness, conscientiousness, and openness), commitment/obligation and self-efficacy all have a significantly positive influence on individual knowledge sharing behaviour in MNEs.

Some other researchers summarise individual level impediments of KT. For instance, Husted and Michailova (2002) propose six aspects of individual factors that hinder knowledge exchange: (1) potential loss of value, bargaining power, and protection of personal competitive advantage of knowledge; (2) too much time spent on KT; (3) fear of hosting knowledge parasites; (4) avoidance of exposure; (5) strategy against uncertainty; (6) high regard for hierarchy and formal power. Furthermore, Riege (2005) proposes seventeen individual factors that might impede knowledge sharing amongst individuals: (1) lack of time; (2) concern that knowledge sharing may threaten job security; (3) lack of awareness; (4) dominance of sharing explicit knowledge over implicit knowledge; (5) existence of strong hierarchy, position-based status, and formal power; (6) inadequate capture, evaluation, feedback, communication, and tolerance of past mistakes that would improve both individual and organisational learning effects; (7) different levels of experiences; (8) lack of interaction; (9) lack of effective communication and interpersonal skills; (10) age difference; (11) gender difference; (12) educational attainment difference; (13) lack of social networks; (14) taking ownership of intellectual property through fear of not receiving recognition and accreditation from managers and colleagues; (15) lack of trust in the capabilities of knowledge recipients; (16) lack of trust in the capabilities of knowledge sources; (17) differences in national cultural background as well as associated values and beliefs.

2.4.3 Managerial Dispositions in Intra-MNE Knowledge Transfer (KT)

Successful KT is not simply about the speed of transfer (how quickly knowledge being transferred) nor is it about the amount of transfer (how much of the knowledge being transferred). Rather, most importantly the successful KT is about how the

KTred can be absorbed, internalised and integrated in the local setting of recipient units (Szulanski, 2000; Lucas, 2006; Chang et al., 2012). That is how far the recipient units can benefit from exploiting the knowledge being transferred. Prior literature (Jasimuddin et al., 2012; Vaara et al., 2012; Minbaeva et al., 2014; Inkpen & Tsang, 2016; Qin et al., 2017) has emphasised that managerial dispositions (several micro-foundation factors of managers covering both motivations and capabilities) play an essential role in influencing the effectiveness of KT. This is because successful KT cannot be realised if knowledge actors lack capabilities and motivations to identify business opportunities, absorb the knowledge being transferred and integrate the transferred knowledge in local setting environment for future use. Among reluctant managerial dispositions factors, several of them have been widely discussed in prior literature, in terms of trust, social ties, competences and absorptive capacity.

2.4.3.1 Managerial Trust

Trust is one's belief that others' intended actions shall be appropriate, according to Mistzal (1996). Trust reflects people's willingness to be vulnerable to others because of beliefs in their good intentions and concern, competence and capability and reliability (Kankanhalli, 2005). In the context of intra-MNE KT, a trusting managerial relationship reflects the belief in the good intent, competence and reliability of employees involved in the transfer process with respect to contributing and reusing knowledge. A strong trusting relationship indicates that employees involved in the transfer process would trust and believe each other regarding the transfer of knowledge. Many researchers have stated that trust is a critical factor which facilitates a context of cooperation and collaboration, to effectively share knowledge. In the work environment, a strong trusting relationship between employees at MNE HQ and subsidiaries makes it easier for knowledge senders to deliver knowledge to recipients because they believe that the shared knowledge would be used appropriately by recipient units (Vaara et al., 2012; Caligiuri, 2014; Raab et al., 2014; Najafi-Tavani et al., 2015). Oppositely, in the situation of weak trusting relationship, knowledge senders will find it more difficult to establish cooperative and

collaborative relationships, because they believe that others might use the knowledge inappropriately. As emphasised by Kostova (1999), a high level of trust in the MNE HQ is more likely to reduce the uncertainty in the value of the knowledge being transferred as well as increase the motivation to share knowledge. A high level of trust also implies that recipient unit employees (e.g. in subsidiaries) have a high level of perceived reliability of the knowledge source. As such, the high level of trust is also beneficial to facilitate successful KT.

In the context of intra-MNE KT, however, contextual differences (especially cultural differences) between MNE HQ and subsidiaries are important factors when establishing trusting relationship. Successful intra-MNE KT requires constant interaction, which largely depends on social cohesion and trust. As stated by Bresman et al. (1999), individuals would only participate in knowledge exchange if they share a sense of identity or belonging with their colleagues. Yet, heterogeneous cultural differences in terms of beliefs, social norms and cognitive maps, may cause knowledge actors to experience greater difficulties in forming trusting relationships and a common sense of identity, which could then impede KT effectiveness. As stated by Riusala and Smale (2007) and Vaara et al. (2012), in the situation of larger cultural differences, the incompatibility of the cognitive environment with the knowledge being transferred largely increases the difficulty of KT and takes more effort and resources to establish trusting relationships between both sides.

The work of Kostova (1999) has claimed that individual psychological factors determine the success of intra-MNE KT, in terms of commitment and identity. Firstly, individuals who have high commitment to MNE HQ are more likely to commit to the KT assigned by the HQ. As such, committed individuals shall have stronger willingness to devote necessary resources and efforts in contributing to successful KT. Secondly, individuals who have a strong sense of identity with the MNE HQ have a strong belief and acceptance of the values and goals of the company. In this case, individuals would be more likely to engage in KT that is embedded in the shared

values and goals of the MNE (Caligiuri, 2014; Raab et al., 2014). However, when there is greater cultural differences between MNE HQ and host country subsidiaries, employees find it more difficult to form a high level of commitment and a strong sense of identity, because of the heterogeneous values, norms and beliefs (Vaara et al., 2012; Cavaliere & Lombardi, 2015). These difficulties triggered by greater cultural differences would restrict a trusting relationship and consequently would weaken individual motivations and efforts dedicated to knowledge exchange.

2.4.3.2 Social Ties

From a network perspective, KT happens in a shared social context in which different units (e.g. MNE HQ and subsidiaries) are linked with each other. Organisational units of a MNE are embedded in a network coordinated through the process of knowledge sharing and exchanging (Tsai, 2001). Such network ties and links in inter-units facilitate MNEs to obtain essential resources, capabilities and competences to enhance their competitive advantage. Ties are the critical element of social capital, and Adler and Kwon (2002), state that an actor's network of social ties actor creates opportunities for transactions of social capital, which opens up channels for knowledge sharing.

Recent studies have indicated that social ties are essential in facilitating KT within MNEs. For instance, Hansen (1999) analyses the role of inter-unit ties in intra-MNE KT and concludes that strong ties between employees from different units (e.g. MNE HQ and subsidiaries) contribute to efficient knowledge exchange. Hansen (1999) especially points out that weak interunit ties can lead a project team to search for valuable knowledge in other subsidiaries of MNEs. However, weak ties impede the transfer of complex knowledge. Oppositely, the effective transfer of complex knowledge requires strong ties. Similarly, Tsai (2000) and Li et al. (2007), state that social ties across unit boundaries establish channels (e.g. interactions and interpersonal relationship) that contribute to blur those boundaries in MNEs and trigger a wider spread of knowledge flow. Lack of social ties indicates weaker relationships and communications across boundaries of units within MNEs, which

would then impede KT (Szulanski, 1996; Li et al., 2007). Inkpen and Tsang (2005) argue that the boundaries between intra-firm network members are more porous, therefore KT among these members is more likely. More importantly, this kind of personal transfer contributes to establish social network ties on top of the more formal inter-member ties. Social network ties facilitate social interactions among employees from different units, and provide channels for knowledge exchange. In the absence of strong ties, especially in MNEs between HQ and subsidiaries, employees may not establish the necessary relationships which allow them to willingly share knowledge (Ellison et al., 2015; Inkpen & Tsang, 2016).

Cultural differences would affect social ties too and subsequently impact intra-MNE KT. The empirical work of Vaara et al. (2012) indicates that cultural differences influence the identity-building process of employees, which consequently impacts the establishment of social ties. Employees are more likely to establish a shared sense of identity with others having similar beliefs and values finding them more attractive and trustworthy (the development of in-group). However, greater cultural differences would create difficulties in establishing a shared identity, and is more likely to be associated with distrust and social conflict (Bresman et al., 1999; Haas & Cummings, 2015; Harzing et al., 2016). The studies of both Harzing et al. (2016) and Heirati and O'Cass (2016) have argued that the potential feelings of distrust and social conflict between knowledge actors would weaken the establishment of social ties and consequently impede KT within MNEs.

2.4.3.3 Managerial Competences

Regarding In an international cultural context, managerial competences in managing and functioning in new cultural settings are essential to effective intra-MNE KT (Earley & Ang, 2003; Chang et al., 2012). Competences of managers involved in KT might include negotiating with project teams, networking skills (e.g. communication and conflict resolution), seeking and exploiting business opportunities (Peng, 2011; Zoogah & Peng, 2011; Nair et al., 2016).

Argote et al. (2003) and Minbaeva et al. (2014), state that managerial competences are essential, as are the abilities to seek and seize business opportunities when creating, assimilating and transferring knowledge. When managers are able to solve difficulties and problems in the KT process, for instance, building communication bridges, offering possibilities for dialogue across units in MNEs, improving conditions for team learning, and building systems to sense, capture and seize business opportunities (Argote et al., 2003; Minbaeva et al. 2014), then KT will become more effective. Chang et al. (2012) emphasise that managerial competences of searching and utilisation of resources and opportunities through social ties play an essential role in successful KT within MNEs. In particular, the transfer of tacit knowledge requires extensive interaction and strong networking skills of managers. Managers with strong networking skills are more likely to have strong ties linking MNE HQ and host country subsidiaries, which then facilitate the expansion of MNE contacts and opportunities for sharing knowledge (Reiche et al., 2009; Chang et al., 2012).

Managerial competences in intra-MNE KT are also impacted by cultural differences. In addition to prior experience and personal skills, managerial competences may vary as regards KT. The work of Ambos and Ambos (2009) has revealed that contextual distance (cultural differences) would increase difficulties for managers in establishing networking skills and would consequently impede KT effectiveness. With greater cultural differences, employees from MNE HQ would have heterogeneous values, beliefs and assumptions to employees from host country subsidiaries, which tend to bring different interpretations of the knowledge being transferred and thus increase the difficulties in effective communication. This then would increase the difficulties for transferring knowledge, especially for transferring tacit knowledge which requires common understanding and deep communication between source units and recipient units (Szulanski, 1996; Hansen & Lovas, 2004). In the research of Ling et al. (2010), they especially mention that cultural diversity (e.g. power distance and collectivism) in HQ-host nation subsidiary KT brings challenges for managers to

collaborate and seek opportunities and network, which could mean KT does not actually take place.

2.4.3.4 Absorptive Capacity

Absorptive capacity is the ability to identify, assimilate and exploit external knowledge (Cohen & Levinthal, 1990). Minbaeva et al. (2003), Bjorkman et al. (2007) and Minbaeva (2007), all argue that absorptive capacity consists of both motivation and ability of the recipient units to acquire and assimilate knowledge. 'Ability' reflects whether recipient units are capable of acquiring and assimilating knowledge. However, 'strong ability' might not necessarily imply strong absorptive capacity, which also depends on the motivational factor of recipient units. That is, the recipient units with abilities to learn and apply new knowledge would still not have strong absorptive capacity if they lack the motivation or willingness to assimilate and learn knowledge (Bjorkman et al., 2007; Chang et al., 2012; Minbaeva et al., 2014). In response to these proposals, this research proposes that absorptive capacity contains both motivational and ability elements. The ability element refers to individual prior knowledge, such as basic skills, shared language, relevant prior experience (Minbaeva et al., 2003; Bjorkman et al., 2007; Minbaeva et al., 2014). The motivational element of absorptive capacity, refers to effort intensity of recipient units (Kim, 2001; Minbaeva et al., 2003; Bjorkman et al., 2007), which could be explained by cognitive process theories, for instance, the expectancy theory of work motivation (Vroom, 1964).

Recent studies have emphasised the highly valuable role of absorptive capacity in gaining a better understanding of KT within MNEs and consequently for enhancing the competitive advantage of companies (Zahra & George, 2002; Minbaeva et al., 2014; Schleimer & Pedersen, 2014; Tseng, 2015). Low absorptive capacity indicates the inability of knowledge receivers to absorb new knowledge, which has been viewed as a critical impediment to intra-MNE KT (Szulanski, 1996; Gupta & Govindarajan, 2000; Bjorkman et al., 2007). Strong absorptive capacity indicates that recipient units have a strong ability to acquire and assimilate knowledge and, have

the strong motivation to do so. Powerful ability indicates that recipient units have combinations of skills that enable them to identify, acquire, share and adopt knowledge in improving MNE performance and enhance the innovation capability (Schleimer & Pedersen, 2014; Tseng, 2015). Highly motivated individuals would be dedicated to improving MNE performance, for instance via absorbing and applying knowledge (Liao et al., 2017). Conversely, poorly motivated employees would care less about contributing to MNEs (such as through acquiring and sharing knowledge) even though they have strong learning abilities (Song, 2014; Schleimer & Pedersen, 2014; Peltokorpi, 2017).

In the context of intra-MNE KT, however, it is noted that cultural differences would impact absorptive capacity and thus impact the effectiveness of KT. Bhagat et al. (2002) and Bjorkman (2007), state that the culturally distant environment causes problems for MNEs in transferring knowledge. Absorptive capacity is viewed as an important intermediate factor between cultural differences and effectiveness of KT. The work of Bjorkman (2007), reveals three aspects of the negative impact cultural differences can have on absorptive capacity, which consequently impedes the effective KT within MNEs. Firstly, greater cultural differences would weaken the motivation of both knowledge source unit and recipient unit to search for opportunities to transfer knowledge. This is because the search for opportunities for knowledge exchange is more likely to happen between units of a similar culture (Kostova, 1999; Ambos & Ambos, 2009; Caligiuri, 2014). Secondly, even if employees in both source unit and recipient unit have knowledge that can be shared, cultural differences would impact the degree to which a recipient unit perceives the value of the knowledge being transferred. This is because greater cultural difference could cause communication problems, e.g. lack of language proficiency and different interpretations, impeding KT (Ambos & Ambos, 2009; Caligiuri, 2014). Thirdly, cultural differences would increase the cost of realising effective KT within MNEs. For instance, greater cultural differences would create greater differences in cognitive structures, value systems and behavioural norms of employees between source units and recipient units, which consequently would increase the difficulties

and costs for transferring knowledge (Grant, 1996; Javidan et al., 2005; Schleimer & Pedersen, 2014).

2.4.4 Intra-MNE Knowledge Structure Factors

Due to the dispersed geographical locations, cross-cultural, cross-system and cross-regional operation between HQ and host country subsidiaries, the HQ usually could make the cooperative management with its subsidiaries in order to afford the international competition. In this case, there should be a suitable knowledge structure between HQ and the host country subsidiaries (Khan, Shenkar & Lew, 2015). With regard to competition in an international market, Brannen et al. (2014) claim that on the one hand, MNEs should maintain their prior values and business concepts whilst on the other hand, they should continuously integrate advanced ideas within the firm as well as the knowledge demand from host country, to adjust the knowledge structure in the background of globalization (Nair, Demirbag & Mellahi, 2015; Qin et al., 2017). Key knowledge features of MNEs can be summarised into two aspects, namely knowledge stickiness and knowledge adaptability.

2.4.4.1 Knowledge Stickiness

A firm's knowledge is accumulated from organisational practice and embedded within the firm's specific context. As such, the effective transfer of knowledge requires that the context of the recipient units has a fit with that of the source units, to support knowledge stickiness (Szulanski, 1996; Qin et al., 2008; Qin et al., 2017). Due to the distinctive social, cultural, political and economic environment between home and host countries, MNEs are likely to have different operation requirements and performance goals to host country subsidiaries (Michailova & Mustaffa, 2012; Li et al., 2014). As such, different organisational knowledge would be accumulated in MNEs. The different operating contexts would create an inconsistent knowledge context. That is to say, a more complicated embedded context would increase the costs and difficulties of the knowledge being transferred within MNEs (knowledge stickiness), and furthermore, might increase the causal ambiguity of KT between MNE HQ and subsidiaries (Simonin, 1999; Li & Hsieh, 2009; Colakoglu et al., 2014). As

suggested by Jensen and Szulanski (2004) and Battistella et al. (2016), stickiness impedes the ability of MNEs to transfer knowledge to subsidiaries. This is because the increased stickiness tends to increase the liability of foreignness, which then hinders the ability of subsidiaries to absorb the knowledge being transferred.

In the context of intra-MNE KT, cultural difference has been viewed as a key factor in increasing knowledge stickiness, which consequently impacts the effectiveness of KT. For example, Jensen and Szulanski (2004) emphasise that cultural differences would create differences in cognitive institutional environments that in turn might create differences in the shared cognitive categories of employees (from MNE HQ and host country subsidiaries). This then might increase difficulties in understanding the nature and the purpose of the knowledge being transferred. That is to say, the different cognitive schemas, norms and categories among employees (knowledge actors) would increase the stickiness of knowledge, bringing difficulties in correctly understanding and implementing the knowledge being received (Ambos, Ambos & Schlegelmilch, 2006; Ambos & Ambos, 2009). Sarala and Vaara (2010) also suggest that due to national identity-building, national cultural difference can have a negative effect on those people who associate similarity with attractiveness and trustworthiness, which is consequently one major source of knowledge stickiness and impedes the effectiveness of KT within MNEs. Similarly, Vaara et al. (2012) argue that it is likely that employees could form mistrust and even social conflict during the process of KTred between MNE HQ and host country subsidiaries due to cultural difference. This consequently would decrease the effectiveness of knowledge sharing within MNEs (Ahammad et al., 2016; Reus, Lamont, & Ellis, 2016).

2.4.4.2 Knowledge Adaptability

Knowledge adaptability is the extent to which knowledge can be adjusted, modified and recombined to fit with the local environment and local setting in recipient units (Ang & Massingham, 2007; Reus & Lamont, 2009). In the context of intra-MNE KT, knowledge adaptability is an especially vital issue, with respect to two aspects of knowledge structure factors. The first one is the dispersion of knowledge stock in

MNEs. The global knowledge management of MNEs is driven by market globalization and economic globalization. Developing globalisation has blurred organisational borders and increased the coverage of the organisation's network (Martins & António, 2010). Knowledge that is embedded in a varied internal network of MNEs has highly dispersed features (Hong et al., 2009; Yao et al., 2013). In particular, tacit knowledge has brought many difficulties and challenges to HQ-host nation subsidiary transfer and integration of knowledge within MNEs (Gooderham et al., 2011). The dispersed stocks of knowledge in MNE units (e.g. from MNE HQ and host country subsidiary) tend to weaken the adaptability of knowledge, due to increased knowledge stickiness triggered by greater cultural differences. Studies of Jensen and Szulanski (2004), Sarala and Vaara (2010) and Luo (2016), have revealed that cultural differences decrease knowledge adaptability but make it more difficult for recipient units to effectively modify, combine and integrate the knowledge being received, thus weakening the effectiveness of KT within MNEs.

The second is the incompatibility of knowledge system within MNEs. With regards design, R&D, manufacturing, marketing and service, MNEs should be able to effectively integrate knowledge since this is essential for MNEs to gain competitive advantage in a global market (Becker-Ritterspach, 2006; Ranucci & Souder, 2015). In a developed advanced operational concepts in HQ of MNEs (DMNEs) guide innovation and direct reform of the industry globally; the capacity to integrate effectively, enables the coordination and distribution of MNEs in the global business operation (Park & Choi, 2014; Gaffney, Karst & Clampit, 2016); an agile technological and service process helps to satisfy product and service demand in diversified international markets. The compatibility and integration of these three aspects of knowledge contribute to the creation of a competitive advantage for MNEs (Monteiro et al., 2008; Park & Vertinsky, 2016). However, international contextual differences (e.g. cultural differences) tend to weaken the compatibility of a knowledge system between MNE HQ and host country subsidiaries. The dissimilarities of knowledge systems between them consequently decrease the knowledge adaptability and increase the causal ambiguity of knowledge being

transferred. Hence, there are increased costs and difficulties for recipient units (e.g. host country subsidiaries) in effectively combining and integrating the knowledge being received (Jensen & Szulanski, 2004; Ranucci & Souder, 2015).

2.4.5 Effectiveness of Intra-MNE Knowledge Transfer (KT)

Intra-MNE KT does not end at the point when knowledge is received at the recipient unit, but rather when recipients have effectively integrated the received knowledge. As such, MNEs could gain competitive advantage by facilitating the integration of newly received knowledge into existing knowledge systems and exploiting them to innovate or create new knowledge (Ranucci & Souder, 2015; Gaffney, Karst & Clampit, 2016; Luo, 2016). Prior literature refers to other outcomes of intra-MNE KT, including efficiency (speed/time, amount/degree, and cost) and effectiveness (benefits, integration and institutionalization).

The efficiency of intra-MNE KT is about how quickly knowledge is transferred (speed/time), how much of the knowledge is transferred (amount/degree) and the cost of transferring knowledge (cost). For instance, Hansen (1999) examines the speed of KT in terms of the project completion time (also seen in Hansen, 2002). Hansen's (1999) study defines the transfer speed by calculating the number of months from the starting month (i.e. when the relevant concepts of new product were established) to the month of market introduction (product is ready to be manufactured and shipped on a regular basis). Similarly, the study of Phene et al. (2005) that examines patent citation data of MNEs in the semiconductor industry also considers KT by focusing on the speed of the transfer. Gupta and Govindarajan (2000) and Minbaeva (2007) all pay attention to the extent/amount of KT, that is, to what extent employees at the recipient unit receive the KTred from the source unit. Also, Hansen et al. (2005) measure the costs of KT using the number of engineering-months spent on the transfer activity, for instance, time spent on technical advice, software and hardware in transferring the knowledge. Andersson et al. (2015) define the costs of intra-MNE KT as both direct resources costs (e.g. time and money spent on that transfer) and indirect resources costs (the loss of

opportunities for recipient units to develop their own learning capabilities) incurred in the KT project.

However, effective KT is far more than the flow of valuable knowledge from one place to another. In other words, the efficiency of KT, e.g. the speed and amount of knowledge being transferred, is less important to MNEs than the effectiveness of KT (e.g. whether the input efforts generate the desired results, and what benefits can be brought to the recipient units through KT, how to integrate and institutionalize the received knowledge) (Lucas, 2006; Iyengar, Sweeney & Montealegre, 2015). Furthermore, it is difficult to quantify the speed and amount of knowledge being transferred in the practice of knowledge management in MNEs. The inappropriate measurement of speed and the amount of KTred would weaken the reliability of the measurement when defining successful or effective KT. The basic notion is that the transfer of usable knowledge should contribute to solve collaborative problems either directly or indirectly and with the support of facilities, tools and networks, thus determining the effectiveness of KT within MNEs (Michailova & Mustaffa, 2012; Khan, Shenkar & Lew, 2015; Hutzschenreuter & Matt, 2017).Recent studies have attempted to define what is meant by effective KT (Schlegelmilch & Chini, 2003; Bjorkman, Fey & Park, 2007; Ambos & Ambos, 2009). The emphasis is that KT is successful only when the knowledge being transferred impacts the recipient units (Nair et al., 2018). That is, successful KT occurs when either MNE HQ or its subsidiaries can put the received new knowledge to good use in terms of integrating it with existing knowledge stock or as a basis for enhancing competitive advantage. Effective KT implies that the new received knowledge adapts and integrates into the local setting in recipient units. For instance, Schlegelmilch and Chini (2003) argue that the effectiveness of intra-MNE KT depends on the perceived benefits of knowledge management (the degree that subsidiary knowledge is used by other MNE units) as well as the overall satisfaction with knowledge management. Schlegelmilch and Chini's (2003) study argues that to recipients, the key purpose of KT is to integrate and apply the received knowledge in the unit's context. In this case, the effective application of the knowledge is to reinforce the firm's ability to adopt

knowledge in order to strengthen competitive advantages (Peltokorpi & Yamao, 2017).

Ambos et al. (2006) define effectiveness of KT within MNEs as the overall value of KT perceived by MNE HQ. Ambos et al. (2006) point out that MNE's competitive advantage does not only depend on the forward KT (from HQ to subsidiaries) but also on the reverse transfer (from subsidiaries and HQ) where HQ can gain benefits from the subsidiary knowledge. For instance, subsidiaries' knowledge could be helpful to develop MNEs' global strategy, improve network relationships with other subsidiaries or provide thoughts and ideas to develop new products. The work of Ambos et al. (2006) also emphasises three prerequisites of realising the value of KT within MNEs which are: firstly the firm shall already possess prior knowledge stock; secondly the localised knowledge shall be transferred within the firm; thirdly the firm shall have capabilities to effectively adopt that knowledge. In line with the study of Minbaeva et al. (2003) which points out that the key aspect of KT concerns to what degree recipients acquiring valuable knowledge use it in recipient units, Ambos and Ambos (2009) also define KT effectiveness as the extent to which recipient units benefit from received new knowledge.

Some other researchers emphasise the critical elements in realising the effectiveness of KT, for instance, institutionalisation (Kostova, 1999) and knowledge integration (Szulanski, 1996; Schlegelmilch & Chini, 2003). From the institutional perspective, Kostova (1999) defines successful transfer of strategic organisational practice as the extent to which the practice is institutionalised on the recipient side and, how success can be conceptualised at two levels: implementation and internalisation. Implementation reflects to what extent formal rules and regulations are embedded in practice, for instance, doing certain objective actions. Internalisation reflects the status that recipient unit employees ascribe to the practice. That is to say, employees at the recipient unit have accepted and approved the value embedded in the practice and, they treat the practice as part of the organisational identity (Li &

Hsieh, 2009; Bhatti, Larimo & Coudounaris, 2016). Furthermore, the internalisation of practice has three dimensions: commitment to the practice, satisfaction with it and psychological ownership of that practice. Kostova's (1999) definition of successful KT emphasises both the implementation and internalisation processes, saying that the transfer of best practice does not end with the application of the formal rules of the practice (implementation) but continues until recipient unit employees give symbolic meaning and value to the practice (internalisation). Kostova and Roth (2002) also adopt implementation and internalisation as a way to define the successful adoption of organisational practice by emphasising that implementation reflects the external and objective actions required by the practice while internationalisation reflects that recipients have realised the value of the practice and are committed to it. As such, these two elements (implementation and internalisation) reflect the overall level or depth of knowledge adoption by recipients. Kostova and Roth's (2002) empirical survey from 534 managers and 3238 non-managerial employees in 104 subsidiaries of MNEs in ten countries has identified consistently high levels of implementation and internalisation to measure the degree of practice adoption

Knowledge integration essentially guarantees the effectiveness of intra-MNE KT. Henderson and Clark (1990) propose the concept of knowledge integration, and classify product development knowledge into component knowledge and architectural knowledge. Market demand drives companies to redefine the product function or category innovation without changing the component knowledge. This requires the development of new architectural knowledge. The process of forming architectural knowledge takes place through knowledge integration. Henderson and Clark's (1990) definition treats knowledge integration as a strategy of product innovation, through the reconfiguration of existing knowledge. Kogut and Zander (1992) argue that knowledge integration is the capacity to recombine existing knowledge to develop potential knowledge. Inkpen (1996) defines knowledge integration as knowledge connection, that is, individuals share and communicate knowledge with organisations via formal or informal relationships,

to develop individual knowledge into organisational knowledge. The study of Grant (1996) argues that knowledge integration takes place when organisations utilise prior knowledge to create new knowledge and develop their technological potential. Grant (1996) emphasises that knowledge integration is the basic function of organisations and the essence of organisational capability. Zahra, Ireland and Hitt (2000) propose that the process of valuing, assimilating and applying obtained knowledge is knowledge integration. Valuing refers to systematically determining what knowledge has been learned and evaluating its significance; assimilating refers to understanding the learned knowledge and transforming it into recipients' own knowledge; applying refers to the design tools, mechanisms and channels that are utilised to act out the assimilated knowledge. The final stage of KT is knowledge integration (Szulanski, 1996; Schlegelmilch & Chini, 2003), which occurs when recipient units retain the transferred knowledge and institutionalise its application, so that it becomes part of the knowledge system of recipient unit. Discussions in these prior studies indicate that the essence of integration is not the simple accumulation or mix of knowledge stock, but rather the reconstructing and recombining knowledge via communication and interaction among organisational members to create new knowledge or form knowledge systems (Becker-Ritterspach, 2006; Pak, Ra & Lee, 2015).

Knowledge integration capacity reflects the firm's ability to coordinate relevant resources, experts and systems, combining dispersed knowledge in order to improve MNEs' operational efficiency and problem solving (Huang & Newell, 2003; Noorderhaven & Harzing, 2009). Knowledge integration capacity is not only embodied via the application of tools, but more importantly, via the sharing of knowledge through the communication and coordination of organisational members. Research on knowledge integration capacity is deeply impacted by core competence theories and dynamic capacities. For instance, Grant (1996) proposes knowledge-based organisational capacity and emphasises that knowledge integration capacity is the potential to construct competitive advantage in a dynamic environment. Grant's (1996) study analyses how knowledge integration contributes

to form organisational capacity and argues that key knowledge integration features are linked to creating and maintaining competitive advantage, including efficiency, scope and flexibility. Furthermore, Van den Bosch et al. (1999) clarify these three dimensions of knowledge integration, saying that firstly efficiency relates to the cost and economies of scale in evaluating how firms identify, digest and apply knowledge; secondly scope reflects the breadth of the firm's knowledge; thirdly flexibility reflects the degree that companies can access additional knowledge and reconstruct and existing knowledge.

Van den Bosch et al. (2000) have pointed out that integrating knowledge into competitive capabilities is vital to companies to create competitive advantage, grasp product opportunities and generate profits. In a dynamic environment, companies should pay attention to knowledge integration capacity. Hitt and Ireland (2000) discuss that technological innovation capacity is the main driver of a firm's long-term development. MNEs' technological innovation capacity can be enhanced through learning new skills to obtain and create new technological knowledge, and then managing that technological knowledge to integrate it within the firm's development strategy. MNEs' competitive advantage comes from the capability of knowledge integration, that is, MNEs' capability to continuously acquire knowledge, dissimilate and apply it to create value (Birkinshaw, Bresman & Nobel, 2010; Anand, 2011). In this case, knowledge integration capacity contributes to the value creation in firms. Focusing on the knowledge management of China high-tech companies, Yang (2005) proposes that knowledge integration enhances knowledge innovation and improves the performance of new product development.

To sum up, effective KT within MNEs does not end when recipients receive knowledge but continues until recipients have successfully integrated and exploited knowledge within the unit. Prior literature has conceptualised KT outcomes by focusing on different elements, for instance, efficiency (costs, speed/time, and degree/amount) and effectiveness (benefits, integration and institutionalization). Yet,

the key issue in evaluating the effectiveness of intra-MNE KT, according to prior literature, is that recipient units can effectively integrate the newly received dispersed knowledge into their existing knowledge base and successfully innovate, and develop new products, creating new knowledge, that will enable MNEs to gain competitive advantage in a global market.

2.5 Summary

This chapter reviews literature about both KT in general and specifically intra-MNE KT. To sum up, KT in general has been well researched, emphasising that companies should focus on ability issues (motivation to transfer and absorptive capacity) and deal with fit contexts (culture, organisational structure and external environment) to guarantee successful KT. In researching intra-MNE KT, contextual issues relate more to the heterogeneous contexts between HQ and subsidiaries which increases stickiness and impedes the success of HQ-subsidiary KT. A review of prior studies in this chapter has shown that contextual issues (cultural differences) at the individual level (micro-foundations) are under-researched whilst a lot of studies have discussed contextual issues at a national (national culture). Individuals are the ultimate implementers of KT, so that individual motivation, capability and behaviour need to be recognised as important factors. National contextual issues are likely to firstly impact the sociological and psychological issues of individuals, which then determine individual dispositions (motivations, intentions and capabilities) in the process of KT. It is therefore essential and valuable to analyse intra-MNE KT at the individual level. The successful transfer of newly received individual level knowledge occurs when it is integrated at an organisational level to leverage its value and contribute to establishing MNEs' competitive advantage. Contextual issues (e.g. cultural differences) also affect the effectiveness of intra-MNE KT through impacting knowledge structure such as stickiness and adaptability of knowledge. As such, the key issues relating intra-MNE KT, captured and reviewed in this chapter are: cultural differences, managerial dispositions, knowledge structure and effectiveness of KT. The next chapter will shape the conceptual framework and develop research hypotheses in relation to these critical issues and intra-MNE KT.

CHAPTER 3 CONCEPTUAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

3.1 Introduction

This chapter sets out a conceptual framework and proposes multiple sets of hypotheses for empirical tests. The conceptual framework draws out critical issues raised with respect to the extant literature in Chapter 2, based on the contemporary theory and industry practice, in relation to KT. The hypotheses focus on several critical issues, including perceived cultural differences, managerial dispositions, knowledge structure, and their impacts on KT, as identified earlier and discussed in Chapter 2. The critical issues not only inform the focus of the study, they also inform the mechanisms underpinning the questionnaire design and data collection. The conceptual framework developed in this chapter will guide the empirical tests to enable the study objectives to be fulfilled by examining the states and factors that either contribute to or impede intra-MNE KT. The rest of the sections of this chapter are the following. Section two presents the mechanisms and processes regarding intra-MNE KT for developing the conceptual framework. Section three examines the perceived cultural differences between managers at MNE HQ and host country subsidiaries in the context of KT. The subsequent two sections (Section Four and Section Five) propose the impact of perceived cultural differences on managerial dispositions and knowledge structure. After that, Sections Six and Section Seven hypotheses relate to the influence of managerial dispositions on effectiveness (benefits) of KT. Section Eight brings up the hypothesized relationships between knowledge structure and managerial dispositions, followed by Section Nine which proposes the role of knowledge structure to effectiveness of KT.

3.2 Mechanisms and Processes with Respect to Intra-MNE Knowledge Transfer (KT)

Chapter 2 has revealed that knowledge has been conceptualised in different ways in the KT literature. In this study knowledge is defined as ‘best practice’, which has been emphasised in prior literature (Ambos & Ambos, 2009; Michailova & Minbaeva,

2012; Schomaker & Zaheer, 2014) when talking about MNE KT. Best practice resides in organisational capabilities (Denrell et al., 2004), working practices and the routines that could provide the MNE with a competitive advantage, that reside in the upper tail of the distribution of practices (Winter, 2000; 2003). These routines are learned, highly patterned, repetitious or quasi-repetitious, founded in part in tacit knowledge (Winter, 2003).

With regard to KT, this thesis focuses on the intra-MNE transfers between HQs of MNEs and subsidiaries, namely the dyadic flow of knowledge between MNE HQs and subsidiaries. Both economic and capability-based theories of MNEs have emphasised the ability of MNEs to integrate, combine and create new knowledge as a basis for competitive advantages (Chang et al., 2012; Qin et al., 2017). The effective transfer of critical capabilities in multinational settings determines MNEs' performance, because it reflects their core competencies and superior knowledge for creating and maintaining competitive advantage (Li & Lee, 2015; Sheng et al., 2015). In other words, MNEs can attribute their existence to their superiority over the external market mechanism in terms of internalizing and integrating intangible assets via transferring and leveraging knowledge (Riusala & Smale, 2007). Intra-MNE KT is the process whereby a source unit transferring knowledge to recipient unit and, the final purpose of the transfer is that recipients can successfully absorb, integrate and exploit new knowledge based on organisational routines and processes to create competitive advantages (Zahra & George, 2002; Minbaeva et al., 2014). To be clear, this research examines two dynamic features of KT within MNEs, including: i) knowledge transmission between MNE HQs and home country subsidiaries; ii) knowledge transmission between MNE HQs and host-country subsidiaries (e.g. Huawei's host country subsidiaries in the United Kingdom (UK) and in India). In each type of transmission, there is the forward transfer, referring to KT from the MNE HQs to the subsidiaries, aiming to realize the international exploitation of MNEs' competitive advantage in host country markets (Inkpen & Tsang, 2016; Qin et al., 2017). Forward transfer enables MNEs to leverage internationally the know-how advantages derived from a home country competence cluster.

Intra-MNE KT can be defined as a problem related to distance (or perceived cultural differences). The recognition that transfers of the kind between HQ and subsidiaries of MNEs is separated by space and time, culture, system and language (Vaara et al., 2012; Castellani et al., 2013; Peltokorpi & Vaara, 2014). Consequently, spatial and temporal separation raises issues related to micro-level factors such as individual experiences, attitudes and cognitive representations, which could lead to differences in managerial dispositions (willingness to transfer and the capacity to absorb knowledge) (Vaara et al., 2012; Inkpen & Tsang, 2016; Qin et al., 2017). Also, such kind of heterogeneous contextual differences raises issues related to knowledge structure complexity, for instance, causing different levels of knowledge stickiness and adaptability (Jensen & Szulanski, 2004; Sarala & Vaara, 2010). Further, some of these factors (managerial dispositions and knowledge structure) may affect the effectiveness of KT (Tippmann et al., 2012; Michailova & Mustaffa, 2012), which has been evidenced in prior studies, e.g. the efficacy of KT has consequences for financial performance (Chang et al., 2012; Berry, 2015) and innovative behaviour of MNEs (Tippmann et al., 2012; Tseng, 2015). More explicitly, the challenge for intra-MNE KT includes those consequences associated with the complexity that stems from variant cultures and social norms that not only influence preferences and consumer demand, they impact the ability to administer policy and skills, matching capacity of knowledge, and hence the competencies of MNEs.

To highlight, firstly, KT from HQ to host nation subsdiaries requires MNEs to develop learning capabilities for absorbing, integrating and developing knowledge in the process. Secondly, the issue involves managerial dispositions, for instance, managerial incentives, managerial experience and capabilities that relate to intention and choice in KT. Crucially, such issues concern the capacity for adaptive dynamics of MNEs in global competitive business markets. The transfers, in effect, imply knowledge in managing across borders and reducing uncertainty in developing new business ventures. Thirdly, and more crucially, successful KT and integration

demands MNEs to deal with the consequences that inevitably arise from discrete situations (due to overseas operations) where variant situational discrepancies may cause different managerial dispositions (motivations and capabilities) in transferring and integrating knowledge and cause different knowledge structure (e.g. stickiness and adaptability) that impede effective transfer.

Given these key issues in intra-MNE KT, the conceptual framework will capture the critical elements and their indicative relationships, with respect to intra-MNE KT. The critical elements the thesis considers are perceived cultural differences, managerial dispositions, knowledge structure, and effectiveness of KT (see Figure 3.1).

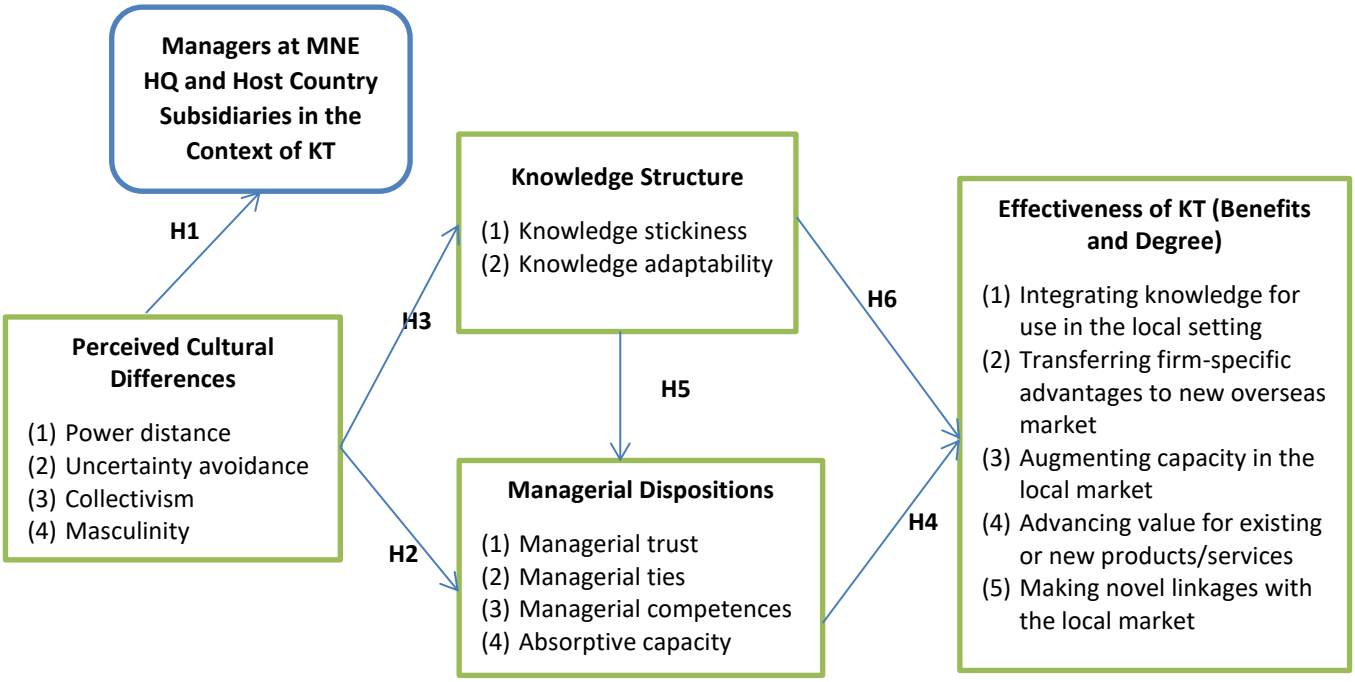

Figure 3.1 Conceptual framework of the thesis: Intra-MNE KT

In Figure 3.1, *Perceived Cultural Differences* refer to the extent to which individuals have the religious beliefs, perceptions and world views (cultural mental models) (Kogut & Singh, 1988; Peterson & Barreto, 2014; Peterson & Barreto, 2018). Such cultural difference is deeply embedded within the society and is reflected in the behaviours of people (McDermott & O'Dell, 2001; Loucs, 2006). Cultural difference

can be distinguished by four key elements in terms of power distance, uncertainty avoidance, collectivism and masculinity (Hofstede, 1980; 1993). Given that national culture encompasses the values, beliefs and assumptions of a group of people, it also shapes the interpretation of reality and messages (Hofstede, 2001).

Earlier views of culture were of the form described by DiMaggio (1997: 264), the 'latent variable' approach that viewed culture as "*unitary and internally consistent across groups and situations*", "*influencing in common such manifestations as media images, responses to attitude surveys, and the values embodied in everyday practices*" (DiMaggio, 1997: 264). Hofstede's work (e.g., 1980, 2001) grew out of this tradition and strongly influenced 'cultural distance' studies. According to this view, "*culture is organized around national societies or coherent subnational groupings, is highly thematized, and is manifested in similar ways across many domains*" (DiMaggio, 1997: 267).

More recent work in cognitive psychology and social cognition has taken a different approach. By contrast, culture is fragmented across groups and inconsistent across its manifestations, so that culture as coherent and integrated has been rejected in favour of representations of culture as a "toolkit" (Swidler, 1986), "*a collection of stuff that is heterogeneous in content and function*" (DiMaggio, 1997: 267). Through their socialization in different groups individuals acquire culture but they have choices over how they use it. Culture is a "*repertoire of techniques*" or a "*toolkit of strategies*" and in acquiring cultural expertise, the images or ideas that become more accessible depends on an individual's toolkit and their expertise in using it in responding to cues embedded in the social settings they encounter.

The two different ways of characterizing culture reflect the dichotomy in the IB field in that there are varying degrees of preferences for studying the cultural characteristics of societies, the first view, or the cultural characteristics of individuals,

the second view (Peterson & Barreto, 2014). Societal level characteristics and individual level characteristics overlap, but they are not the same, which has led to a measurement problem as well as conceptual problems, in part because scholars have different views on what is meant by culture. The focus for culture research in IB has been how best to identify distinctive societies and what dimensions should be used to characterize them (Peterson & Sondergaard, 2011). Societies are usually understood as countries or nations with fixed geographical, political, economic, and cultural boundaries, but some researchers (Richter et al., 2016) now include in societies multi-nation regions, within-nation groups besides individuals, which are also carriers of culture. In this thesis, societies consist of within-nation subgroups, where the groups consist of individuals drawn from a single home nation, yet these subgroups are dispersed across different host nations.

At the center of the argument is the continuing usefulness of societal culture (SCVDs) as a means for conducting research on perceived cultural differences. The works of Hofstede (1980, 2001) are the canonical example of SCVD research. However, more recent research (e.g. Peterson & Barreto, 2014; Richter et al., 2016; Peterson & Barreto, 2018; Knein et al., 2020) in sociology/psychology, IB, and international management more generally, have disputed this, but offer convincing explanations of how to reconcile the SCVDs with perceived differences in cultures at the individual level, standing on the cognitive dual-processing theory (Kahneman, 2003; Kahneman, 2011). As explained by Peterson and Barreto (2018: 1195) using cognitive dual-processing theory, the two types of processing are: "*cognition includes automatic, fast, habitual, largely unconscious processes (Type 1 processing) and deliberative, slower, reflexive and consciously monitored processes (Type 2 processing)*". Type 1 processing controls a large proportion of routine behavior such as an individual's cognitive schemas, scripts and perceptions that automatically organize a person's experiences. Deliberate type 2 processing is associated with attention, mindfulness, important choices, and *answers to survey questions*. Automatic processing (Type 1 processing) is the default setting and deliberate processing comes into force only when the control processes signal that automatic

processing is inappropriate.

Essentially, societal values (as captured by SCVD studies such as Hofstede, 1980 and 2001) impact the unconscious processes (Type 1 processing) and individuals immersed in a society develop expertise in how to operate in that society. For example, Chinese people will develop greater expertise in operating within "collectivist societies" (interdependence) whereas people from the UK and the US will likely develop greater expertise in operating within "individualistic" societies (independence, e.g. autonomy, self-esteem, individualism). However, individuals from the same society (nation) will differ largely because of slower, deliberative, reflective and consciously monitored processes (Type 2 processing). These more deliberative processes are more likely to become salient when operating societal cultures different to one's own society.

Peterson and Barreto (2018) offer a good explanation to how these two types of processing might operate in the context of IB. There are differences in individual reactions (beliefs, perceptions and values) to societal culture. That is, culture expertise will develop over time through immersion in a societal culture and will be captured by Type 1 processing. However, this does not mean that individuals will have developed the same culture expertise. Expertise will differ across a population from the same society, which is one source of cultural differences. For instance, to a British resident, his/her Britishness (e.g. born, educated and worked all his/her life in the UK) has provided him/her with cultural expertise in operating in the UK society; but family background, education, and work experiences will mean that his/her cultural expertise will vary when compared with others who have also been immersed in the UK societal values. The second is from the Type 2 processing. That is, individual beliefs, perceptions, and world views (cultural mental models) will vary according to the individual's experiences of operating in different social networks or work groups. An individual's current social contexts will impact the kinds of deliberative reasoning employed in particular situations, such as when transferring

knowledge, especially given all the impediments that affect knowledge transfer.

In the meantime, a crucial paper from Richter et al. (2016) criticizes many studies for their use of country as a proxy for culture to examine culture's impact. The assumption is that all individuals within a country represent equally the national culture and as such, this national culture characterizes all individuals. As emphasized by Richter et al. (2016), however, there are variations in individual experiences of culture due to factors such as education and social relationships, leading to cultural heterogeneity within countries (Fischer & Schwartz, 2011). Thus, although culture is commonly assumed to be a shared property of a nation, individuals within countries can vary in their cultural values. In other words, cultural values can vary across individuals (from the same country) and across organizations, and other subgroups.

In summarizing, as emphasized by Peterson and Barreto (2018) based on cognitive dual-processing theory, Hofstede's national culture dimensions (power distance, uncertainty avoidance, collectivism and masculinity) can be employeed to detect perceived cultural differences at the individual level. Cultural expertise will differ across a population from the same society, which is one source of cultural difference (Peterson & Barreto, 2018). As such, individual beliefs, perceptions, world views (cultural mental models) will vary according to the individual's experiences of operating in different social (work) groups (Richter et al., 2016; Peterson & Barreto, 2018). An individual's current social contexts will then impact the kinds of deliberative reasoning employed in particular situations, such as when transferring knowledge, especially given all the impediments that affect KT.

In the context of intra-MNE KT, distant cultural frameworks will not only cause different managerial dispositions (motivations to transfer and absorptive capacity) but also different knowledge structure (e.g. knowledge stickiness and adaptability), which then impact the effectiveness of KT (Ambos & Ambos, 2009; Chen et al., 2010;

Ling et al., 2016). *Managerial Dispositions* include a number of managerial micro-foundation factors that are essential in ensuring effective KT, in terms of trust, social ties, managerial competencies and skills, and absorptive capacity (Jasimuddin et al., 2012; Vaara et al., 2012; Minbaeva et al., 2014; Inkpen & Tsang, 2016; Qin et al., 2017). *Knowledge Structure* refers to critical features of knowledge, e.g. stickiness and adaptability, which could have a positive impact as well as pose difficulties to intra-MNE KT (Szulanski, 1996; Cummings, 2004; Li & Hsieh, 2009; Harzing et al., 2016; Lupton & Beamish, 2016). *Effectiveness of KT* represents what outcomes and contributions KT can bring to recipient units, namely the benefits of KT and the degree of the transfer. The large benefits of KT indicate the more effective transfer, such as received knowledge can be combined and integrated for use in the local setting, transferring firm-specific advantages for use in the new host country market, or enhancing the capabilities of recipient units in local markets (Peltokorpi & Vaara, 2014; Razmerita et al., 2016; Burmeister & Deller, 2016). The degree of transfer refers to the frequency of the transfer. Higher degrees of transfer indicate transfer effectiveness (Minbaeva, 2007; Song, 2014; Tseng, 2015). As regards the *Effectiveness of KT*, the process engages with the benefits of transferring knowledge to recipient units, namely the forward transfer, the transfer from MNE HQ to subsidiaries (Minbaeva, 2008; Khan et al., 2015; Lai et al., 2016; Rui et al., 2016). The more effective transfer of knowledge indicates that recipient units can enjoy more benefits from the usage of knowledge being transferred. The effectiveness of KT is affected by perceived cultural differences through its effect on managerial dispositions to transfer knowledge as well as the structure of knowledge.

This thesis builds the framework that considers MNEs seeking innovation advantages in international markets via effective KT. That is, the effective transfer implies recipient units (e.g. host country subsidiaries) can integrate the received knowledge for the use in local setting so as to advance values for existing products and services, explore new overseas markets, and establish novel associations with local markets, contributing to enhance the competitive advantages of MNEs in global markets. However, the challenges are also in HQ-host nation subsidiary KT as largely impacted

by perceived cultural differences (the distant norms, beliefs, world views and values in different workplaces) due to the cultural separation of MNE HQ and host country subsidiaries. Consequently, the distant cultural framework is likely to intensify the heterogeneous individual cognition, social norms and mental representations, which would directly impact managerial dispositions and knowledge structure, and would also indirectly impact the efficacy of KT through these direct impacts.

3.3 Impact on Knowledge Transfer (KT) of Perceived Cultural Differences between Managers at MNE HQ China and Host Country Subsidiaries

According to Richter et al. (2016) and Peterson and Barreto (2018), perceived cultural differences reflect the differences in religious beliefs, shared norms, world views and values in individuals. Such cultural differences can be identified along four dimensions of Hofstede's national culture (power distance, uncertainty avoidance, collectivism and masculinity, as emphasized by Richter et al. (2016), and Peterson and Barreto (2018). Power distance reflects individual attitudes toward the social inequalities among individuals, and in the workplace it relates to the distribution of power in employment relationships such as the relationship between supervisors and subordinates or between middle and senior managers (Van Wijk et al., 2008; Kaasa et al., 2013). Power distance reflects the extent to which members of the firm accept the prevailing distribution of power (Liu et al., 2015). Collectivism measures the relationship between individuals and groups in the society. That is, individualism reflects the extent to which a society maintains interdependent-independent relationships among its members (Ambos & Ambos, 2009; Kaasa et al., 2013). Masculinity reflects the expectation to gender role. In different cultural environments, males and females receive different socializing ways and play different roles (Frenkel, 2008; Fischer et al., 2014). Uncertainty avoidance measures the major responses to different things that they can never know in the future, reflecting the degree of individual tolerance to future uncertainty (Lucas, 2006; Minkov & Hofstede, 2014).

Regarding power distance, it is based on people's perception of inequality and reflects the non-symmetrical nature of relationships that may exist between two units (e.g MNE HQ and host country subsidiaries) (Hofstede, 2001; Ardichvili et al., 2006; Qin et al., 2008). Therefore, in MNEs, there might be usually large power difference between supervisors and subordinates between MNE HQ country (home country) and host country subsidiaries. In this sense, the organisational decisions are often made by autocratic leaders (Van Wijk et al., 2008; Caligiuri, 2014; Harms et al., 2016). Supervisors usually treat with subordinates in the paternalistic leadership style when the power distance is large. In this case, the less powerful subordinates tend to have highly dependence on supervisors in decisions making in the context of KT. Oppositely, the culture with lower power distance says more about the equal rights among individuals (Ambos & Ambos, 2009; Fong Boh et al., 2013) and is characterized by higher level of autonomy in the workplace, saying subordinates are more likely to participate in the process of decision making.

Regarding individualism/collectivism, in a culture with high tendency to collectivism, individuals view themselves as belonging to one or several groups such as families, colleagues, teams and organisations (Sarala & Vaara, 2010; Zhang et al., 2014). Individual behaviour is therefore influenced by the principles, responsibilities and obligations to the group (Ambos & Ambos, 2009; Chen et al., 2010). In MNEs in the collective culture, the collective-based motivations shall be more effective to intra-firm knowledge sharing and transferring (Bhagat et al., 2002; Chen et al., 2010). Yet, in a culture with high tendency of individualism, individuals concern about personal values in terms of independent lives, privacies and affections. They would also be likely to deal with relationship with others based on personal benefits and losses. This kind of individualism culture encourages the individual contributions to knowledge sharing and transferring in MNEs (Zhang et al., 2014; Ling et al., 2016).

Regarding masculinity, in a culture with high masculinity tendencies, individuals pursue goals of competition, career development, wealth and success (Qin et al.,

2008; Fong Boh et al., 2013; Fischer et al., 2014). Oppositely, in a culture with high tendency to femininity, the social value emphasises the moderation, caring for others, cooperation and life quality (Frenkel, 2008; Qin et al., 2011). As such, in a MNE in the masculine culture, there shall be the emphasis of individual success and achievement in the context of KT (Lucas, 2006; Fong Boh et al., 2013).

Regarding uncertainty avoidance, in a society with high level of uncertainty avoidance, individuals tend to be less likely tolerable to unpredictable facts and have weak willingness to accept social changes and uncertainty (Qin et al., 2008; Minkov & Hofstede, 2014). Rather they expect implementations such as establishing rules, regulations and law for dealing with potential uncertainties in the society (Lucas, 2006; Wilkesmann et al., 2009). Oppositely, in the cultural society with low level of uncertainty avoidance, individuals are more tolerable to differentiations and uncertain facts (Lucas, 2006; Colakoglu & Caligiuri, 2008). Consequently, they are more likely to share social norms, traditions and customs, tending to easier communicate and understand others, so as to have stronger willingness in sharing knowledge with others in workplace.

In total, this research argues that the perceived cultural differences framework (in terms of power distance, collectivism, masculinity and uncertainty avoidance) indicate that managers at MNE HQ China would have different beliefs, values and norms with managers at each host country subsidiary (e.g. in India, UK and US) in the context of KT. The hypothesis H1 is then proposed to emphasise such kind of cultural differences between managers.

H1: In the context of KT, there are significant cultural differences between managers at MNE HQ China and managers at each host country subsidiary.

3.4 Relationship between Perceived Cultural Differences and Managerial Dispositions in the Context of Intra-MNE Knowledge Transfer (KT)

Motivational and capability dispositions which are viewed as managerial micro-foundations play an essential role in the process of intra-MNE KT, since they directly determine whether KT will take place and the effectiveness of the transfer (Minbaeva et al., 2014; Inkpen & Tsang, 2016; Qin et al., 2017). In other words, managerial disposition is central to the process of KT (Raab et al., 2014). Motivational disposition reflects the willingness and intentions of knowledge actors to share and exchange knowledge with others (Szulanski, 1999; Riege, 2007). Therefore, motivational disposition plays an essential role in ensuring effective KT. Regarding capability dispositions, variability in the capabilities to transfer and absorb knowledge impacts the effectiveness of the KTred (Grant, 1996; Morris et al., 2014). Studies have identified at least four sets of factors that could influence managerial dispositions to transfer knowledge; managerial trust (Vaara et al., 2012; Caligiuri, 2014), managerial ties (Vaara et al., 2012; Inkpen & Tsang, 2016), competencies and skills of managers (Björkman et al., 2004; Tsang, 2016; Qin et al., 2017), and absorptive capacity (Minbaeva et al., 2014; Schleimer & Pedersen, 2014; Tseng, 2015). Yet, perceived cultural differences increase the heterogeneity of beliefs, values, social norms, and the cognitive models that managers draw on in specific situations, and are expected to influence managerial dispositions to transfer knowledge.

This gives rise to the second central hypothesis (H2):

H2: Perceived cultural differences have a significant impact on managerial dispositions in the context of intra-MNE KT.

Trust refers to the degree an individual is confident in, and willing to act on the basis of the words, actions and decisions of another (McAllister, 1995). From a cognitive perspective, managerial trust is based on colleagues' assessment of the capabilities of managers in their work relationships such as having outstanding credentials (e.g. professional recognition and distinguished education background and experiences) (Chowdhury, 2005; Holste & Fields, 2010). In MNEs, the trusting relationship

between managers at HQ and host country subsidiaries contributes to uncertainty reduction about benefits of KT, thus motivating the disposition to share knowledge (Li, 2005; Holste & Fields, 2010; Caligiuri, 2014; Raab et al., 2014). In other words, intra-MNE KT requires constant interaction, which largely depends on social cohesion and trust. Yet, the greater perceived cultural differences would increase the heterogeneity of beliefs, values, and mental representations. Due to these differences, individuals may experience greater difficulty in forming trusting relationships (Vaara et al., 2012). As such, managers in HQ of MNE might misinterpret or distrust colleagues in host country subsidiaries, which could then impede KT effectiveness (Ambos & Ambos, 2009; Cavaliere & Lombardi, 2015; Najafi-Tavani et al., 2015). As stated by Riusala and Smale (2007) and Vaara et al. (2012), in greater perceived cultural differences, the incompatibility of cognitive environment with the knowledge being transferred largely increases the difficulty of KT. This research therefore argues that perceived cultural differences are inversely related to trust relationships and will negatively impact KT (H2a). Formally, the first sub-hypothesis under H2 is:

H2a: The level of trust between those involved in the KT is inversely related to perceived cultural differences.

Managerial ties reflect the mutual dependence and closeness between managers at MNE HQ and managers at host country subsidiaries in the context of KT. The strength of managerial ties, mutual dependence and closeness between HQ managers and host country subsidiary managers, affect KT (Li et al., 2007; Vaara et al., 2012). Strong ties are formed through closely affective relationships and frequent interactions and communications (Ellison et al., 2015; Inkpen & Tsang, 2016), which contribute to trust relationships between managers and motivate the willingness to share knowledge (Li et al., 2007; Tortoriello et al., 2012; Andersson et al., 2015; Dasí et al., 2017). As emphasised by Vaara et al. (2012), the successful knowledge sharing would largely depend on the identity-building between senders and recipients, which is associated with the similarity concerning beliefs and values with

attractiveness and trustworthiness (Van Knippenberg & Van Leeuwen, 2001; Haas & Cummings, 2015). Such kind of association often contributes to the development of in-group versus out-group biases that are more probably to be amplified in conditions of uncertainty and ambiguity about the future. As a result, managers involved in intra-MNE KT would have weaker social ties in greater perceived cultural differences that would cause less similarity in beliefs and values (Vaara et al., 2012; Harzing et al., 2016). As emphasised by Bresman et al. (1999), individuals would only participate in knowledge exchange if they share a sense of identity or belonging with their colleagues. That is to say, perceived cultural differences are inversely related to the strength of managerial ties between MNE HQ and host country subsidiary managers as distance affects trust, of managers but bring the social conflicts that would weaken the tie relationship, so as to weaken the motivations to share knowledge and impede the effectiveness of the transfer (Vaara et al., 2012; Harzing et al., 2016; Heirati & O'Cass, 2016). In this case, it could be more challenging to form strong social ties between managers at greater perceived cultural differences. Hence, this research argues that perceived cultural differences are inversely related to the strength of managerial ties and therefore it has a negative impact on KT (H2b). Formally, the second sub-hypothesis under H2 is:

H2b: The strength of China HQ managerial ties to host country subsidiary managers is inversely related to perceived cultural differences.

In the context of KT, managerial competencies relate with managers' capabilities of making business decisions, negotiating with project teams, networking skills, seeking and exploiting business opportunities (Minbaeva et al., 2014; Nair et al., 2015). Managers with stronger competencies are more likely to network, negotiate and develop business opportunities in local markets (Nair et al., 2015; Aklamanu et al., 2016). The cultivation of these competencies depends much on the cooperation and collaboration between managers involved in the KT, in addition to managers' prior managerial experiences (Tsang, 2016). As emphasised by Ambos and Ambos (2009), managerial competencies to coordinate between different MNE units which result in

strong structural ties, have been identified and emphasised as the key mechanism for intra-MNE KT (Gupta & Govindarajan, 2000; Feinberg & Gupta, 2004). The strong managerial competencies contribute to intensive collaboration between MNE HQ and host country subsidiaries, providing the social basis for knowledge exchange, and increasing the effectiveness of KT (Ambos & Ambos, 2009). The perceived cultural differences, however, can bring fundamental problems for KT and integration. One key reason is the cultural differences are linked to national identity building which often impedes managerial competencies and cooperation (Sarala & Vaara, 2010; Aklamanu et al., 2016; Scaringella & Burtschell, 2017). This is due to that people are likely to associate similarity with attractiveness and trustworthiness, but differences would easily lead to negative associations (Sarala & Vaara, 2010; Vaara et al., 2012), increasing the difficulties in reinforcing managerial competencies in the context of intra-MNE KT. Bjorkman et al. (2007) also emphasise that cultural differences impede the creation of a shared identity but bring the divisive conflicts between managers involved in the KT, so as to weaken the managerial competencies (networking and negotiating), and consequently impede the effectiveness of KT. This research therefore argues that perceived cultural differences inversely affect managerial competencies for transferring knowledge (H2c). Formally, the third sub-hypothesis under H2 is:

H2c: The competencies of managers to transfer knowledge are inversely related to perceived cultural differences.

Absorptive capacity refers to the recipients' capacity to acquire and assimilate knowledge from the knowledge source (Cohen & Levinthal, 1990; Zahra & George, 2002). Based on studies of Bjorkman et al. (2007) and Minbaeva et al. (2014), this research argues that absorptive capacity consists of both motivation and ability of recipients to acquire and assimilate knowledge. Strong absorptive capacity indicates that managers are more able to acquire and assimilate the knowledge being transferred, so as to increase the effectiveness of KT (Szulanski, 1996; Minbaeva, 2007; Schleimer & Pedersen, 2014; Tseng, 2015). Perceived cultural differences have

a negative effect on absorptive capacity, so as to weaken the effectiveness of KT. On the one hand, cultural differences are likely to impact the extent of recipient units (e.g. host country subsidiaries) perceive the nature of knowledge from MNE HQ as unambiguously valuable for the subsidiaries (Simonin, 1999; Bjorkman et al., 2007). In a greater cultural difference, there are more heterogeneous individual thinking in knowledge sharing, for instance, tolerance for ambiguity, signature skills and different modes of thinking (Ambos & Ambos, 2009; Michailova & Mustaffa, 2012; Li et al., 2014; Battistella et al., 2016). Consequently, there might be more difficulties for people in host country subsidiaries to evaluate the potential benefits and advantages for adopting the transferred knowledge in local setting (Szulanski, 1996; Bjorkman et al., 2007). These difficulties are partly due to the communication problems, e.g. lack of language proficiency. Also, even to people interacting fluently in a common language, they might still have communication barriers, for example, different interpretations to the received knowledge (Javidan et al., 2005; Schleimer & Pedersen, 2014). On the other hand, cultural difference also increases the costs of transferring, even if people in host country subsidiaries realize the advantages and values in adopting the received knowledge. The different cognitive structures, value systems and behavioural norms all increase the costs of KT in greater perceived cultural differences (Kostova, 1999; Ambos & Ambos, 2009; Caligiuri, 2014; Minbaeva et al., 2014). Lack of foreign language proficiency among employees involved in intra-MNE KT also raises costs in KT. As such, this research argues that greater perceived cultural differences impede the absorptive capacity in KT (H2d). Formally, the fourth sub-hypothesis under H2 is:

H2d: Absorptive capacity in KT is inversely related to perceived cultural differences.

3.5 Relationship between Perceived Cultural Differences and Knowledge Structure

In general, perceived cultural differences hypothesize that the difficulties, costs and risks associated with cross-cultural contact will increase along with the growing cultural differences between two individuals, groups or organisations (Bjorkman et al., 2007; Qin et al., 2017). In the context of intra-MNE KT, perceived cultural differences encompass differences in norms, beliefs and values of managers at MNE

HQ and managers at host country subsidiaries. Perceived cultural differences have been viewed as one major cause of knowledge stickiness (Szulanski, 1996; Sarala & Vaara, 2010) and knowledge incompatibility (weakening the knowledge adaptability, Vaara et al., 2003; Jensen & Szulanski, 2004) that would hamper KT. Formally, the third hypothesis H3 is:

H3: Perceived cultural differences have a significant impact on knowledge structure.

Knowledge stickiness refers to the difficulties encountered within the process of KT (Szulanski, 1996; Li & Hsieh, 2009). Tacit knowledge is often embedded in context and with causal ambiguity which refers to the lack of understanding of the logical linkages or causal connections between actions and outcomes, so as to increase the knowledge stickiness (Simonin, 1999). Perceived cultural differences would increase the causal ambiguity in skills and resources deployment, which therefore increases the knowledge stickiness (Simonin, 1999; Qin et al., 2008; Qin et al., 2017). As emphasised by Lam (1997), perceived cultural differences bring two aspects of challenges in the collaborations between knowledge senders and recipients, increasing the causal ambiguity. On the one side, perceived cultural differences increase barriers for recipients' mutual understanding patterns and the nature of the received knowledge, partially due to the lack of fluency in language, and heterogeneous interpretations and understanding to the knowledge being received (Simonin, 1999; Jensen & Szulanski, 2004). On the other side, knowledge is created by individuals and embedded in cognitive and behavioural contexts. The greater perceived cultural differences bring to more heterogeneous cultural contexts in which the new knowledge is created and structured, bringing larger causal ambiguity and knowledge stickiness (Michailova & Mustaffa, 2012; Li et al., 2014; Battistella et al., 2016). This research therefore hypothesizes that knowledge stickiness is positively associated with perceived cultural differences in the context of KT (H3a). Formally, the first sub-hypothesis under H3 is:

H3a: Knowledge stickiness is positively related to perceived cultural differences.

In the context of intra-MNE KT, knowledge adaptability is essential because recipient units shall alter the knowledge being transferred so as to make it fit with local setting and local market conditions (Jensen & Szulanski, 2004; Ang & Massingham, 2007). As emphasised by Reus and Lamont (2009), the purpose of adaptation is to reconstruct and adjust the knowledge being transferred so that it fits with local cultural and market frameworks. In this sense, recipient unit actors would accept the knowledge more easily. Yet, lack of fit might cause the rejection of the knowledge being transferred, even the rejection from recipient unit attempting to adopt the knowledge. However, perceived cultural differences would create barriers to knowledge adaptability, which would impede the success and effectiveness of KT (Yao et al., 2013). For example, there would be larger differences in cognitive maps, norms and values in greater perceived cultural differences, which might create difficulties for understanding the purpose and nature of the knowledge being transferred due to the differences in shared cognitive categories between managers at MNE HQ and managers at host country subsidiaries (Jensen & Szulanski, 2004; Martins & António, 2010). Cultural differences might also create pressures to make the knowledge being transferred (e.g. knowledge from MNE HQ) similar to those already in use in the local setting (e.g. in host country subsidiaries), weakening the adaptability of knowledge and consequently impede the success of KT. This research therefore hypothesizes that perceived cultural differences are negatively associated with knowledge adaptability (H3c). Formally, the second sub-hypothesis under H3 is:

H3b: The adaptability of transferred knowledge within MNE host country subsidiaries is inversely related to perceived cultural differences.

3.6 Relationship between Managerial Dispositions and Effectiveness of Knowledge Transfer (KT) to MNE Host Country Subsidiaries

As discussed earlier, managerial dispositions are embodied in four elements; managerial trust, managerial ties, competences and skills of managers, and absorptive capacity. Managers with higher dispositions along these dimensions are more likely to appropriately and clearly express and present knowledge and effectively communicate with receivers, contributing to effective KT (Islam et al.,

2015; Li & Lee, 2015; Sheng et al., 2015). The reasoning is that strong managerial capabilities indicate that managers at MNE HQ have strong trusting and social ties with managers in host country markets. Moreover, such managers are likely to have competences and skills related to KT, as well as strong absorptive capacities (Szulanski, 1996; Schlegelmilch & Chini, 2003; Michailova & Zhan, 2015; Harzing et al., 2016; Ferraris et al., 2017). These propositions contribute to the ease in which knowledge is transferred to receivers, increasing the likelihood that knowledge transferred is internalised by subsidiary managers (Minbaeva et al., 2014; Lupton & Beamish, 2016; Reus et al., 2016). As such, this research hypothesizes H4 that managerial dispositions could link with the effectiveness and benefits from KT significantly. Formally, the fourth set of hypothesis H4 is:

H4: Managerial dispositions play a significant role in increasing effectiveness and the benefits from KT from China MNE HQs to host country subsidiaries.

The stronger trusting relationship between managers shall facilitate the both sides to form mutual understanding based on networking and frequent communications during the process of KT (Caligiuri, 2014; Burmeister et al., 2015; Burmeister & Deller, 2016). Consequently, managers tend to perceive lower level of uncertainties and risks but are likely to realize larger benefits from KT, e.g. having the common feeling that KT contributing to enhance the competitive advantage of MNEs (Li, 2005; Chang et al., 2012; Khan et al., 2015; Monteiro & Birkinshaw, 2017). This would then be advantageous to reduce the difficulties in KT but increase the effectiveness of KT. As emphasised by Bjorkman et al. (2007), the establishment of trusting relationship contributes to the effective social integration, which is beneficial to create the shared identity and reduce social conflicts, facilitating the transfer of knowledge especially tacit knowledge. Employees are only likely to join in knowledge exchange once they share a sense of identity or belongings with co-workers. Therefore, this research hypothesizes that managerial trusting relationship plays a positive role to improve the effectiveness of KT and increase the perceived benefits from KT (H4a). Formally, the first sub-hypothesis under H4 is:

H4a: The trust in relationships between China HQ managers and host country subsidiary managers is positively related to the benefits from KT.

Strong ties indicate that there is strong trusting relationship between managers involved in KT, which is therefore beneficial to reduce the difficulties in KT (Inkpen & Tsang, 2005; Kotabe et al., 2011; Khan et al., 2015; Burmeister & Deller, 2016). The strong social ties established between managers at MNE HQ and host country subsidiaries offer a basis for joint problem solving, so as to contribute to the successful KT (Dhanaraj et al., 2004; Chang et al., 2012). With strong ties, managers can establish communication channels, offer opportunities for conversations and improving circumstances for team working and learning, as well as establishing informal ties, contributing to ease the difficulties in KT (Hansen et al., 2005; Zoogah et al., 2011; Chang et al., 2012). In the meanwhile, managers' ties in host country local market contribute to develop business relationship with local partners through local networks, contributing to the increase in benefits from KT, e.g. combining and integrating knowledge being transferred in local settings, and consequently enhancing the competences and capabilities of MNE subsidiaries in local markets (Li et al., 2007; Tortoriello et al., 2012; Andersson et al., 2015; Ishihara & Zolkiewski, 2017). Therefore, it hypothesizes that managerial ties are positively related with effectiveness and the benefits from KT (H4b). Formally, the second sub-hypothesis under H4 is:

H4b: The closer the managerial ties between China HQ managers and host country subsidiary managers, the greater the benefits from KT.

Stronger managerial competencies imply that managers are more capable of making business decisions, negotiating with project teams, networking skills, seeking and exploiting business opportunities (Minbaeva et al., 2014; Nair et al., 2016). These competences and skills (e.g. negotiating and networking skills) could assist both sides in realizing the benefits of KT and form common feelings to achieve organisational goal through KT (Minbaeva et al., 2003; Fey & Furu, 2008; Nair et al., 2015;

Aklamanu et al., 2016). Other managerial competencies (e.g. making reasonable business decisions, seeking and exploiting business opportunities) could contribute to more effective combination and integration of knowledge being transferred in local settings for enhancing competitive advantage of subsidiaries in host country markets (Yang et al., 2008; Gooderham et al., 2011; Michailova & Mustaffa, 2012; Ferraris et al., 2017). The empirical work of Chang, Gong and Peng (2012) especially reinforces that managerial competence of opportunity seeking (the search and utilization of resources and opportunities through social relationship) can be critical to reduce difficulties but increase the success of KT based on the strong social relationship. It therefore hypothesizes that managerial competencies are positively related to the effectiveness and benefits from KT (H4c). Formally, the third sub-hypothesis under H4 is:

H4c: The higher the competencies in sharing knowledge between China HQ managers and host country subsidiary managers the greater the benefits from KT.

Absorptive capacity (motivation and ability to acquire and assimilate) largely determines the successful KT. The strong absorptive capacity indicates that the transferred knowledge is successfully received by the subsidiares and the received knowledge is integrated with existing routines and adopted in subsidiary practices and operations (Kotabe et al., 2011; Minbaeva et al., 2014; Song, 2014; Peltokorpi, 2017). In the case of intra-MNE KT from HQ to host country subsidiaries, stronger absorptive capacity implies subsidiaries have stronger potential to bear upon new knowledge from HQ (Chang et al., 2012). That is, subsidiaries with stronger absorptive capacity would be more ready to receive and apply the transferred knowledge, for instance, having more powerful intent to receive knowledge and clearer plan and system in integrating and managing knowledge (Szulanski, 1996; Lee & Wu, 2010; Schleimer & Pedersen, 2014; Tseng, 2015). In other words, with strong absorptive capacity, knowledge from MNE HQ is combined or integrated with existing knowledge in subsidiaries. This kind of integration and combination facilitates to create novel and useful new knowledge (Smith et al., 2005), which is

potentially more relevant to the subsidiary and more widely applied in local setting (Chang et al., 2012). As such, this section hypothesizes that absorptive capacity positively impacts on subsidiary managers' capacity to transfer knowledge, contributing to the effectiveness and benefits from KT (H4d). Formally, the fourth sub-hypothesis under H4 is:

H4d: The absorptive capacity of host country subsidiary managers is positively related to the benefits from the knowledge transferred from China MNE HQ.

3.7 Relationship between Knowledge Structure and Managerial Dispositions in the Context of Intra-MNE Knowledge Transfer (KT)

The literature has shown how knowledge structure in terms of knowledge stickiness and adaptability also influence KT (Jensen & Szulanski, 2004; Kauppila et al., 2011; Park & Vertinsky, 2016; Qin et al., 2017). Valuable knowledge is often sticky, complex and in a tacit nature. Transferring tacit knowledge with complicated structure requires teaching. The complex knowledge structure tends to the knowledge stickiness and inadaptability of knowledge between senders and recipient units. In this sense, the transfer of knowledge with complex structure costs more and requires managers have strong capabilities to articulate, network, absorb, assimilate and integrate knowledge (Argote et al., 2003; Park & Vertinsky, 2016). As emphasised by Chang et al. (2012), the transfer of knowledge with complex structure requires extensive interactions and focused efforts from managers. Therefore, knowledge with complex structure would not diffuse easily unless managers have strong dispositions (competencies, abilities and motivations). In other words, these different knowledge structure (stickiness and adaptability) would cause impediments and difficulties in the process of KT, which require the managerial dispositions (trusting, managerial ties, managerial competencies and absorptive capacity) to handle with (Minbaeva & Michailova, 2004; Chang et al., 2012; Qin et al., 2017). Formally, the fifth set of hypothesis H5 is:

H5: The structure of knowledge (stickiness and adaptability) will have a significant impact on China MNE HQ managers' dispositions to transfer knowledge to host country subsidiary managers.

In this research, *knowledge stickiness* refers to the difficulties encountered within the process of KT (Szulanski, 1996; Li & Hsieh, 2009). Sticky knowledge is from the tacit knowledge that is less codifiable and less teachable but complex, so that difficult to be transferred (Kogut & Zander, 1993; Jensen & Szulanski, 2004; Szulanski et al., 2016). Tacit knowledge with higher level of stickiness tends to increase difficulties in the transferring process. The transfer of sticky knowledge therefore requires MNEs to input more resources and materials, to reinforce managerial dispositions in terms of building trusting relationship, networking and social tie and enhancing absorptive capacity, for realizing effective transfer (Minbaeva et al., 2014; Szulanski et al., 2016; Dasí et al., 2017). That is to say, knowledge stickiness tends to weaken the managerial dispositions to manage the KT process. It therefore hypothesizes the negative role of knowledge stickiness to managerial dispositions (H5a). Formally, the first sub-hypothesis under H5 is:

H5a: Knowledge stickiness is negatively related to China HQ managers' dispositions to transfer knowledge to host country subsidiary managers.

In this research, the term of *knowledge adaptability* reflects the extent to which the both sides of the KT have similar knowledge base and similar knowledge application systems (Cummings, 2004), determining whether the knowledge is adaptive to combine, reconfigure and integrate for using at the recipient units (Szulanski & Jensen, 2006; Harzing et al., 2016). Higher levels of knowledge adaptability imply there are knowledge symmetries between senders and receivers in knowledge stocks and in their applications (Cummings, 2004; Szulanski & Jensen, 2006; Harzing et al., 2016). As such, knowledge being transferred will be more adaptive, e.g. more easily implemented, combined, absorbed and reconfigured in adapting to local needs (Khan et al., 2015; Harzing et al., 2016; Lupton & Beamish, 2016). Conversely,

asymmetries in knowledge stocks, systems, and processes between China HQ and host country subsidiaries will lead to adaptability issues, making it difficult for managers to establish dispositions to effectively transfer knowledge, e.g. asymmetries increase the difficulties in establishing trust, ties and competencies and weaken absorptive capacity (Schleimer & Pedersen, 2014; Jeong et al., 2017). Therefore, the hypothesis suggests a positive role for knowledge adaptability and managerial dispositions to transfer knowledge (H5b). Formally, the second sub-hypothesis under H5 is:

H5b: Knowledge adaptability is positively related to the managerial capabilities in managing the process of KT.

3.8 Relationship between Knowledge Structure and Effectiveness of Knowledge Transferred to MNE Host Country Subsidiaries

Knowledge structure (stickiness and adaptability) are also directly linked to the effectiveness of KT, given that different knowledge structure factors create barriers and difficulties in the process of KT (Minbaeva et al., 2014; Inkpen & Tsang, 2016; Szulanski et al., 2016). The hypothesis H6 is therefore proposed to emphasise the significant role of knowledge structures on effectiveness of KT. Formally, the sixth set of hypothesis H6 is:

H6: Knowledge structure has a significant influence on the effectiveness of knowledge being transferred from China MNE HQ to host country subsidiaries.

Knowledge stickiness is a transfer barrier because it increases the difficulties for transferring knowledge. As emphasised by Szulanski (1996), transferring the sticky knowledge can be costly, time consuming and may not be successful. Knowledge stickiness is often associated with tacit knowledge which is often difficult to be codified and taught but complex (Jensen & Szulanski, 2004; Sanchez-Vidal et al., 2016; Szulanski et al., 2016). The transfer of tacit knowledge with high level of knowledge stickiness often requires experts with diversified professional backgrounds to teach or learn it, requiring more effort in interactions and

communications among them. As such, to either knowledge senders or recipients, the transferring of sticky knowledge is more challenging and therefore costly (Lucas, 2006; Riusala & Smale, 2007; Nair et al., 2015). This research argues that, it would be more difficult to understand and master sticky knowledge since it locates among different employees and departments, which then impedes the effectiveness of absorbing, modifying and integrating knowledge in recipient units of MNEs (Zander & Kogut, 1995; Simonin, 1999; Minbaeva, 2007; Reiche et al., 2015). As such, it hypothesizes that knowledge stickiness is negatively related to the effectiveness of knowledge being transferred (H6a). Formally, the first sub-hypothesis under H6 is:

H6a: Knowledge stickiness is negatively related to the effectiveness of knowledge transferred from the HQs of China MNEs to host country subsidiaries.

High level of knowledge adaptability indicates that the both parties have similar knowledge management systems and transfer processes, which can contribute to the transferred knowledge being understood and absorbed more effectively in recipient units of MNEs (Jensen & Szulanski, 2004; Harzing et al., 2016; Lupton & Beamish, 2016). Also, high level of adaptability implies that the transferred knowledge can be more easily to be modified, combined, reconfigured and integrated in adapting to local setting by MNEs (Hong & Nguyen, 2009; Li & Hsieh, 2009; Corredoira & McDermott, 2014; Reus et al., 2016). As such, knowledge adaptability contributes to increase the effectiveness of KT within MNEs (Khan et al., 2015; Rui et al., 2016). It therefore makes the hypothesis that knowledge adaptability is positive to trigger higher effectiveness of KT (H6b). Formally, the second sub-hypothesis under H6 is:

H6b: Knowledge adaptability is positively related to the effectiveness of knowledge transferred from the HQs of China MNEs to host country subsidiaries.

3.9 Summary

This chapter developed the conceptual model and hypotheses regarding determinants of HQ-host nation subsidiary KT within MNEs. In total, six sets of

hypotheses are generated, with respect to the debates in the literature, which also serve the objectives of the thesis, aiming to contribute to understanding the roles of perceived cultural differences, managerial dispositions and knowledge structure to HQ-host nation subsidiary KT within China MNEs. The sets up enable the study to develop rigorous examinations and hence offer insightful conclusions and views regarding HQ-host nation subsidiary KT within MNEs. Based on prior literature, the chapter identified several key elements related to intra-MNE KT, in terms of perceived cultural differences, managerial dispositions, knowledge structure, and effectiveness of KT. Six groups of hypotheses are proposed to state the relationship between these variables including: the effect on KT of perceived cultural differences between managers at MNE HQ China and managers at host country subsidiaries (H1), effect of perceived cultural differences on managerial dispositions (H2), impact of perceived cultural differences on knowledge structure (H3), effect of managerial dispositions on effectiveness of KT (H4), influence of knowledge structure on managerial dispositions (H5), and impact of knowledge structure on effectiveness of KT (H6). The next chapter, research methodology, seeks to justify the methodological frame for this research, explain the research design, data collection and data analysis methods.

CHAPTER 4 RESEARCH METHODOLOGY

4.1 Introduction

This chapter presents research methods, which are developed for conducting rigorous empirical investigations in relation to the objectives of this research into KT within MNEs. Precisely, the research methodology is discussed and presented in the following sections. Section 4.2 and Section 4.3 explain the research paradigm, which justifies the philosophical standpoint of the thesis, and the chosen research approach along with the methodological choice. Section 4.4 then presents the selection of research strategies in what follows. The subsequent two sections (4.5 and 4.6) introduce the design of the interview procedure as well as the questionnaire survey. How to conduct the pilot study and test the reliability and validity of questionnaires are described in Section 4.7. The sampling procedure and data collection is then illustrated here in Section 4.8. The final two sections (4.9 and 4.10) justify techniques of data analysis and discuss the ethical considerations in the thesis.

4.2 Philosophical Stance of the Thesis

This research aims to uncover some of the major impediments to KT and assess their impact on the intra-firm KT, namely between Headquarters of China MNEs and their subsidiaries. Along this research, the key purpose is to analyse the antecedents of KT (e.g. distance, managerial dispositions and knowledge structure) and assess their effects on KT within China MNEs. The present author argues that China MNEs might expect to gain competitive advantage in international market driven by innovation via successful knowledge management. This aim is rooted in the knowledge-based theory from the objectivist ontological perspective holding the positivism philosophical position.

In the field of International Business (IB), from the ontological perspective which reflects the philosophical stance about the nature of knowledge (Saunders et al.,

2016), it emphasises whether the organisational knowledge is objective and measurable and whether organisational knowledge can be acquired or whether it is experienced from different units of MNEs (Hislop, 2013; Fjellstrom & Guttormsen, 2016). This emphasis then brings two competing philosophical positions in this field of IB: the objectivist perspective and the practice-based perspective (Werr & Stjernberg, 2003; Schultze & Stabell, 2004; Corradi et al., 2010; Hislop, 2013). From the objectivist ontological perspective, positivist researchers argue that organisational knowledge is not only an entity being objective in character, but also can be codified and separated from the people who possess and use it (Cook & Brown, 1999; Sullivan & Marvel, 2011; Song, 2014). Objectivists emphasise there is causality and stable patterns in KT process that can revealed and tested via scientific methods of verification (Nonaka & Peltokorpi, 2006; Hallin & Lind, 2012; Reiche et al., 2015).

Concretely, from the objectivist ontological perspective, there are four distinct characteristics of organisational knowledge. Firstly, knowledge is viewed as a commodity which people possess, but it can exist independently of people (King & Marks, 2008; Driffield et al., 2010; Schleimer & Pedersen, 2014). It suggests that focal or explicit knowledge (for instance, documents and computer systems) is an object that can be codified, articulated and separated from the person who creates and adopts it. Secondly, knowledge is an objective fact based on the positivism philosophy. As argued by McAdam and McCreedy (2000), knowledge is the truth that can be reflected via scientific facts and laws. This view is rooted in the positivistic philosophy (Maylor & Blackmon, 2005; Saunders et al., 2016). Such kind of general laws and regulations are the objective knowledge. Thirdly, there are two kinds of knowledge: explicit knowledge and tacit knowledge. The explicit knowledge (objective knowledge, formal and with scientific formulae) privileges the tacit knowledge (subjective, more informal, personal and individualised, difficult to articulate) (Tsoukas, 2009; Haas & Cummings, 2015). Finally, knowledge is viewed as a cognitive and intellectual process (Gourlay, 2006; Ciabuschi et al., 2011). That is to

say, the intellectual reflection could contribute to produce and develop the knowledge.

From the objectivist perspective of knowledge, the knowledge-based theory of the company is the dominant theory (Hislop, 2013; Peltokorpi & Vaara, 2014; Khan et al., 2015). In line with this theory, the Resource-Based View (RBV) and knowledge-based views have argued that firstly, organisational knowledge is the essential source for companies to win competitive advantage as the knowledge is supposed difficult to replicate and copy (Castellani et al., 2013; Haas & Cummings, 2015); secondly, companies can provide a more effective system than markets for transferring and managing knowledge (Wang et al., 2009; Donate & Guadamillas, 2010; Peltokorpi & Vaara, 2014; Awate et al., 2015). As such, knowledge management in terms of successfully transferring and utilizing knowledge has been the critical issue for companies including MNEs. Concretely about knowledge management, from the objectivist epistemology perspective, research has argued that firstly, the explicit knowledge can be shared and transferred via the transmitter/receiver model, e.g. within different units of MNEs. That is, the explicit and codified knowledge (for instance, documents and computer files) can be transferred from isolated senders to separated receivers (Haas & Hansen, 2007; Donate & Guadamillas, 2010; Caligiuri, 2014; Crespo et al., 2014). Secondly, the tacit knowledge can be externalised and converted to explicit knowledge first, and then be transferred within MNEs.

An alternative epistemology of organisational knowledge is the practice-based or interpretive perspective. Practice emphasises the purposeful human activity that contains both physical and cognitive elements which are inseparable (Tippmann et al., 2012; Hislop, 2013). As such, the application and development of knowledge should be an essential aspect of practice. While the objectivist epistemology perspective is rooted with the positivism philosophy, the philosophical stance of practice-based perspective of knowledge is more likely to be interpretive (Tsoukas, 1996; Empsom, 2001) or pragmatists (Cook & Brown, 1999). To be specific, from the

practice-based perspective or interpretivist perspective, four characteristics of organisational knowledge are: firstly, knowledge is embedded in practice, which argues that knowledge is inseparable from human activity (Fransson et al., 2011; Nicolini, 2011). Secondly, knowledge is multi-dimensional and non-dichotomous, which argues that knowledge has both tacit and explicit elements which cannot be separated (Werr & Stjernberg, 2003; Caligiuri et al., 2014), rather than that knowledge is ethic tacit or explicit emphasised in the objectivist perspective. For instance, even a text (which is usually viewed as the form of codified/explicit knowledge) has the tacit components without which no reader can make sense of it. As such, there is no purely explicit knowledge (Ciabuschi et al., 2011; Tippmann et al., 2012). Thirdly, knowledge is socially constructed and culturally embedded. Different with the objectivist perspective that argues knowledge is objective and independent from social and cultural values, the practice-based perspective emphasises the socially cultural embeddedness of knowledge (Hong et al., 2010; Fransson et al., 2011). With regard to knowledge management from the practice-based epistemological perspective, the effective sharing of knowledge should depend on individuals' sufficient understanding of tacit assumptions and values embedded in the knowledge of others (Hong & Nguyen, 2009; Ripamonti & Scaratti, 2011). In order to do so, social interaction, face-to-face communication, as well as immersion in practice (observing and/doing) should be the essential means of sharing knowledge (Bolisani & Scarso, 2000; Strati, 2007; Bouty & Gomez, 2010).

Standing on the objectivist ontology which is the dominant perspective in the field of knowledge management (Riusala & Smale, 2007; Hislop, 2013; Schleimer & Pedersen, 2014; Reiche et al., 2015), the fundamental premise of this research is the view held by the present author that organisational knowledge is the objective assets and resources of China MNEs that would be difficult to replicate by other companies. As such, the KT (via transmitter/receiver) is possible within MNEs, albeit it is subject to various impediments (e.g. distance, managerial dispositions and knowledge structure). For instance, the present author believes that explicit knowledge can be expressed in formal and systematic language and shared in the form of data,

documents and files between HQ of MNE and its subunits (Gourlay, 2006; Caligiuri, 2014; Crespo et al., 2014; Haas & Cummings, 2015). Tacit knowledge (more informal, more personal and individualised) can be externalized via dialogue and reflection and then shared (Haas & Hansen, 2007; Tsoukas, 2009; Peltokorpi & Vaara, 2014; Awate et al., 2015), though there are impediments.

In the meanwhile, the present author believes that there are realities in the social world that can be extracted through standardised methods based on large-scale observations. Thus, this thesis intends to establish and test patterns and mechanisms that reveal some of the antecedents and outcomes of intra-MNE KT by using scientific methods, for instance, statistical tools, based on large scale samples from China MNEs. The present author believes that the extracted patterns and mechanisms in KT are meaningful and valuable in guiding the knowledge management activities of China MNEs. As such, the thesis tends to follow the objectivist philosophical stance, namely standing on objectivism ontological position and positivism epistemological position.

4.3 Research Approach Justification and Methodological Choice

4.3.1 Justification of Research Approach: Deduction

The deductive approach is dominant in this thesis with the supplement of inductive approach, as it stands on positivism and objectivism philosophical stance which employs the standardised methodological procedure to examine some of the impediments of intra-firm KT within China MNEs. The deductive approach emphasises the logic that the conclusions must be true when the premises are true (Bryman & Bell, 2014; Saunders et al., 2016). Deductive approach is aiming at testing existing theories (e.g. verifying or denying existing theories). The generalisability of deductive reasoning is from the general to the specific. That is, a research using deductive approach often starts from reviewing prior theories, generating hypotheses, then collecting appropriately sized samples for theory testing (Miller & Tsang, 2011; Haas & Cummings, 2015). According to Hislop (2013), a positivistic

study is more likely to employ a deductive approach as the standardised procedure to propose hypotheses based on prior theories and collect large observations for testing theories (Peltokorpi & Vaara, 2014; Awate et al., 2015). The reasoning logic framework of deduction fits the research purpose of this thesis and therefore, it is the deduction approach that is adopted in this thesis.

While the deduction approach is in dominant position in this thesis, the induction approach (emphasizing the reasoning logic that known premises are adopted to generate untested conclusions, Bryman & Bell, 2014; Saunders et al., 2016) is also employed for pre-investigation in better understanding how the impediments (perceived cultural differences, managerial dispositions and knowledge structure) of KT affect the knowledge management based on interview data from managers of China MNEs.

Based on the framework of deduction approach with the support of induction approach, this thesis reviews three key issues involved in KT in prior literatures, in terms of perceived cultural differences/contextual issues, managerial dispositions, and knowledge structure at first. After that, it establishes a conceptual framework along with several groups of research hypotheses to state the relationship between these three key issues and effectiveness of KT in MNEs. The researcher then undertakes several interviews with managers in China MNEs for shaping the questionnaire design and the measures for the variables. After that, it collects large samples from China MNEs and employs statistical methods for processing the data and testing the research hypotheses.

4.3.2 Methodological Choice: Exploratory and Deductive

Consistent with the extant literature, in particular, prior objectivist perspective studies (e.g. Chang et al., 2012; Peltokorpi & Vaara, 2014; Berry, 2015) this thesis employs quantitative research methods supported by qualitative research (interview), for analysing intra-MNE KT. Explicitly, the thesis firstly uses the

qualitative methods as pre-research, prior to survey to guide and motivate measures/variables of survey questionnaire design, in building up prior studies in the extant literature.

The embedded design of dominant quantitative method supported by qualitative shall be more advantageous to overcome the limitations of mono quantitative research or mono qualitative analysis. In the area of business management, even standing on the objectivist philosophy, many researchers prefer to do some qualitative research as the preparation for the dominant quantitative analysis (Molina-Azorin & Cameron, 2010; Cameron, 2011; Peltokorpi & Vaara, 2014), by acknowledging the contributions of qualitative research to aid variable measurement and shape conceptual framework via rich and insightful data. Many studies of intra-MNE KT from the objectivist perspective (Chang et al., 2012; Peltokorpi & Vaara, 2014; Berry, 2015), accept the view that knowledge can be codified, articulated and shared among subunits within companies, and have adopted a similar, in terms of undertaking interview-based qualitative research prior to employing quantitative analysis. The research design process of the thesis is shown in Figure 4.1 (next page).

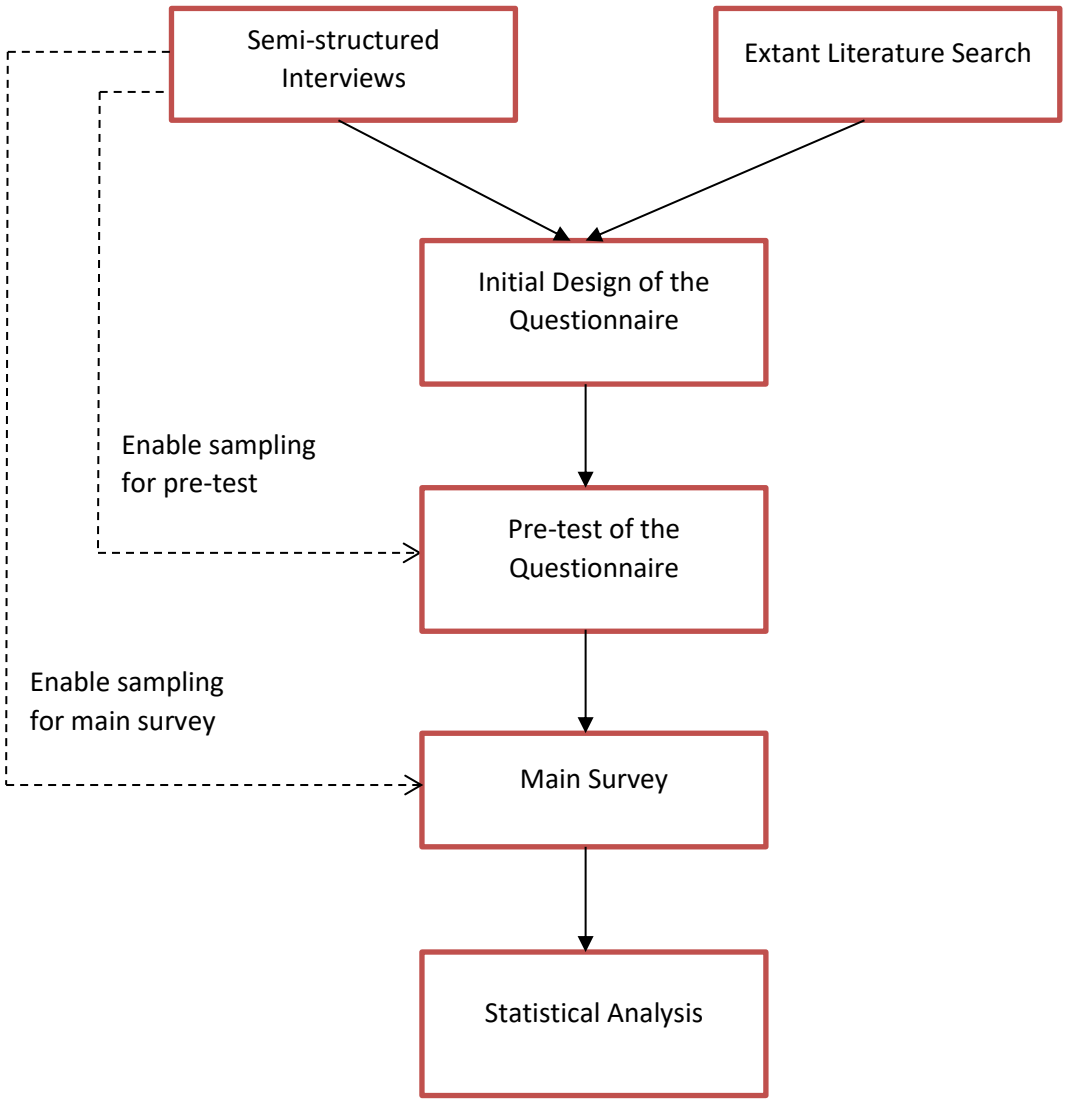

Figure 4.1 The process of research design and data analysis in the thesis

There are three benefits from undertaking pre-investigation interviews. Firstly, the pre-investigation interview contributed to a better understanding of the research problem. The purely quantitative analysis might be of an insufficient depth to understand the process of intra-firm KT in China MNEs. Specifically, there might be differences regarding how the identified impediments (perceived cultural differences, managerial dispositions and knowledge structure) relate with KT and management behaviours in different China MNEs. Conducting in-depth interviews with managers in China MNEs contributed to the collection of a richer and insightful qualitative data

for understanding the knowledge management process. Secondly, the interviews assisted with fulfilling the research objectives. The major purpose of this research is to quantitatively examine the influences of perceived cultural differences, managerial dispositions and knowledge structure on the effectiveness of HQ-host nation subsidiary KT using survey tools. The semi-structured interviews informed the survey design by contextualising the questions and enabled the author to structure the questions in way that would be meaningful for respondents. The interviews helped to reduce ambiguity, helped to clarify issues of concern to them, and in the end a high response rate was achieved. Conducting the interviews also helped with test piloting, and again, this informed the main survey. The interviews also helped with snowball sampling by obtaining contact information of potential participants. The initial round of contacts for pre-testing and main survey was obtained during the interviews. Further contacts were obtained from the initial round of contacts, and subsequent contacts were obtained through snowball sampling. Thirdly, pre-survey interviews contributed to shaping the measures of key variables, lending support to extant literature measures as well as updating, and hence strengthening the survey measures/variables validity, reliability and offer more in-depth analysis in this thesis.

The interview outline was based on three key questions in line with the theoretical suppositions in terms of perceived cultural differences, managerial dispositions, and knowledge structure essential to the effectiveness of HQ-host nation subsidiary KT within China MNEs. To each of these three key questions, sub-questions were asked depending on interviewees responses.

(1) What are the top five best practices (organisational knowledge) in the working unit?

(2) What are the top three impediments (such as perceived cultural differences, managerial dispositions and knowledge structure) of the transferring of these best practices between HQ and subsidiaries (current working unit)?

(3) What knowledge management strategies, systems or implementations have been carried out in your current working unit or the HQ of MNE?

It should be noted that the qualitative results from the interviews have not been included in the results reported in Chapter 5. This is because the interviews were designed specifically for pre-investigation and to motivate the questionnaire design. This was thought necessary given the potential for conceptual ambiguity that may have arisen since the concepts used in relation to KT and its impediments are motivated by a predominantly Western literature, in particular the US. The initial interviewees come from two China MNEs with an extensive international reach: Huawei and Hair Group. Huawei is a world leader in the field of telecom network equipment, with subunits in more than 170 countries and with over 170,000 employees; while Haier Group is a leader of household electrical appliances, having 60 subunits worldwide with over 50,000 employees. The researcher extended the scope of interviewees based on these initial contacts by asking participants to recommend their colleagues who are also managers in China MNEs to join in the interview. The researcher finally interviewed 15 managers in 5 China MNEs including Huawei, Haier, Skyworth, Tencent and Lenovo, shown in Table 4.1.

Table 4.1 Lists of interviewees

No.	Department	Date	Company /MNE	Location	Method of interview	Time (minutes)
M1	R&D	18/12/16	Huawei	Ipswich (UK)	Face to face	60
M2	Marketing	07/01/17	Skyworth	Chennai (India)	Video call via Wechat	70
M3	Marketing	08/01/17	Skyworth	Ho Chi Minh (Vietnam)	Video call via Wechat	60
M4	R&D	14/01/17	Huawei	Ipswich (UK)	Face to face	60
M5	R&D	15/01/17	Huawei	Ipswich (UK)	Face to face	60
M6	Marketing	11/03/17	Huawei	Shenzhen (China)	Face to face	80
M7	R&D	11/03/17	Huawei	Shenzhen (China)	Face to face	60
M8	R&D	12/03/17	Huawei	Shenzhen (China)	Face to face	60
M9	Marketing	12/03/17	Skyworth	Shenzhen (China)	Face to face	90

M10	Social networking group	13/13/17	Tencent	Shenzhen (China)	Face to face	60
M11	R&D	25/13/17	Huawei	Wuhan (China)	Face to face	70
M12	R&D	26/13/17	Huawei	Wuhan (China)	Face to face	60
M13	Overseas market department	09/04/17	Lenovo	Beijing (China)	Face to face	70
M14	Marketing	15/04/17	Haier	Qingdao (China)	Face to face	60
M15	Product design	16/04/17	Haier	Qingdao (China)	Face to face	60

As shown in Table 4.1, the interviews were conducted one-to-one via using either face-to-face or video calls in WeChat. To be specific, the researcher sent out an invitation to interview to potential participants via email in the first instance, with a brief introduction to the research topic to potential participants. The researcher then sent out the informed consent and brief introduction of the research topic along with outline of the interview to managers who confirmed their willingness to participate in the interview. Another message was then sent to each interviewee to confirm the date, location, approximate duration of the interview, and method of interview. Interviews lasted between 60 to 90 minutes and all interviews were audio recorded (with the permission of interviewees). The interview was conducted and recorded in the Chinese language. The researcher transcribed the interview data in word files and then translated them to English. Also, the researcher double checked the contents of the English version to ensure it clearly expressed the key ideas and thoughts expressed during the interview.

Clearly, as suggested by prior authors, quantitative analysis can contribute to enhance the reliability, objectivity and generalisability of research conclusions of this thesis in terms of exploring what the relationships between perceived cultural differences, managerial dispositions, knowledge structure, and effectiveness of intra-MNE KT are (Molina-Azorin & Cameron, 2010; Cameron, 2011; Peltokorpi & Vaara, 2014), while various researchers in the field of international business (IB) have also acknowledged the contributions of making quantitative analysis to

understand intra-MNE KT from the objectivist perspective (Chang et al., 2012; Peltokorpi & Vaara, 2014; Berry, 2015) that takes the view that knowledge can be codified, articulated and shared among subunits within companies. More importantly, quantitative methods can help to evaluate the extent to which factors (perceived cultural differences, managerial dispositions, and knowledge structure) affect intra-MNE KT. These studies lend support to the approach adopted by the thesis and given such, quantitative outcomes could offer meaningful implications to knowledge management in MNEs based on understanding the importance of these factors and how they affect intra-firm KT within China MNEs.

4.4 Justification to Research Strategy: Questionnaire Survey

This thesis employs the questionnaire survey as the research strategy, standing on positivism philosophy and uses the dominantly quantitative method for exploring some of the impediments of KT in China MNEs. Many studies have examined KT in MNEs. Reviewing this literature is valuable for shaping the conceptual model and developing hypotheses in this thesis (Vaara et al., 2012; Minbaeva et al., 2014; Inkpen & Tsang, 2016; Qin et al., 2017). However, prior studies mostly rely on secondary data that might be less likely to answer, comprehend, and represent research problems, questions in different and specific contexts. To advance research, this thesis, therefore, stresses originality and focuses on the issue of KT in the specific-focal context: intra-firm KT between HQ and subsidiaries of China MNEs. In order to understand and answer the research questions more comprehensively, importantly, the thesis employs primary data to run the analysis.

Questionnaire survey is a suitable and convenient strategy for collecting primary data by posing questions and documenting the responses (Malyor & Blackmon, 2005; Ambos & Ambos, 2009; Chen et al., 2010; Ling et al., 2016; Saunders et al., 2016). Especially, a structured questionnaire (such as using Likert-type scales) is often applied to gather large amount of quantitative data for statistical analysis. This fits the research purpose of this thesis, namely quantitatively exploring some of the

major impediments of intra-MNE KT based on large samples. Also, conducting questionnaire survey facilitates this research to generate findings from a number of samples (managers in several China MNEs) to the total target populations (e.g. China MNEs that have similar features with the sample MNEs). Therefore, questionnaire survey is treated as the dominant strategy in this thesis.

4.5 Questionnaire Design and Measures

Regarding KT, this thesis focuses on the intra-MNE transfers between HQs of MNEs and subsidiaries, namely the dyadic flow of knowledge between MNE HQs and subsidiaries. As emphasised by Ghemawat (2001) and Ambos and Ambos (2009), intra-MNE KT can be defined as a problem related to distance, in terms of geographical, cultural, socio-economic, and institutional. The recognition of such kind of KT between HQ and subsidiaries of MNEs is separated by space and time, culture, system and language, as emphasised in prior literature (Vaara et al., 2012; Castellani et al., 2013; Peltokorpi & Vaara, 2014; Inkpen & Tsang, 2016; Ling et al., 2016). As a consequence, the spatial and temporal separation raises issues related to micro-level factors such as individual experiences, attitudes and cognitive representations, which could lead to differences in managerial dispositions (willingness to transfer and the capacity to absorb knowledge) in the context of KT (Vaara et al., 2012; Inkpen & Tsang, 2016; Qin et al., 2017). Furthermore, some of these factors (e.g. managerial dispositions and knowledge structure) would affect the effectiveness of KT (Chang et al., 2012; Tippmann et al., 2012; Michailova & Mustaffa, 2012; Berry, 2015; Tseng, 2015).

To highlight, first of all, intra-MNE KT requires MNEs to develop learning capabilities for absorbing, integrating and developing knowledge in the process. Secondly, this issue of intra-MNE KT involves managerial dispositions, such as managerial incentives, managerial experience and capabilities, which relate to intention and choice of MNEs in KT. Importantly, such issues concern MNEs' capacity for adaptive dynamics in global competitive business markets. As such, the transfers of

knowledge imply MNEs managing knowledge across borders and reducing uncertainty in developing new business ventures. Thirdly, and more essentially, the successful transfer and integration of knowledge requires MNEs to deal with the consequences which have inevitably arisen from discrete situations (because of overseas operations of MNEs) where variant situational discrepancies could cause different managerial dispositions (managerial motivations and capabilities) in transferring and integrating knowledge and cause different knowledge structure (e.g. stickiness and adaptability) that impede the effective process of transferring knowledge.

As indicated in the conceptual framework established in Chapter 3, the essential elements this thesis considers are perceived cultural differences, managerial dispositions, knowledge structure, and effectiveness of KT. It intends to evaluate the indicative relationship between these factors, namely how perceived cultural differences affects the effectiveness of intra-MNE KT via affecting managerial dispositions and knowledge structure. The questionnaire is therefore designed to measure these key elements in the conceptual framework for testing research hypotheses, including perceived cultural differences, managerial dispositions (motivations and capacity), knowledge structure (stickiness and adaptability), and effectiveness KT. The main parts of the questionnaire therefore cover measuring these issues.

In studies which intend to conduct statistical analysis, the Likert-type scales (five points or seven points) that use numbers (for instance, 1 to 7) to represent participants' agreeing attitude toward items would be very suitable to get quantitative data (Sekaran & Bougie, 2010; Wilson, 2010; Tabachnick & Fidell, 2013). As such, this thesis has adopted seven-point Likert scales to measure variables. The questionnaire is designed based on both prior studies that have had high level of reliability and validity. Besides, the first part would survey basic features of participants and their companies via demographic variables, for instance, gender,

age, education level, firm size, firm industry and annual revenue scope (in questionnaire Part 1). This section then presents and justifies the measurers of key elements in the conceptual framework.

4.5.1 Measures of Perceived Cultural Differences (in Questionnaire Part 2)

Part 2 of the questionnaire relates to the perceived cultural differences between home and host country in the context of KT using Likert seven-point scale. In the field of IB, the tendency is to employ cultural frameworks using quantitative measures to capture underlying cultural values at the national level (Kogut & Singh, 1988; House et al., 2004; Sarala & Vaara, 2010). Yet, the usage of quantitative composite indices of national cultural differences may not be an adequate measure of distance as perceived by the members of an organization because it ignores the context-specific features (Kirkman et al. 2006; Teerikangas & Very, 2006; Sarala & Vaara, 2010).

Numerous studies have measured cultural and psychic distance. The most prominent is the index by Kogut and Singh (1988) which bundles Hofstede's dimensions of culture into one index value, e.g. using arithmetic average of deviations along each of Hofsede's four cultural dimensions of each country from a focal country, or using Euclidean distance approach (Tung & Stahl, 2018). While acknowledging that these distance measures help one understand cultural distance, distance scores do not help evaluate how cultures differ qualitatively. In bundling cultural dimensions into one distance construct, these indices omit accounting for qualitative differences in how various dimensions may affect cultural differences, to a larger or lesser extent (Richter et al., 2016). Also, these indices do not serve as a measure to understand differences in the impacts of the multidimensional construct of culture on individual capabilities, intentions and actions.

In line with a more disaggregated approach to culture, this thesis seeks to identify the drivers and motivations of managers engaged in KT activity at a more local level. As such, it is more appropriate to measure how managers engaged in transfer activity perceive cultural differences between the sending and receiving units. Consequently, the approach recognizes the subjectivity of perceived cultural differences and in this sense it draws on a social-psychological perspective (Peterson & Barreto, 2014; Peterson & Barreto, 2018). That is, in the context of HQ-host nation subsidiary KT within MNEs it is acknowledged that cultural differences are embedded in values, cognitive thinking, languages and beliefs of managers in the HQs and subsidiaries of China MNEs. Such cultural differences will ultimately affect actions and behaviours of managers that participate in KT.

This thesis uses Hofstede's cultural dimensions to measure culture (power distance, uncertainty avoidance, masculinity and collectivism) but my study examines culture at the individual level using questionnaire survey approach more consistent with Richter et al. (2016) and Peterson and Barreto (2018). As discussed in Section 3.2 in Chapter 3, standing on the Type 2 deliberative processing indicated in the cognitive dual-processing theory (Kahneman, 2011; Peterson & Barreto, 2018), individuals from the same society will differ largely because of slower, deliberative, reflective, and consciously monitored processes. That is, beliefs, perceptions, and world views (cultural mental models) of individuals will vary according to the indivdiuals' experiences of operating in different social (work) groups. An individual's current social contexts will influence the kinds of deliberative reasoning employed in particular situations, such as when transferring knowledge, especially given all the impediments that affect KT.

As such, when individuals respond to survey questionnaires, they are using the Type 2 processing. This is because they are having to deliberate on the questions using conscious thoughts (Peterson & Barreto, 2014; Peterson & Barreto, 2018). Hence, it

is not surprising that managers from the same national culture will respond differently to a given set of questions.

The approach in this thesis using Hofstede's cultural dimensions to measure culture (power distance, uncertainty avoidance, masculinity and collectivism) is consistent with recent publications in IB and IM, which have also used Hofstede's dimensions in measuring culture across individuals, for instance, in the papers of Fong Boh et al. (2013), Kaasa, Vadi & Varblane (2013), Fischer et al. (2014), Minkov and Hofstede (2014) and Richter et al. (2016). This approach on the one hand challenges a common assumption that individuals are homogenous within countries and allows for heterogeneity within countries (as in Type 2 processing in Peterson & Barreto, 2018). On the other hand, this approach employs the more commonly used values put forward by Hofstede (1980) as the operationalization of perceived cultural differences, enabling better comparisons with the majority of the existing cross-cultural studies (Taras et al., 2010; Richter et al., 2016; Mutiara et al., 2019). Therefore, this thesis also measures perceived cultural differences between home and host country using these four elements via questionnaire items. As such, drawing on Kaasa, Vadi and Varblane (2013) and Richter et al. (2016) which use the cultural value scales (CVSCALE) suggested by Yoo et al. (2011), the measures of perceived cultural differences are shown Table 4.2. The CVSCALE allows for measuring the cultural dimensions at the individual level. Measurement at the individual level allows one to account for variability of cultural values across individuals (Taras et al., 2010). The thesis asks participants/managers to rate the perceived level of cultural differences elements from least different (1) to greatest different (7). Items of measures are summarized in Table 4.2.

To be specific, power distance reflects managers' perception of inequality and reflects the non-symmetrical nature of relationships that may exist between two units (such as MNE HQ and a host country subsidiary) (Hofstede, 2001; Ardichvili et al., 2006; Qin et al., 2008; Peterson & Barreto, 2014; Peterson & Barreto, 2018). This

thesis uses three items (P2Q1, P2Q2 and P2Q3), namely the degree of self-direction within the work environment, the degree of autonomy in making changes in the work environment and degree of rule following behaviour, to measure power distance, referring to studies of Kaasa, Vadi & Varblane (2013) and Richter et al. (2016). These items are consistent with the core measures (e.g. self-direction in workplace and job autonomy) emphasized in CVSCALE (Yoo et al., 2011; Richter et al., 2016). In the context of KT, the lower degree of self-direction, lower degree of autonomy in making changes but higher degree of rule following behaviour in the work environment indicates higher level of power distance.

Uncertainty avoidance reflects the extent to which individuals are able to tolerate unpredictability and ambiguity and their willingness to accept social change and uncertainty (Qin et al., 2008; Minkov & Hofstede, 2014). This thesis uses one item (P2Q4), the sharing social norms, customs and traditions, to measure the level of uncertainty avoidance. This item is consistent with the core measure (shared customs and traditions) emphasized in the research of Kaasa, Vadi and Varblane (2013). In the work environment with low level of uncertainty avoidance culture, employees are more accepting of differences and risk. In this sense, employees are more likely to share social norms, traditions and customs with colleagues, tending to easier communicate and understand with others in the workplace.

Masculinity – Femininity is manifest in a society's acceptance of gender roles such that in different cultural environments males and females undergo different socializing experiences and play different roles based on the social practices the project men and women as different (Sarala & Vaara, 2010; Zhang et al., 2014). Masculinity – Femininity is concerned with how gender relationships are treated in society, as there are significant differences both within and across societies. It reflects the extent of individuals pursue goals of competition, career development, wealth and success. Opposite of femininity culture with the emphasis of the moderation, caring for others, cooperation and life quality (Frenkel, 2008; Qin et al.,

2011), employees in workplace with masculine culture are more likely to pursue individual achievements and success. This thesis therefore employs one item (P2Q5), the recognition of individual achievements, to measure masculinity. This item is similar with the core measure (be successful and recognized for achievements) emphasized in the work of Kaasa, Vadi and Varblane (2013).

Regarding individualism (as opposed to collectivism), it reflects the extent to which autonomy and individual freedom are valued as opposed to collectivist cultures where tight social relations are important, and individuals expect groups to look after them in exchange for loyalty (Kaasa et al., 2013). In other words, it reflects the tendency of individuals to view them as belonging to one or several groups such as families, colleagues, teams and organisations (Sarala & Vaara, 2010; Zhang et al., 2014). The thesis employs two items (P2Q6 and P2Q7) to measure collectivism: the encouragement of individualism and creativity, and the decision making through teamwork. In a workplace with a collective culture (high level of collectivism or low level of individualism), there is less likely the encouragement of individualism and creativity, but more emphasis on decision making through teamwork, referring to Kaasa, Vadi & Varblane (2013) and Richter et al. (2016). These two items are consistent with the core measures emphasized as well (e.g. group welfare, group success, and group loyalty) in CVSCALE (Yoo et al., 2011; Richter et al., 2016).

Table 4.2 Measures of perceived cultural differences of managers at MNE HQ China and host country subsidiaries

Part 2	Items	Source
P2Q1	Degree of self-direction within the work environment (power distance)	Kaasa, Vadi & Varblane (2013), Richter et al. (2016)
P2Q2	Degree of autonomy in making changes in the work environment (power distance)	Kaasa, Vadi & Varblane (2013); Richter et al. (2016)
P2Q3	Degree of rule following behaviour (power distance)	Kaasa, Vadi & Varblane (2013); Richter et al. (2016); Interview result

P2Q4	Sharing social norms, customs, and traditions (uncertainty avoidance)	Kaasa, Vadi & Varblane (2013); Richter et al. (2016)
P2Q5	Recognition of individual achievements (masculinity)	Kaasa, Vadi & Varblane (2013); Richter et al. (2016); Interview result
P2Q6	Encouragement of individualism and creativity (collectivism)	Kaasa, Vadi & Varblane (2013); Richter et al. (2016);
P2Q7	Decision making through teamwork (collectivism)	Richter et al. (2016); Interview result

4.5.2 Measures to Managerial Dispositions (in Questionnaire Part 3)

In the process of intra-MNE KT, managerial micro-foundations, namely motivational and capability dispositions play a dominant role because they directly determine whether the transfer will happen and the effectiveness of the transferring process, as emphasised by Minbaeva et al. (2014), Raab et al. (2014), Inkpen and Tsang (2016) and Qin et al. (2017). Regarding the motivational dispositions, they reflect the willingness and intentions of knowledge actors to share and exchange knowledge with others (Szulanski, 1999; Riege, 2007). In terms of capability dispositions, different levels of capabilities to transfer and absorb knowledge directly determine the success and effectiveness of the KTred (Grant, 1996; Morris et al., 2014). Based on prior literature, this thesis identifies four sets of managerial dispositions to transfer knowledge, in terms of managerial trust (Vaara et al., 2012; Caligiuri, 2014), managerial ties (Vaara et al., 2012; Inkpen & Tsang, 2016), competencies of managers (Björkman et al., 2004; Tsang, 2016; Qin et al., 2017), and absorptive capacity (Minbaeva et al., 2014; Schleimer & Pedersen, 2014; Tseng, 2015). The measurement items of these four managerial dispositions are presented in Table 4.3. Participants are asked to rate the importance level of these managerial disposition factors from least important (1) to most important (7).

To be specific, regarding the managerial trust, it refers to the extent to which an individual is confident in, and willing to act on the basis of the words, actions and decisions of another (McAllister, 1995). The trusting relationship also indicates the

interaction, less social conflicts but team coherence (Vaara et al., 2012; Caligiuri, 2014). Two items (P3Q1 and P3Q7) are then used in the measure of managerial trust.

Regarding managerial ties, it reflects the mutual dependence and closeness between managers at MNE HQ and managers at host country subsidiaries in the context of knowledge transfer. The strong ties indicate higher level mutual dependence and closeness between HQ managers and host country subsidiary managers, contributing to more frequent interaction and communication, beneficial to KT activities (Vaara et al., 2012; Inkpen & Tsang, 2016). One item (P3Q3) is made to measure managerial tie.

Regarding the managerial competences, they relate to managers' capabilities in making decisions, negotiating with project teams, networking skills, seeking and exploiting business opportunities (Minbaeva et al., 2014; Nair et al., 2015). The strong managerial competencies would be beneficial to establish intensive collaboration between MNE HQ and host country subsidiaries, so as to provide the social basis for knowledge exchange as well as improve the effectiveness of KT (Ambos & Ambos, 2009; Björkman et al., 2004; Tsang, 2016). Three items (P3Q4, P3Q5 and P3Q6) are then employed to measure these competences and capabilities of managers.

Absorptive capacity refers to the recipients' capacity to acquire and assimilate knowledge from the knowledge source, as stated by Cohen and Levinthal (1990) and Zahra and George (2002). Absorptive capacity consists of both motivation and ability of recipients to acquire and assimilate knowledge (Bjorkman et al., 2007; Minbaeva et al., 2014). Strong absorptive capacity indicates that managers are more motivational and capable to acquire and assimilate the knowledge being transferred, contributing to improve the effectiveness of the transfer (Szulanski, 1996; Minbaeva,

2007; Schleimer & Pedersen, 2014; Tseng, 2015). Three items (P3Q7, P3Q8 and P3Q9) are then used to capture these elements of absorptive capacity in this thesis.

Table 4.3 Measures of managerial dispositions

Part 3	Items: managerial influence on KT	Source
P3Q1	Managers have trust in others	Li et al. (2007); Riusala & Smale (2007)
P3Q2	Team coherence (sharing mental models, common goals, joint actions)	Interview result
P3Q3	Strong ties (e.g, HQ or Subsidiary) in local markets (e.g. UK)	Hansen et al. (2005); Li et al. (2007)
P3Q4	Managerial competences (decision making, negotiating, networking)	Chang et al. (2012); Interview result
P3Q5	Managerial sensing skills in opportunity development	Chang et al. (2012); Interview result
P3Q6	Managerial seizing skills in exploiting opportunities	Chang et al. (2012); Interview result
P3Q7	Capacity for absorbing other peoples' ideas (receptivity to transfer)	Chang et al. (2012); Interview result
P3Q8	HQ knowledge can be absorbed and utilized in subsidiary practices	Chang et al. (2012); Khan et al. (2015)
P3Q9	Subsidiary knowledge is utilized or absorbed by the local (e.g. UK) market	Chang et al. (2012); Khan et al. (2015); Interview result

4.5.3 Measures of Knowledge Structure (in Questionnaire Part 4)

In addition to managerial dispositions that play direct role in KT, different characteristics of knowledge are also directly linked to the effectiveness of KT, as different characteristics create barriers and difficulties in the process of KT, impeding the effectiveness of the transfer (Minbaeva et al., 2014; Inkpen & Tsang, 2016; Szulanski et al., 2016). Based on prior studies, e.g. Szulanski (1996), Vaara et al. (2003), Jensen and Szulanski (2004), Sarala and Vaara (2010) and Park and Vertinsky (2016), this thesis proposes two key essential knowledge structure in terms of

knowledge stickiness and knowledge adaptability. The measurement items are presented in Table 4.4. Participants are asked to rate the importance level of these knowledge structure from least important (1) to most important (7).

To be specific, regarding the knowledge stickiness (tacitness), it refers to difficulties encountered within the process of KT, as emphasised by Szulanski (1996) and Li and Hsieh (2009). Sticky knowledge is from the tacit knowledge which is less codifiable and less teachable, is complex and so difficult to transfer (Kogut & Zander, 1993; Jensen & Szulanski, 2004; Szulanski et al., 2016). This thesis then uses one item (P4Q1) to measure knowledge stickiness.

Regarding the knowledge adaptability, it reflects the degree that both sides of KT (knowledge sender and recipient unit) have similar knowledge base and similar knowledge application system (Cummings, 2004), as it determining whether the knowledge is adaptive to combine, reconfigure and integrate for using at the recipient units according to Szulanski and Jensen (2006) and Harzing et al. (2016). Higher levels of knowledge adaptability imply knowledge being transferred shall be more adaptive, such as more easily implemented, combined, absorbed and reconfigured in adapting to local needs, indicating higher level of effectiveness of the transfer (Khan et al., 2015; Harzing et al., 2016; Lupton & Beamish, 2016). Four items (P4Q2, P4Q3, P4Q4 and P4Q5) are then made in this thesis to capture the measures of knowledge adaptability.

Table 4.4 Measures of knowledge structure

P4	Items: knowledge structure impacting KT	Source
P4Q1	Knowledge stickiness (tacitness)	Jensen & Szulanski (2004); Interview result
P4Q2	Adaptive (easily adopted or absorbed in local practices)	Jensen & Szulanski (2004)
P4Q3	Adaptive (easily reconfigured in adapting to local practices)	Jensen & Szulanski (2004)
P4Q4	Adaptive (flexibility and can change when markets change)	Jensen & Szulanski (2004)

P4Q5	Similarity in systems/processes between HQ or subsidiaries with UK (or other foreign receivers)	Interview result

4.5.4 Measures to Effectiveness of Knowledge Transfer (KT) (in Questionnaire Part 5 and Part 6)

Effectiveness of the transfer represents what outcomes and contributions KT can bring to recipient units, namely the benefits of KT and the degree of the transfer. On the one side, the large benefits of KT indicate the more effective transfer, such as received knowledge can be combined and integrated for use in the local setting, transferring firm-specific advantages for use in the new host country market, or enhancing the capabilities of recipient units in local markets (Peltokorpi & Vaara, 2014; Razmerita et al., 2016; Burmeister & Deller, 2016). The five items (P5Q1, P5Q2, P5Q3, P5Q4 and P5Q5) in Table 4.5 are then made to capture the benefits of KT within MNEs. Participants are asked to rate the importance level of these benefits of KT from least important (1) to most important (7).

Table 4.5 Measures to benefits of KT

P5	Items: benefits of KT	Source
P5Q1	Integrating (or combining) knowledge for use in the local setting	Schlegelmilch & Chini (2003); Ambos & Ambos (2009)
P5Q2	Transferring firm-specific advantages to new overseas markets	Schlegelmilch & Chini (2003); Ambos & Ambos (2009)
P5Q3	Augmenting capacity in the local (e.g. UK) market	Schlegelmilch & Chini (2003); Ambos & Ambos (2009); Interview result
P5Q4	Value advancement for existing or new products/services	Foss & Pedersen (2001); Schlegelmilch & Chini (2003); Ambos & Ambos (2009)
P5Q5	Making (novel) linkages or associations with the UK (or other countries) market	Interview result

On the other hand, the degree of transfer refers to the frequency of the KT. Greater frequency would indicate that more knowledge is being transferred from MNE HQ to

host country subsidiaries or that more complex forms of knowledge is transferred (Minbaeva, 2007; Song, 2014; Tseng, 2015). In Table 4.6, it shows 7 items (P6Q1, P6Q2, P6Q3, P6Q4, P6Q5, P6Q6 and P6Q7) covering key essential elements of organisational knowledge, to measure the frequency of knowledge being transferred. Participants are asked to rate the frequency of the knowledge being transferred from least often (1) to most often (7).

Table 4.6 Measures to degree of KT

P6	Items: KT from HQ of MNEs to host country subsidiaries	Source
P6Q1	Marketing knowledge (key customers and competitors, distribution channels)	Gupta & Govindarajan (1994); Sarala & Vaara (2010); Vaara et al. (2012)
P6Q2	Services knowledge (level of post-sales services, customer support)	Gupta & Govindarajan (1994); Interview result
P6Q3	Culturally-related knowledge (local practices, norms, values, attitudes)	Interview result, Qin et al. (2017)
P6Q4	Network knowledge (quality of subsidiary industry networks)	Denrell, Arvidsson & Zander (2004); Interview result
P6Q5	Managerial experience and knowledge (best practices)	Gupta & Govindarajan (1994); Sarala & Vaara (2010); Vaara et al. (2012)
P6Q6	High-tech knowledge (state-of-the-art technology)	Gupta & Govindarajan (1994); Sarala & Vaara (2010); Vaara et al. (2012)
P6Q7	General production (production processes, systems)	Gupta & Govindarajan (1994); Sarala & Vaara (2010); Vaara et al. (2012)

4.6 Pre-test to the Questionnaire

It is essential to conduct a pilot study for pre-testing the questionnaire before making formal full survey, to ensure that questions are understood by participants (e.g. no ambiguity in the questions) and there are no errors in the wording of the survey questionnaire (Sekaran & Bougie, 2016). As emphasised by Andersson et al. (2015) and Saunders et al. (2016), it is necessary to undertake the pilot test in order to increase reliability and validity in the questionnaire instruments. Therefore, this

thesis conducts the pre-test to the questionnaire as well, to check whether the design of the questions is understandable and whether the structure of the questionnaire is appropriate.

The researcher conducted the pre-test using small groups of respondents from the initial contacts of managers in Huawei Company and Skyworth Company. Thirty five questionnaires were handed out to managers in these two companies and thirty three copies were returned. According to the feedback and results from the thirty three participants, in general the questionnaire is well structured and most questions are understandable. However, the researcher also reworded some questions that participants felt unclear according to pre-test results, e.g. question 6 and question 8 (6) in part 1, and some explanations were added in question 4 and question 9 in part 4 of the survey, and explanations to questions in part 6.

In terms of validity, given that most questions in the survey come from prior empirical studies that have already had high level of reliability and validity, the questionnaire therefore has satisfied content validity in this thesis. Further, the researcher conducted reliability test to the questionnaire scales using Cronbach's Alpha coefficient. As emphasised by Field (2013) and Saunders et al. (2016), the questionnaire scale has an accepted level of reliability (different items measuring the same thing) if Cronbach's Alpha value is higher than 0.7. The results of Cronbach's Alpha coefficients of this study show that the average achieved is above 0.72, as presented in Table 4.7, and some items achieved about 0.80.

Table 4.7 Reliability test to initial questionnaire based on 31 respondents

Questionnaire/scales	Number of items	Code of Items	Cronbach's Alpha
Part 2 Perceived cultural differences	7	P2Q1- P2Q7	.716

Part 3 Managerial dispositions	9	P3Q1- P3Q9	.842
Part 4 Knowledge structure	5	P4Q1- P4Q5	.762
Part 5 Benefits of KT	5	P5Q1- P5Q5	.724
Part 6 Degree of KT	7	P6Q1- P6Q7	.722

4.7 Sampling Procedures and Data Collection

The sample frame of the thesis is China MNEs. As this sample population is not defined well, it is not feasible to get access to the whole population. As such, it would not be practical to adopt the probability sampling method in this research to collect samples, because this method requires the whole population is accessible to ensure equal possibility for each sample to be extracted (Field, 2013; Tabachnick & Fidell, 2013; Andersson et al., 2015; Saunders et al., 2016). Alternatively, the non-probability sampling method is more practical to this research because it permits researchers to gather samples via their available and accessible resources (Bryman & Bell, 2014). Snowball sampling is a typical non-probability sampling method that is commonly used in business research. To obtain primary data, the intent of this project is to use snowball sampling. This method is suitable in the circumstances of the thesis because the population (HQ managers and subsidiary managers) are not well defined and largely remain hidden prior to sampling (Andersson et al., 2015). According to Tabachnick and Fidell (2013), Bryman and Bell (2014) and Saunders et al. (2016), the basic process of doing snowball sampling are firstly making initial contacts with one or two cases in the population, and then asking these cases to recommend new ones and further new ones, and finally stopping when either there are not new cases or researchers have got sufficient samples. This research then follows this process to do snowball sampling.

Firstly, initial samples were obtained from two China MNEs: Huawei and Haier. Interviews with HQ managers in these two companies would provide the opportunity to obtain permission to contact subsidiary managers and identify

suitable innovation projects. Secondly, based on these initial contacts, the intention is to sample subunit managers and suggest other innovation projects where managers have experience of KT. As the intent is to do statistical tests, the researcher should collect large scale samples to ensure reliability and validity of statistical outcomes. According to statistical experiences (for instance, Field, 2013; Tabachnick & Fidell, 2013), the minimum sample size should be higher than 150. Considering in getting sufficient data, the researcher undertook a second survey based on MNEs in the list of Top 100 Chinese MNEs (a public data base produced by the China Enterprise Confederation and China Enterprise Directors Association, and their contacts can be found on their websites).

It shall note that original items in the questionnaire are expressed in English. Though many target participants are supposed to master English language skill when they work in overseas, some of them (especially managers from HQ of China MNEs) might not be skilful at English. Therefore, the researcher translated the questionnaire to be Chinese version at first, and then asked two experts (two professors in Wuhan University of Technology in China) who've mastered both English and Chinese languages to check the consistency of questions in both languages. The researcher then sent both English and Chinese version questionnaires, in order to make sure all participants of the survey understand the investigation clearly. In Appendix 1, both English and Chinese versions of the questionnaire are provided.

The researcher distributed 500 to 600 copies of questionnaires during March to August 2017 using both paper questionnaires (via face-to-face) and online questionnaires (via email and social media tools such as WeChat and QQ). Similar with the procedure of interview, the researcher firstly sent the invitation letter to potential participants to briefly introduce the research aim and survey purpose. To managers who confirmed to participate in the survey, the informed consent with participation sheet was sent to them. The paper questionnaires were handed out face to face and returned immediately after completion. The online questionnaires

were sent through online tools including email, WeChat and QQ and returned within 2 weeks via these tools.

In total, the researcher circulated 550 questionnaires and collected 292 back. Yet, three of the 292 returned questionnaires were incomplete and therefore deleted from the sample. As such, the analysis in Chapter 5 is based on the 289 successfully completed questionnaires. The valid response rate is therefore 52.55% (289/550). The valid samples consist of managers from five large Chinese high-tech MNEs: Huawei, Lenovo, Tencent, Haier, and Skyworth. Four of them are on the Fortune Global 500 List 2018[1]: Huawei (rank: 72nd), Lenovo (rank: 240th), Tencent (rank: 331st) and Haier (rank: 499th). Skyworth is a large high-tech MNE with HQ's in Shenzhen, China. Skyworth is on the 196th position of the Fortune China 500 List 2018[2]. All five MNEs have a substantial number of subsidiaries located in many different nations and represent a rich and diverse range of cultures across a broad range of emerging and developed economies. As such, the thesis provides an appropriate sample of MNEs from which to produce meaningful tests of the cultural issues associated with intra-MNE KT between China HQs and their overseas subsidiaries. Appendix 2 provides an overview of the five China MNEs included in the sample.

The data were extracted from returned questionnaires and reserved at an EXCEL file at first, which were then transferred to the software of SPSS 22.0 verison, being ready for statistics after data cleaning (e.g. checking missing values).

4.8 Methodological Techniques and Strategies for Data Analysis

Consistent with prior empirical studies, statistical tools in SPSS is employed in testing hypotheses. The SPSS 22.0 version is used in this thesis. The concrete statistical

[1] Fortune Global. (2019). *Fortune Global 500 List 2018*. Available at: http://fortune.com/fortune500/

[2] Fortune China. (2019). *Fortune China 500 List 2018*. Available at: http://www.fortunechina.com/fortune500/node_4302.htm

techniques include descriptive statistical analysis, reliability tests, nonparametric test tools (Chi-Square Test, Kruskal-Wallis Test and One-Sample Kolmogorov-Smirnov Test), and multiple linear regression analysis, in order to test research hypotheses.

Firstly, descriptive statistical analysis is conducted to draw basic features of samples via such as frequency, percentage, mean, and standardised deviation, to describe the profiles of both China MNEs and personal details of participant managers. Descriptive statistics can offer an overall view regarding to the samples and survey data.

Secondly, reliability test is conducted to evaluate the reliability level of questionnaire scales (Tabachnick & Fidell, 2013; Bryman & Bell, 2014). According to Sekaran and Bougie (2016), reliability test to a measure scale is to assess the internal consistency of measurements across time and across the various items. That is to say, reliability tests evaluate the extent to which the measuring scale is stable and internally consistent for measuring a concept. Cronbach's Alpha has been widely adopted to carry out reliability test, especially to Likert-type scales (Field, 2013; Saunders et al., 2016). This thesis therefore employs Cronbach's Alpha coefficient to evaluate the reliability of questionnaire scales as well.

Thirdly, this research employs the nonparametric test tools in terms of Chi-Square Test, Kruskal-Wallis Test and One-Sample Kolmogorov-Smirnov Test to test the research hypothesis H1, regarding the perceived cultural differences between managers at MNE HQ China and managers at host country subsidiaries. Given that this thesis employs the snowball sampling method to gather samples, the distribution of total population may be not known. In this case, the parametric test may be less suitable to this thesis as parameter test supposes that the total population distribution is known (Field, 2013; Tabachnick & Fidell, 2013). The nonparametric test will be more suitable for this thesis as it can help to deduce the

distribution of the total population based on the information from sample data itself (Field, 2013; Tabachnick & Fidell, 2013). Chi-Square Test is used to determine whether there is a significant difference between the expected frequencies and the observed frequencies in more categories. Kruskal-Wallis Test is often adopted to assess for significant differences on a continuous dependent variable by a categorical independent variable with more groups (Field, 2013; Tabachnick & Fidell, 2013). In this thesis, both Chi-Square Test and the Kruskal-Wallis Test are employed to test whether the perceived cultural differences are significantly different (power distance, uncertainty avoidance, masculinity and collectivism) in managers at different locations (MNE HQ China, India, Other Asian countries, European Union (EU) countries, African countries, US, The UK, Other non-EU European countries and South American countries). The *p* values of Chi-Square Test and Kruskal-Wallis Test can help to evaluate whether the testing results are significant. That is, if *p* values of tests are lower than 0.05, it indicates the testing results are significant.

Further, One-Sample Kolmogorov-Smirnov Test is employed to test whether there is significant difference between two population distributions (Field, 2013; Tabachnick & Fidell, 2013). That is, this thesis employs One-Sample Kolmogorov-Smirnov Test to evaluate whether there are significant difference of perceived cultural differences (power distance, uncertainty avoidance, masculinity, and collectivism) in managers at MNE HQ China and each host country subsidiary (including eight locations: India, Other Asian countries, EU countries, African countries, US, The UK, Other non-EU European countries and South American countries). In One-Sample Kolmogorov-Smirnov Test, it evaluates the significance of testing results via observing whether Kolmogorov-Smirnov Z value is significant. When asymptotic significance value is higher than 0.05, it indicates Kolmogorov-Smirnov Z value is significant. As such, there are significant difference of perceived cultural differences in managers at MNE HQ China and each host country subsidiary.

Fourthly, this thesis employs multiple (linear) regression analysis techniques, to test groups of hypotheses (hypothesis H2-H6). Regression analysis is to evaluate the strength of a cause-and-effect relationship between dependent and independent variables through the coefficient of determination (R-square). The higher level of R-square indicates the strength of the relationship is stronger. In a multiple linear regression analysis, there is one dependent variable and several independent variables. Linearity here refers to in what extent the change in the dependent variable is related to the change in the independent variables (Field, 2013; Tabachnick & Fidell, 2013; Saunders et al., 2016). Hypotheses can be therefore supported or denied by observing the symbols and significance levels of the regression coefficients. To be specific, multiple (linear) regression analyses are made to assess the impact of perceived cultural differences on managerial dispositions in the context of KT (Hypothesis H2), the effect of perceived cultural differences on knowledge structure (Hypothesis H3), the influence of managerial dispositions on effectiveness of KT (Hypothesis H4), the impact of knowledge structure on managerial dispositions in the context of KT (Hypothesis H5), and the effect of knowledge structure on effectiveness of KT (Hypothesis H6).

4.9 Ethical Considerations of the Research

In any kind of research, ethical considerations are important to be noticed. According to Saunders et al. (2016), research ethics refers to the appropriateness of researchers' behaviours in terms of treating research subjects in a moral and responsible way. In other words, researchers should comply with basic moral principles, norms and standards in encounters with their research subjects. Many research institutions and committees have developed basic ethical issues for doing research. Though there are a numbers of different descriptions about ethical considerations in business research, there are four essential elements of research ethics: harmlessness, informed consent, privacy protection and non-deception (Bryman & Bell, 2014; Saunders et al., 2016). This section discusses these four ethical issues.

In terms of harmlessness, it emphasises that researchers should avoid potential physical and psychological risks, as well as guarantee confidentiality and anonymity (Bryman & Bell, 2014). In this thesis, the researcher conducted the interview and questionnaire survey in public place in the daytime to avoid physical risks to participants. Also, some questionnaires and interviews were done via online channels which do not involve physical risks. In the meanwhile, the researcher kept respectful, kind and fair attitude and did not use sensitive expressions when communicating with participants, to avoid make them feel stressful or embarrassed. For considering confidentiality and anonymity, the researcher designed the outline of interviews and questionnaire by the anonymous form, to make sure participants are not identified or identifiable. Also, the researcher sent out online questionnaires and outline of interviews one-by-one rather than group sending, so as to make sure participants' personal contacts are not shared by others. It should be noted that the original data will not be transmitted to third parties without the permission of participants. The data of interview and survey is stored in an EXCEL file with a password that is only available to the researcher himself. The original data file will be deleted from the researcher's computer within four months after the University awarding the degree of PhD, should that be the outcome of the examination process.

In terms of informed consent, it emphasises researchers should give sufficient information to their research participants, for them to decide whether or not joining in the survey (Wilson, 2010; Saunders et al., 2012). In this thesis, the researcher sent out the informed consent form that explained the research purpose, notice and process (including outline of survey and interview questions and how data will be treated) to potential participants, to make sure they voluntarily participate in the investigation. Each participant is asked to sign the participation sheet and the permission of audio recording during interview. Participants are also clearly notified that they can withdraw from the interview or survey in any time and without having to explain their reasons.

In terms of privacy protection, it is much associated with informed consent as well as harmlessness. Participants could understand whether their privacy right might be violated based on informed consent forms and, confidentiality and anonymity could contribute to protect their rights of privacy as well (Sekaran & Bougie, 2010; Bryman & Bell, 2014). In this thesis, in addition to the confidentiality and anonymity guarantee, the researcher also guarantees that participants feel free to answer a specific question in interview/survey or not. They can refuse any questions that are deemed by them as violating their privacy, though the researcher tried his best to avoid such of questions during the investigation.

In terms of non-deception, it emphasises researchers should not make fake reports in collecting and analysing data to get their expected outcomes (Bryman & Bell, 2014; Saunders et al., 2016). In this research, the researcher encouraged participants to provide their honest views and no attempt was made to induce respondents to give answers that might have been expected by the researcher. Also, the researcher guarantees to keep reliability and honesty in doing the research rather than make any fake or false reporting or any other kind of plagiarism.

4.10 Summary

This chapter presents the research methodology of the thesis. While acknowledging the practice-based philosophical perspective in knowledge management literature, the dominant perspective tends to be the objectivist perspective. Consistent with the objectivist perspective holding positivistic philosophy in the field of KM and IB which insist that organisational knowledge is the objective assets so that can be transferred albeit it is subject to many impediments, this research intends to uncover challenging issues (perceived cultural differences, managerial dispositions, and knowledge structure) of KT in China MNEs. In terms of research approach, this thesis uses deductive approach dominantly with the supplement of qualitative. Along with this, the interview is employed to make pre-investigation for shaping the

questionnaire design, and then quantitative methods are employed in this thesis for testing hypotheses.

The questionnaire survey is employed as research strategy in this thesis, which is made to managers of China MNEs and, MNEs in the list of Top 100 Chinese MNEs as the alternative supplements of samples via snowball sampling method. Besides, SPSS software is carried out to run statistics for testing hypotheses. This research centres on the concept of perceive cultural differences, managerial dispositions and knowledge structure as they relate to intra-firm KT of China MNEs. Uncovering knowledge impediments and how they can be alleviated could provide a better understanding of how China MNEs create and sustain economic value and competitive advantage as they expand their overseas operations. The next chapter will be data finding and analysis, which will summarize the key findings from questionnaire survey and run statistical analyses to test research hypotheses.

CHAPTER 5 RESULTS AND ANALYSES

5.1 Introduction

This chapter presents results and analyses, including the sample profiles via descriptive statistics. First, the chapter captures the descriptive statistics and presents the demographic features of China MNE HQ and subsidiaries as well as the personal demographic variables of participants. Secondly, the chapter conducts several reliability tests using scales data of the questionnaire. In the third section, a description statistic is applied to rate the importance level of factors affecting KT in both the context of host country (such as UK and US) and in the home country (e.g. China). The subsequent sections present the results of nonparametric analysis (Chi-Square Test, Kruskal-Wallis Test and Kolmogorov-Smirnov Test), and multiple regression (e.g. linear) analysis. The analysis evaluates the relationship between variables in terms of the i) perceived cultural differences between managers at MNE HQ China and host country subsidiaries, ii) perceived cultural differences impact on managerial dispositions, iii) perceived cultural differences impact on knowledge structure, iv) managerial dispositions impact on effectiveness of KT, v) knowledge structure impact on managerial dispositions, vi) knowledge structure factors on the effectiveness of KT and finally, Results are drawn from rigorous, systemic, and in-depth analysis.

5.2 Sample Profiles- Descriptive Statistics

In total, 550 questionnaires were distributed and 292 were returned. However, three of the returned questionnaires were incomplete and these were deleted from the analysis. Thus, the analysis is based on 289 successfully completed questionnaires, a valid sample with a response rate of 52.55% (289/550).

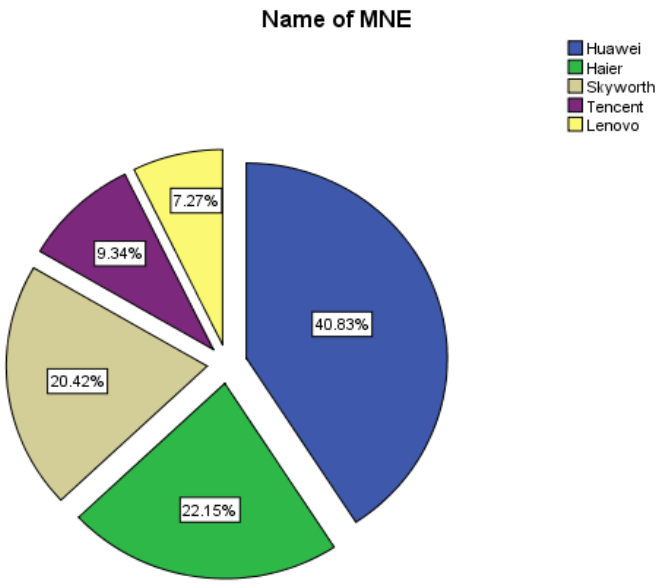

Figure 5.1 Names of sample China MNEs (n= 289)

Figure 5.1 displays sample data under the names of China MNEs. Participants are drawn from five very large China MNEs. Among the 289 participants, 40.83% are from Huawei, which occupy the highest percentage. Secondly, 22.15% are from Haier and 20.42% are from Skyworth. The other two MNEs: Tencent (9.34%) and Lenovo (7.27%) accounted for less than 17% of the sample.

5.2.1 Location of Subsidiaries

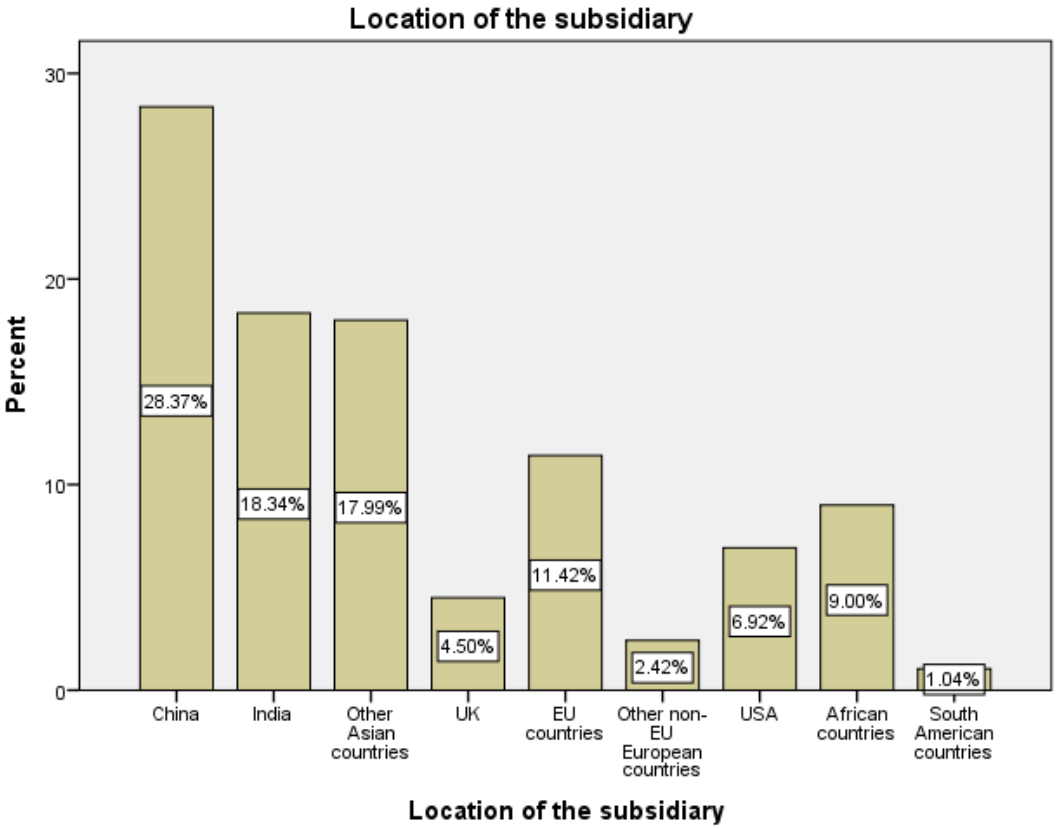

Figure 5.2 Location of the subsidiaries (n= 289)

Figure 5.2 presents the distribution of China MNE subsidiary locations among the 289 participants. To be specific, 28.37% of participants are from MNE subsidiaries located in China, which is highest level. 18.34% of participants are from India and 17.99% in other Asian countries. It then comes to EU countries which occupying 11.42%, followed by African countries (9.00%). In US and UK, the percentage of participants is 6.92% and 4.5% respectively. At least, 2.42% are from other non-EU European countries and only 1.04% is located in South American countries. The distribution of subsidiary location is, in general, well diversified, covering several major countries and regions, such as China, India, other Asian region, Europe and Africa.

5.2.2 Number of Employees in the Subsidiary

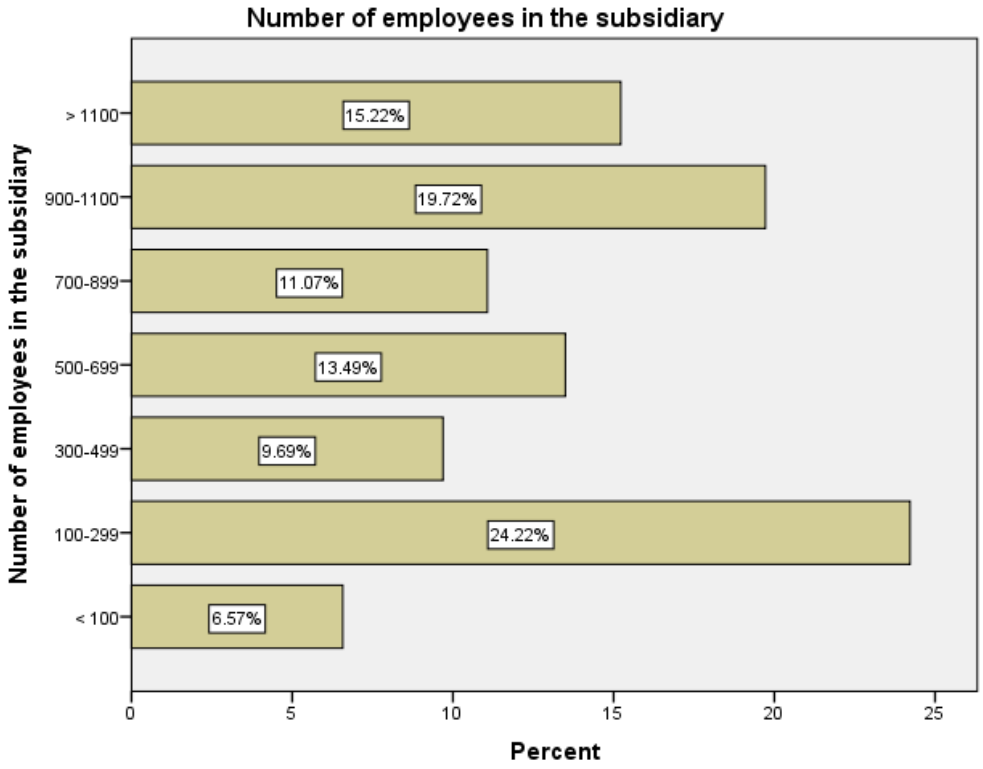

Figure 5.3 Number of employees in the subsidiary (n= 289)

Figure 5.3 shows the size of the subsidiary of China MNE as measured by the number of employees in the subsidiary. The results show that 24.22% of participants are from subsidiaries with 100 to 299 employees, which is the highest level; 19.72% are in the group of 900 to 1100, followed by 15.22% in > 1100, 13.49% in 500-699 and 11.07% in 700-899. However, less than 10% are in the rest two groups: 300-499 and < 100.

5.2.3 Core Activity of the Subsidiary

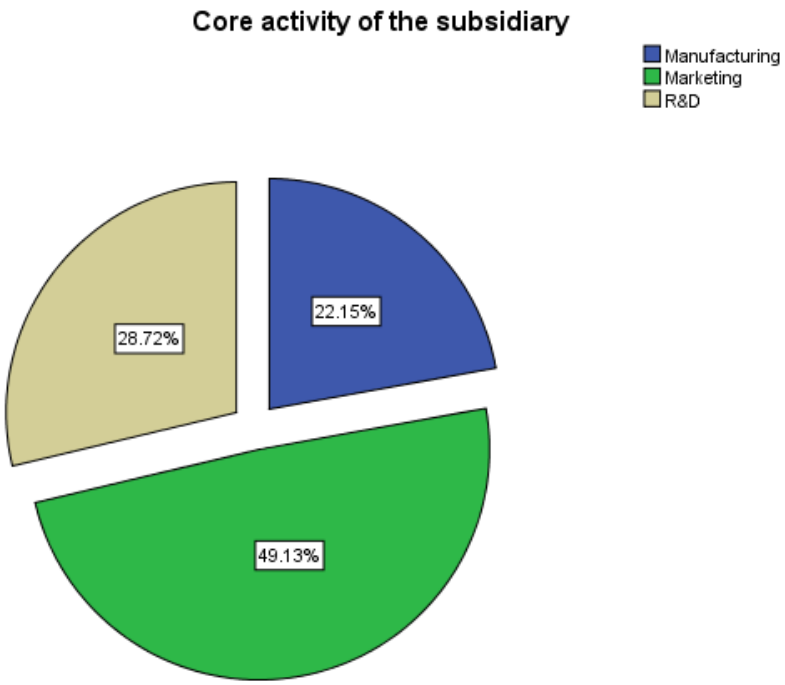

Figure 5.4 Core activity of the subsidiary (n= 289)

Figure 5.4 it displays the distribution of core activity of China MNE subsidiary of 289 participants. The results show that 49.13% of participants come from subsidiaries with the core activity of marketing, followed by 28.72% from subsidiaries with Research and Development (R&D) as the core activity, and 22.15% are from subsidiaries with manufacturing activities. As such, almost half of participants are from subsidiaries doing marketing activities, whilst the rest have very much similar distributed in subsidiaries with R&D and manufacturing activities respectively.

5.2.4 Number of Years the Subsidiary Has Been in Operation

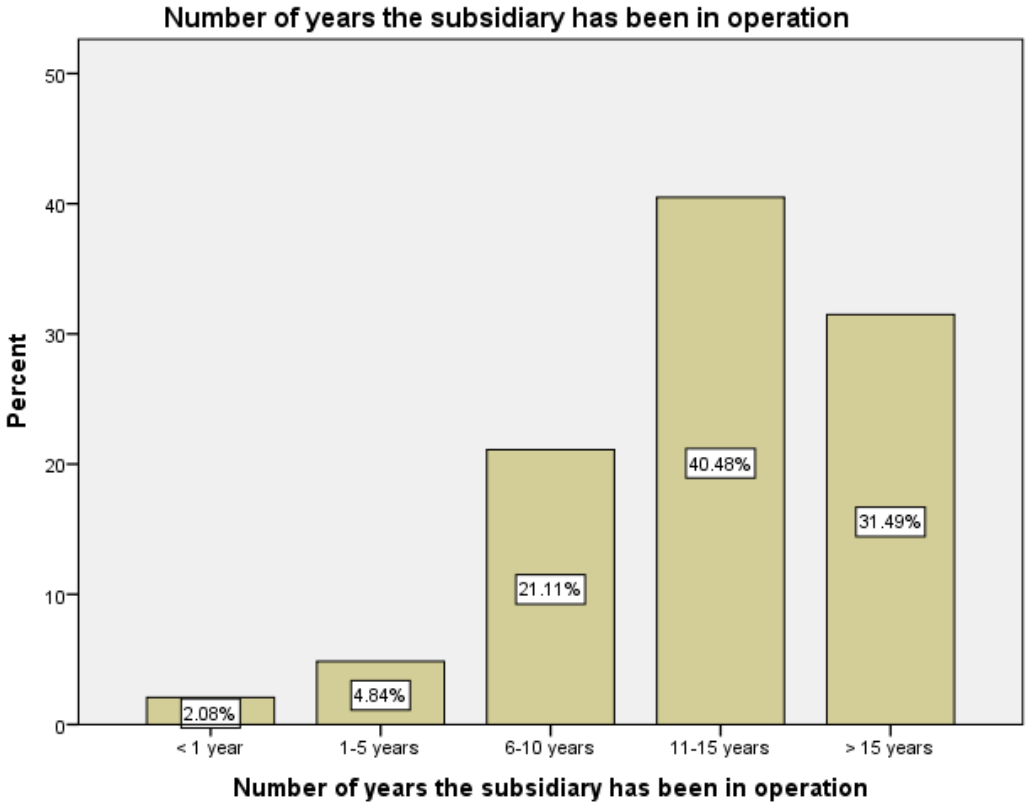

Figure 5.5 Number of years the subsidiary has been in operation (n= 289)

Figure 5.5 presents the distribution of number of years China MNE subsidiary has been in operation according to 289 participants. As shown in figure 5.5, 40.48% of the subsidiaries have been operated in local market over 11 to 15 years, whilst 31.49% are even longer, saying over 15 years, followed by 6-10 years (21.11%). Less than 5% of subsidiaries have operated within 1 to 5 years or less than 1 year. Overall, the majority of subsidiaries (over 70%) have been in operation for more than 10 years.

5.2.5 Number of Years the Headquarters of MNE Has Been in Operation

Regarding to the number of years of China MNE HQ has been in operation among the 289 participants, statistical results have indicated that the entire five sample China MNEs have been in operation for more than 15 years.

5.2.6 Competence Level of the Subsidiary in the Local Market

Note: 1= Least competitive, 4= Above average, 7= Highly competitive

Figure 5.6 Competence level of the subsidiary in the local market (n= 289)

Figure 5.6 presents the competence level of China different MNE subsidiaries in multiple local markets. The statistics results show that half of the subsidiaries (50.52%) have relatively high competence level, and 33.91% of them have high competence level. In overall, the competence level of majority of subsidiaries in local market is above average. One possible reason might be that these subsidiaries are from large China MNEs with relatively strong competition and most of these subsidiaries have established competence because they have been in operation over 11 years (as seen in Figure 5.5) in variant local markets.

5.2.7 Life-Cycle Stage of the Subsidiary in the Local Market

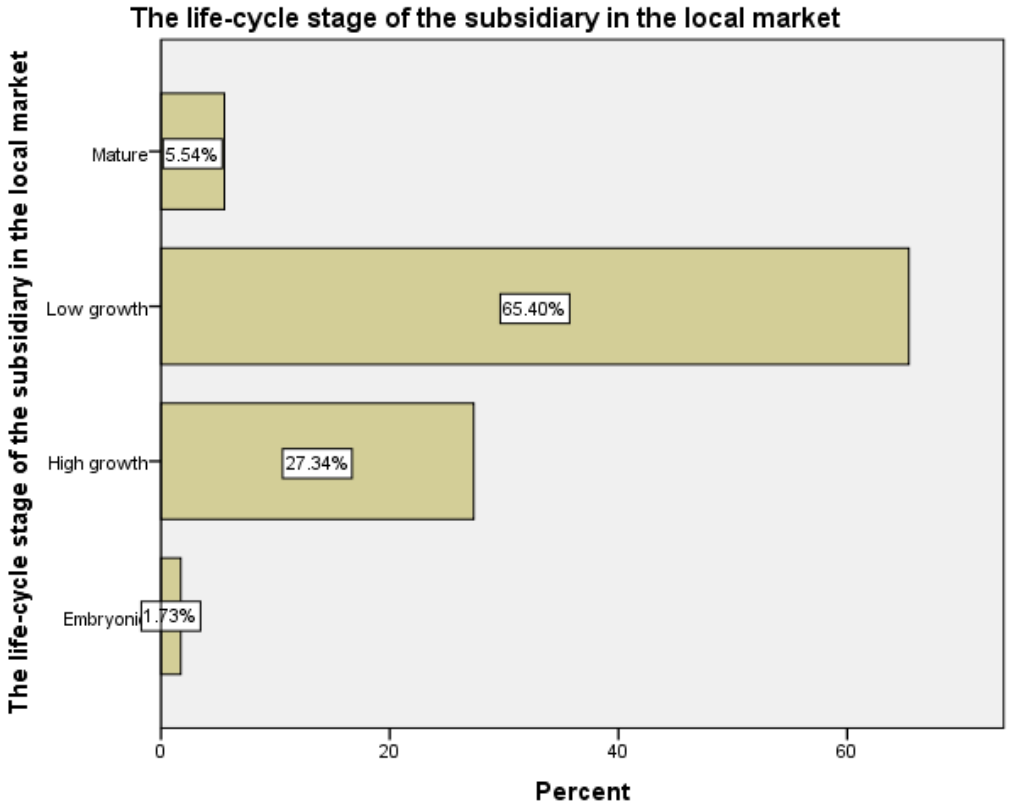

Figure 5.7 The life-cycle stage of the subsidiary in the local market (n= 289)

Figure 5.7 shows the life-cycle stage of China MNE subsidiaries in the local market, 65.40% of participants in the low growth stage, whilst 27.34% are in the stage of high growth. 5.54% are in the stage of mature, whilst only 1.73% of them are in the embryonic stage.

5.2.8 Personal Details of Manager Participants

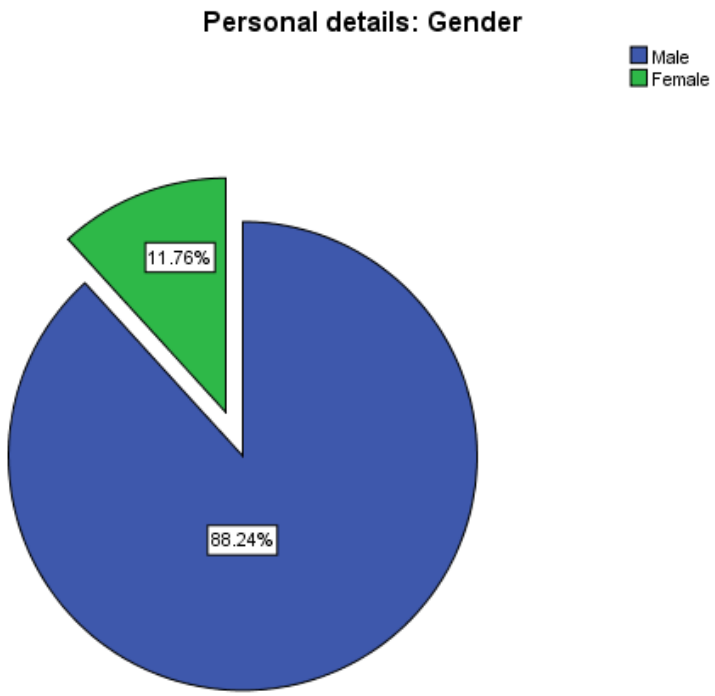

Figure 5.8 (1) Personal details: Gender (n= 289)

Regarding to the gender distribution, the result in Figure 5.8 (1) shows that majority of participants (88.24%) are male, 11.76% of females. One possible reason might be that working overseas tends to increase the work and family balance of managers.

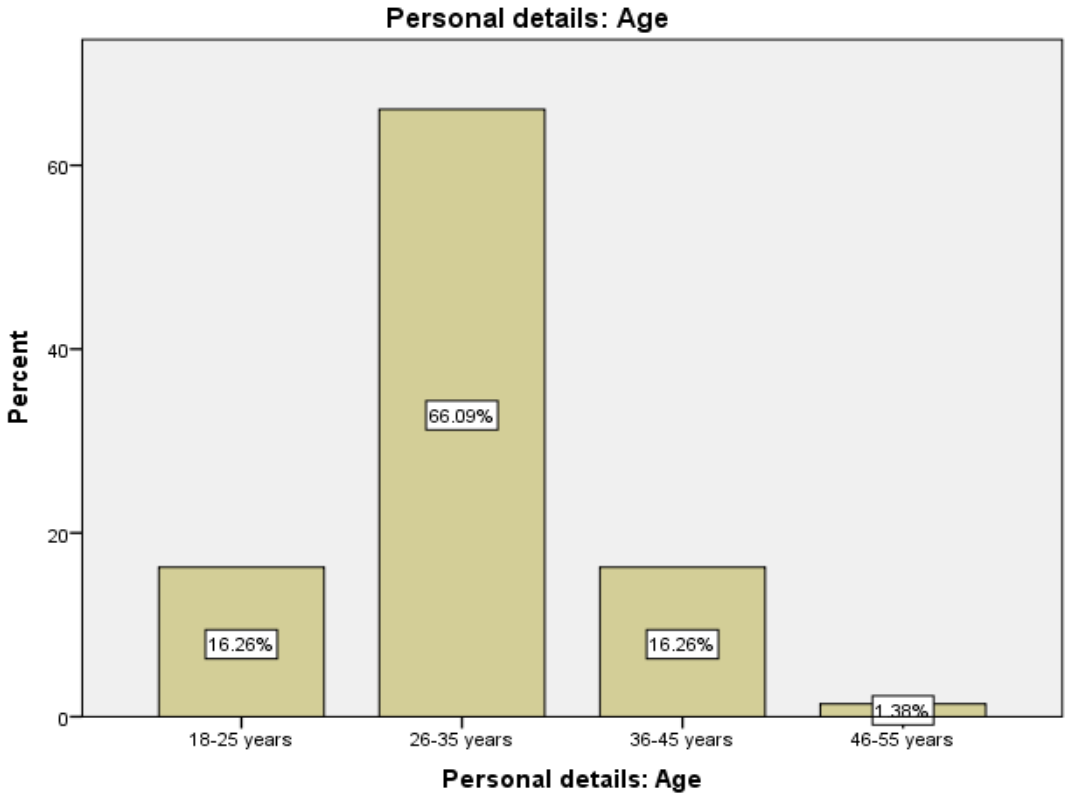

Figure 5.8 (2) Personal details: Age (n= 289)

Figure 5.8 (2) is displaying the age distribution of participants. Among 289 participants, the major part (66.09%) is in the age group of 26-35 years, whilst the proportions of participants in both the group of 18-25 years and 36-45 years are 16.26%. Only 1.38% of participants are in the group of 46-55 years. This figure suggests that either overall population pool overseas is younger for MNEs, or participants who responded survey are relatively young, in general.

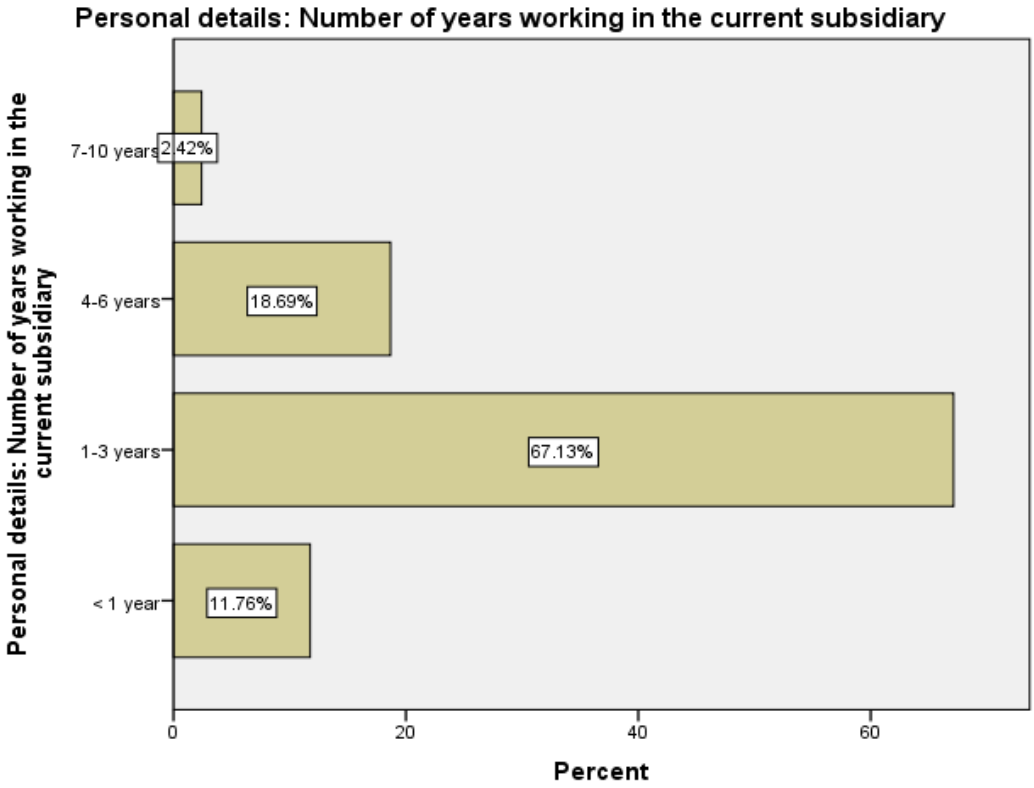

Figure 5.8 (3) Personal details: Number of years working in the current subsidiary (n= 289)

In Figure 5.8 (3), it is about the number of years of participants working in the current subsidiary of China MNEs. Data results indicate that 67.13% of managers have worked in the current subsidiary over 1 to 3 years, whilst 18.69% have been in the place for 4 to 6 years. Around 10% of participants work in the current subsidiary less than 1 year but only less than 3% work in the current subsidiary over 7 to 10 years.

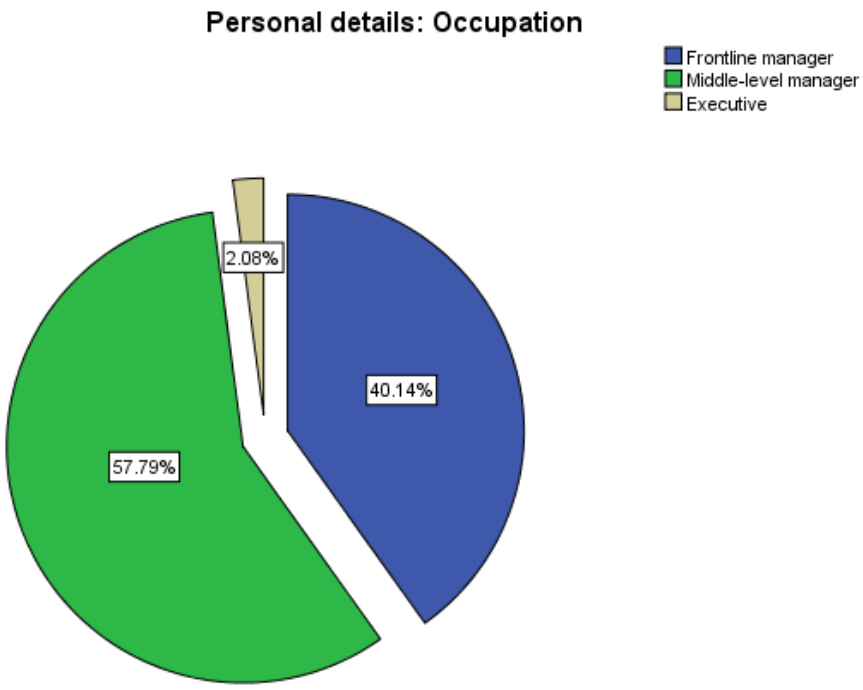

Figure 5.8 (4) Personal details: Occupation (n= 289)

The occupation levels of managers are presented in Figure 5.8 (4). Statistical results show that major participants (57.79%) are middle-level managers, and 40.17% of them are front-line managers. Only less than 3% are executives. One possible reason might be that major respondents of this survey are relatively young age group (26-35 years) and only work in current subsidiaries over 1 to 3 years. In this sense, major participants are not executives, but front-line managers or in middle level.

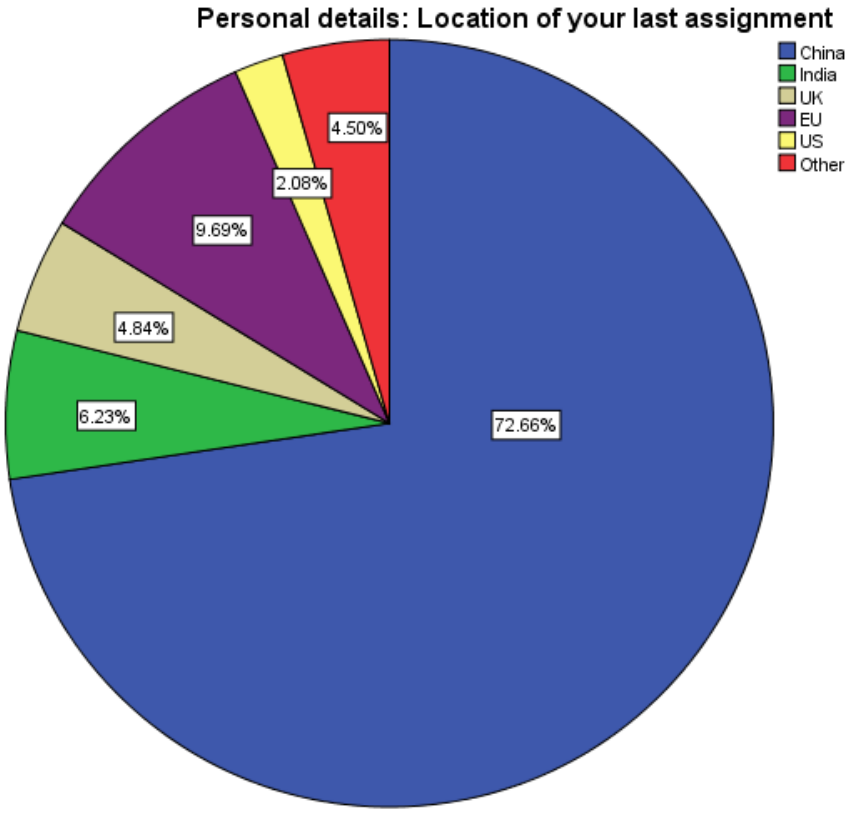

Figure 5.8 (5) Personal details: Location of your last assignment (n= 289)

In Figure 5.8 (5), it is about the location of the last assignment of 289 participants. Results have shown that major participants (72.66%) did their last assignment in China. The rest participants are relatively balanced distributed in India (6.23%), UK (4.84%), EU (9.69%), US (2.08%) and other countries (4.50%).

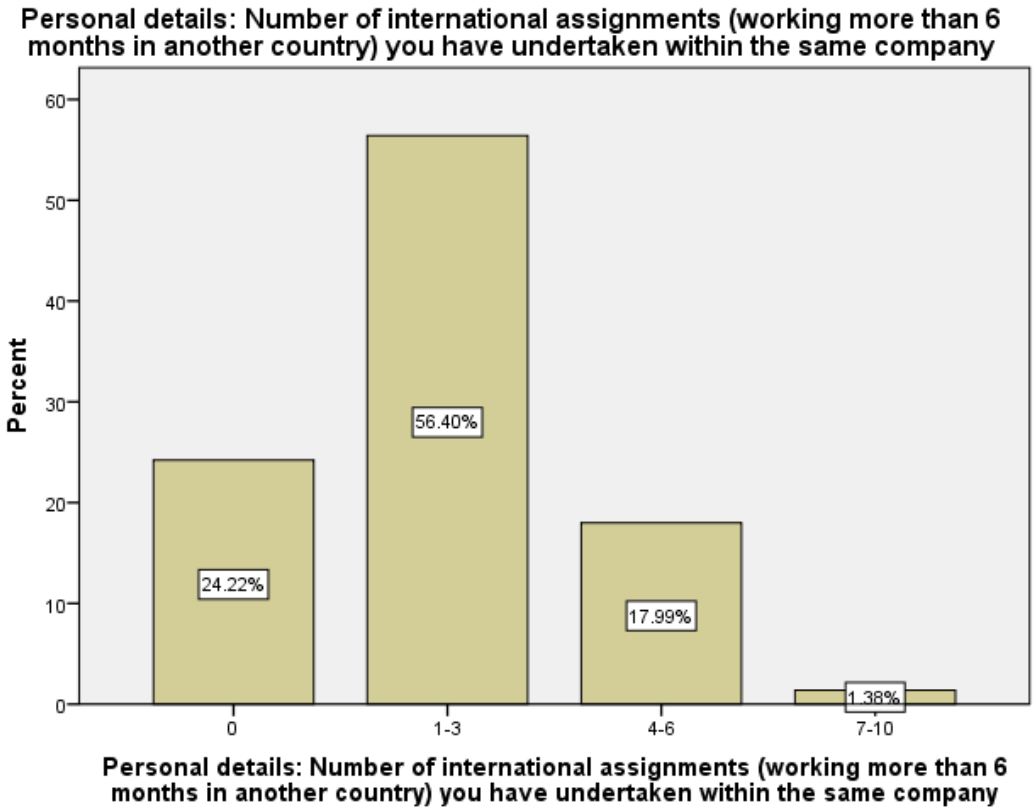

Figure 5.8 (6) Personal details: Number of international assignments (working more than 6 months in another country) you have undertaken within the same company (n= 289)

In Figure 5.8 (6), it is about the number of international assignments (working more than 6 months in another country) participants have undertaken within the same company. Statistical results indicate that 56.40% of participants have undertaken 1 to 3 international assignments within the same company, yet 24.22% have not undertaken any international assignments. In the meanwhile, 17.99% of participants have done 4 to 6 international assignments, whilst only 1.38% of participants have undertaken 7 to 10 international assignments within the same company.

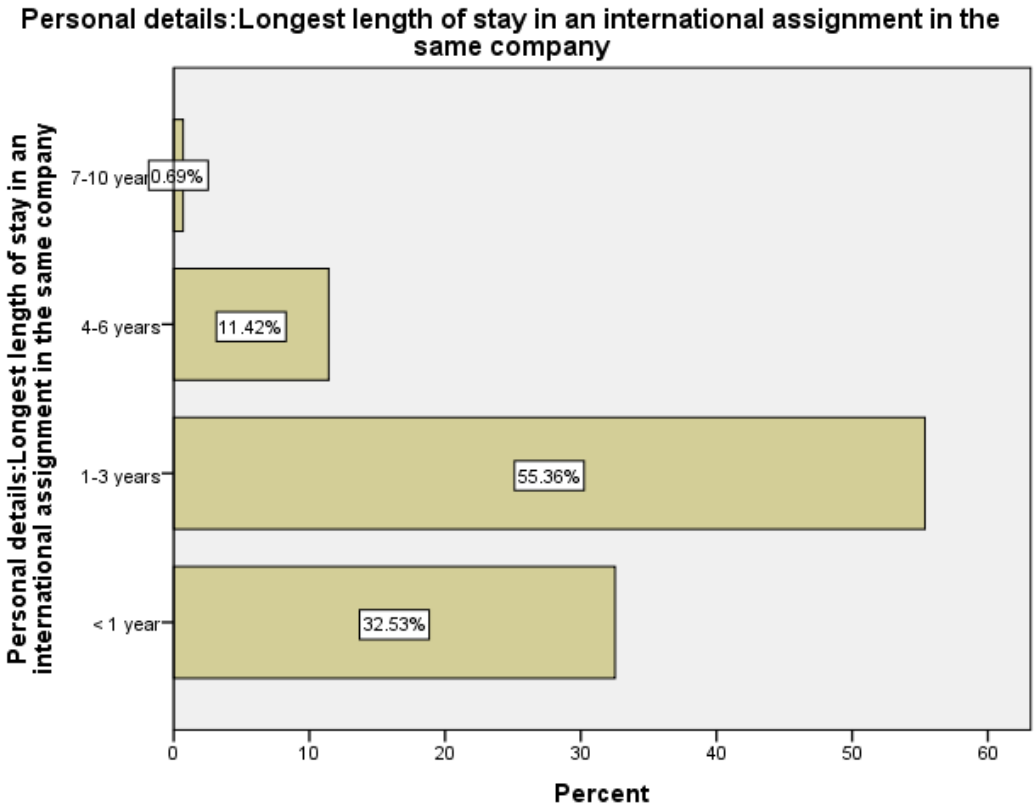

Figure 5.8 (7) Personal details: Longest length of stay in an international assignment in the same company (n= 289)

In Figure 5.8 (7), it presents the longest length of stay in an international assignment in the same company of 289 participants. Statistical outcomes have shown that 55.36% of participants have the longest length of stay in international assignments in the same company over 1 to 3 years, whilst 32.53% are less than 1 year. Also, 11.42% of participants have the longest length of stay over 4 to 6 years and only 0.69% of participants have the longest length of stay over 7 to 10 years.

5.3 Data Reliability Test to Questionnaire Scales

Reliability refers to the overall consistency of a measure. With Likert-type scales in the questionnaire survey, it is vital to conduct reliability test for examining the internal consistency of items to determine whether different items can reliably and consistently measure the same variable in different situations (Field, 2013; Tabachnick & Fidell, 2013). Cronbach's Alpha coefficient is often applied to test the

reliability level of scales. The higher level of Alpha indicates the higher level of reliability. Usually, an Alpha value above 0.7 indicates that the questionnaire scales have an acceptable level of reliability (Field, 2013). Otherwise, the questionnaire should be amended and the reliability level improved (Field, 2013; Tabachnick & Fidell, 2013). Table 5.1 displays the Cronbach's Alpha coefficients of scales in the questionnaire from part 2 to part 6.

Table 5.1 Cronbach's Alpha coefficients of scales (n= 289)

Scale	Name of scale	Number of items	Cronbach's Alpha
Part 2	Perceived cultural differences	7	.938
Part 3	Managerial dispositions	9	.957
Part 4	Knowledge structure (adaptability)	5	.939
Part 5	Benefits of KT for host country subsidiaries	5	.949
Part 6	KT from MNE HQ China to host country subsidiaries	7	.898

As shown in Table 5.1, the Alpha coefficients of each part of the questionnaire are in the range 0.898 to 0.951. As such, these aspects of the questionnaire have an accepted level of reliability, especially Parts 2, 3, 4 and 5, whose Alpha coefficients are higher than 0.9, indicating they have a high level of reliability. Therefore, the data form the questionnaire survey of this thesis has an acceptable level of reliability and we can move to subsequent inferential statistics. While an Alpha value higher than 0.9 is acceptable (O'Brien, 2007; Hair et al., 2011), it is often due to having a larger number of variables clustered in one test. Yet, by reducing the number of variables per test, the alpha value can be reduced to above 0.8, which is a more appropriate level.

5.4 Hypothesis 1 Tests: Perceived Cultural Differences between Managers at MNE HQ China and Managers at Host Country Subsidiaries in the Context of Knowledge Transfer (KT)

This section employs nonparametric test tools in terms of the Chi-Square Test[3], Kruskal-Wallis Test[4], and One-Sample Kolmogorov-Smirnov Test to test the hypothesis H1 with respect to the perceived cultural difference between managers at MNE HQ China and managers at host country subsidiaries.

H1: In the context of KT, there are significant perceived cultural differences between managers at MNE HQ China and managers at each host country subsidiary.

Table 5.2 Nonparametric test to perceived cultural differences between managers at different locations (n= 289)

Perceived cultural differences	Chi-Square Test		Kruskal-Wallis Test	
	Chi-Square	df	Chi-Square	df
Degree of self-direction within the work environment (Power distance)	229.232***	8	203.750***	7
Degree of autonomy in making changes in the work environment (Power distance)	321.723***	8	222.961***	7
Degree of rule following behaviour (Power distance)	292.824***	8	226.396***	7
Sharing social norms, customs, and traditions (Uncertainty avoidance)	185.322***	8	231.262***	7
Recognition of individual achievements (Masculinity)	217.211***	8	227.375***	7

[3] Chi-Square Test: It is used to determine whether there is a significant difference between the expected frequencies and the observed frequencies in more categories.

[4] Kruskal-Wallis Test: It is used to assess for significant differences on a continuous dependent variable by a categorical independent variable with more groups. Here, both Chi-Square Test and Kruskal-Wallis Test are employed to test whether there are significant differences of perceived cultural differences (power distance, uncertainty avoidance, masculinity and collectivism) in managers at different locations (MNE HQ China, India, Other Asian countries, EU countries, African countries, USA, The UK, Other non-EU European countries and South American countries).

Encouragement of individualism and creativity (Collectivism)	252.152***	8	223.843***	7
Decision making through teamwork (Collectivism)	196.907***	8	183.595***	7

Note: Dependent variable: Perceived cultural differences; independent variable: location of subsidiaries of MNE

*p< 0.05; **p<0.01; ***p< 0.001

For testing H1, this section employs nonparametric analysis in terms of Chi-Square Test and the Kruskal-Wallis Test to compare whether each of the perceived cultural differences dimensions is significantly different between managers at two different locations. Results are presented in Table 5.2. According to the statistical results of Chi-Square Test (the second column in Table 5.2), firstly, regarding to power distance, Chi-square values of its three items are all significant at the 0.001 level (p< 0.001, df= 8), for instance, degree of self-direction within the work environment (Chi-square= 229.232, p< 0.001, df= 8), degree of autonomy in making changes in the work environment (Chi-square= 321.723, p< 0.001, df= 8), and degree of rule following behaviour (Chi-square= 292.824, p< 0.001, df= 8). That is to say, there is a significant difference in power distance between managers at any two locations among the nine groups/nations[5] (e.g. between China and India, between India and the UK, between US and the UK, and so on). In the meanwhile, the Kruskal-Wallis Test values of all the three power distance terms (the fourth column in Table 5.2) are also all significant at the 0.001 level (p< 0.001, df= 7), consistent with the result of Chi-Square Test.

Secondly, regarding uncertainty avoidance, Chi-square value is also significant at the 0.001 level (Chi-square value= 185.322, p< 0.001, df= 8). As such, there is a significant difference in uncertainty avoidance between managers at any two locations among the nine groups/nations. At the same time, the Kruskal-Wallis Test

[5] These nine nations/groups are: MNE HQ China, India, Other Asian countries, EU countries, African countries, USA, The UK, Other non-EU European countries and South American countries.

value is also significant at the 0.001 level (Chi-square value= 231.262, $p< 0.001$, df= 7), consistent with the result of Chi-Square Test.

Thirdly, regarding masculinity, the Chi-square value is also significant at the 0.001 level (Chi-square value= 217.211, $p< 0.001$, df= 8). As such, there is a significant difference in masculinity between managers at any two locations among the nine groups/nations. At the same time, the Kruskal-Wallis Test value is also significant at the 0.001 level (Chi-square value= 227.375, $p< 0.001$, df= 7), consistent with the result of Chi-Square Test.

Fourthly, regarding collectivism, Chi-square values of its two items are all significant at the 0.001 level ($p< 0.001$, df= 8), for instance, encouragement of individualism and creativity (Chi-square= 252.152, $p< 0.001$, df= 8), and decision making through teamwork (Chi-square= 196.907, $p< 0.001$, df= 8). That is, there is a significant difference in collectivism between managers at any two locations among the nine groups/nations. The Kruskal-Wallis Test values of the two collectivism terms are also significant at the 0.001 level ($p< 0.001$, df= 7), consistent with the result of the Chi-Square Test.

Overall, the statistical results in Table 5.2 have revealed that there are significant perceived cultural differences (in terms of power distance, uncertainty avoidance, masculinity, and collectivism) in managers at different locations of MNEs in the context of KT.

Further, Appendix 3 presents the One-Sample Kolmogorov-Smirnov Test[6] for perceived cultural differences between managers at MNE HQ China and each host

[6] One-Sample Kolmogorov-Smirnov Test: It does not only test whether a single population obeys one theoretical distribution, but also tests whether there is significant difference between two populations' distribution. Its null hypothesis is: there is no significant difference in the distribution of the two populations where two independent

country subsidiary, seen in Table 1. According to statistical results in Table 1, it firstly compares the cultural differences in managers at MNE HQ China and managers at host country subsidiary India. Regarding power distance, the Kolmogorov-Smirnov test results for all the three terms are significant at the 0.05 level, e.g. degree of self-direction within the work environment (Z= 0.816, asymptotic significance value= 0.518> 0.05[7]), degree of autonomy in making changes in the work environment (Z= 0.884, asymptotic significance value= 0.415> 0.05) and degree of rule following behaviour (Z= 0.895, asymptotic significance value= 0.400> 0.05). That is to say, there is a significant difference in power distance in managers at MNE HQ China and managers at host country subsidiary India. Regarding masculinity, the Kolmogorov-Smirnov test result is significant at the 0.05 level (Z= 1.330, asymptotic significance value= 0.058> 0.05). That is, there is a significant difference in masculinity in managers at MNE HQ China and managers at host country subsidiary India. Regarding collectivism, the Kolmogorov-Smirnov test result of one term (decision making through teamwork) is significant at the 0.05 level (Z= 0.719, asymptotic significance value= 0.680> 0.05). As such, there is significant difference in collectivism in managers at MNE HQ China and managers at host country subsidiary India. To conclude, the Kolmogorov-Smirnov test results reveal significant perceived cultural differences (in terms of power distance, masculinity and collectivism) in managers at MNE HQ China and managers at host country subsidiary India.

Similarly, the Kolmogorov-Smirnov test results in Table 1 for China and other Asian Countries, reveals there are significantly different perceived cultural differences in terms of power distance, uncertainty avoidance, masculinity and collectivism between managers at MNE HQ China and host country subsidiary managers in Other

samples are from. Here, One-Sample Kolmogorov-Smirnov Test is applied to test whether there are significant differences in perceived cultural differences (power distance, uncertainty avoidance, masculinity, and collectivism) in managers at MNE HQ China and each host country subsidiary (including eight locations: India, Other Asian countries, EU countries, African countries, USA, The UK, Other non-EU European countries and South American countries).

[7] When asymptotic significance value is higher than 0.05, it indicates the Kolmogorov-Smirnov Z is significant.

Asian Countries. Similar results pertain when comparing China to the UK. In comparing China and EU countries, there are significant cultural differences in terms of power distance, masculinity and collectivism. For China and non-EU European countries, there is a significant difference in terms of power distance, uncertainty avoidance, masculinity and collectivism. A similar result pertains when comparing China with the US and in comparing China with African countries.

Finally, given the small size of the sample for South American Countries, the One-Sample Kolmogorov-Smirnov Test becomes redundant.

Overall, the results from One-Sample Kolmogorov-Smirnov Test indicate that in most cases, there are significant perceived cultural differences (power distance, uncertainty avoidance, masculinity and collectivism) between managers at MNE HQ China and each of the host country subsidiaries apart from South America where a valid test could not be performed. In this sense, the hypothesis H1 is supported.

5.5 Hypothesis 2 Tests: Impact of Perceived Cultural Differences on Managerial Dispositions

This section tests the second group of hypotheses (H2) that examines the impact of perceived cultural differences on managerial dispositions (managerial trust, managerial ties, managerial competencies and absorptive capacity) using regression analysis. In a regression model, R-square is a statistical measure of how close the data are to the fitted regression line, or the goodness of fit for the linear model. A high level of R-square indicates the regression model is a better fit of the data. In linear regression, the F-statistic is the test statistic for The Analysis of Variance (ANOVA) approach to test the significance of the model. In other words, F-statistic results indicate whether the linear relationship between dependent variable and independent variables in the regression model is significant overall. When the F-value is significant, it indicates that overall the regression model is significant. As proposed in Chapter 3, the hypothesis of group two is as follows:

H2: Perceived cultural differences have a significant impact on managerial dispositions in the context of intra-MNE KT.

The central hypothesis captured four sub-hypotheses. In what follows the report systemically presents results of tests under each hypothesis:

H2a: The level of trust between those involved in the KT is inversely related to perceived cultural differences.

As shown in Table 5.3, for Model (1) managerial trust is the dependent variable and perceived cultural differences dimensions are independent variables in the regression analysis for testing hypothesis H2a. R-square is $R^2 = 0.530$, indicating that independent variables (perceived cultural differences factors) explain 53.0% variance of the dependent variable (managerial trust). The F-statistic value is 47.429 and is significant at the $p < 0.001$ level. In this sense, the regression function is significant. According to the regression coefficients, power distance (in terms of the degree of self-direction within the work environment ($\beta = 0.263$, $p < 0.001$) and degree of rule following behaviour ($\beta = -0.310$, $p < 0.01$[8]), uncertainty avoidance ($\beta = -0.526$, $p < 0.001$), and collectivism ($\beta = -0.470$, $p < 0.001$) all have significantly negative relationships with managerial trust in KT. That is, perceived cultural differences adversely affect managerial trust. The greater the perceived cultural differences, the less trust there is in knowledge exchange relationships. The hypothesis H2a is therefore supported. To be specific, the greater the differences in power distance, uncertainty avoidance and collectivism between managers at MNE HQ China and

[8] Both the degree of self-direction within the work environment and degree of rule following behaviour are the measures of power distance. On the one side, the degree of self-direction is inversely related to power distance, that is, there is higher degree of self-direction in workplace with smaller power distance. Therefore, the significantly positive regression coefficient of degree of self-direction ($\beta = 0.263$, $p < 0.001$) and trust indicates the positive association between the degree of self-direction and trust, which further indicates the significantly negative association between power distance and trust, due to degree of self-direction is an inverse measure of power distance. On the other hand, the degree of rule following is another measure but conform measure of power distance. There is higher degree of rule following behaviour in workplace with greater power distance.

managers located in host country subsidiaries, the lower the level of trust in knowledge exchange relationships.

H2b: The strength of China HQ managerial ties to host country subsidiary managers is inversely related to perceived cultural differences.

In Model (2), Table 5.3, it takes the managerial ties (relationships) as the dependent variable and perceived cultural difference factors as independent variables in the regression analysis when testing hypothesis H2b. R-square, R^2= 0.575, indicating the independent variables (perceived cultural difference factors) explain 57.5% of the variance of the dependent variable (managerial ties). F-statistic value is 56.684 and is significant at the p < 0.001 level. In this sense, the regression function is significant. According to the regression coefficients, three dimensions of perceived cultural differences: power distance (in terms of degree of self-direction within the work environment (β= 0.151, *p*< 0.05), degree of autonomy in making changes in the work environment (β= 0.204, *p*< 0.05)[9], and degree of rule following behaviour (β= -0.237, *p*< 0.01), uncertainty avoidance (β= -0.273, *p*< 0.001), and collectivism (β= -0.637, *p*< 0.001) all have significant negative relationships with the strength managerial ties in KT. That is, perceived cultural differences are inversely related to the strength of managerial ties in the context of KT. As such, the greater the perceived cultural differences, the weaker the tie between managers involved in the transfer. The hypothesis H2b is therefore supported. To be specific, the greater differences in power distance, uncertainty avoidance and collectivism between managers at MNE HQ China and managers at host country subsidiaries, the lower the strength of social ties between managers from both sides.

[9] Similar with the degree of self-direction within the work environment, the degree of autonomy in making changes in the work environment is another inverse measure of power distance. That is, there is higher degree of autonomy in workplace with smaller power distance. As such, the significantly positive regression coefficient of degree of autonomy (β= 0.204, *p* < 0.05) and strength of ties indicating the positive association between the degree of autonomy and strength of ties, which further indicates the significantly negative association between power distance and strength of ties, due to degree of autonomy is a reverse measure of power distance.

H2c: The competencies of managers to transfer knowledge are inversely related to perceived cultural differences.

In Model (3), Table 5.3 takes managerial competencies as the dependent variable and perceived cultural differences as the independent variables in running the regressions, for testing hypothesis H2c. R-square is R^2= 0.716, indicating the independent variables (perceived cultural difference factors) explains 71.6% of the variance of the dependent variable (managerial competencies). F-statistic value is 104.829 and it is significant at the 0.001 level. In this sense, the regression function is significant. According to regression coefficients, three dimensions of perceived cultural differences: power distance (degree of self-direction within the work environment (β= 0.209, p< 0.001), degree of automomy in making changes in the work environment (β= 0.153, p< 0.05), degree of rule following behaviour (β= -0.200, p< 0.01), uncertainty avoidance (β= -0.484, p< 0.001) and collectivism (β= -0.522, p< 0.001), all have a significantly negative relationship with managerial competencies. That is, perceived cultural differences are inversely related to the competencies of managers involved in the transfer. As such, the greater the perceived cultural differences, the lower the level of managerial competencies. Hypothesis H2d is then supported. Therefore, the greater differences in power distance, uncertainty avoidance and collectivism in managers at MNE HQ China and managers at host country subsidiaries, the weaker the competencies of managers in the process of KT.

H2d: Absorptive capacity in KT is inversely related to perceived cultural differences.

In Model (4), Table 5.3, the absorptive capacity of managers is the dependent variable and perceived cultural difference factors are independent variables in the regression analysis for testing hypothesis H2d. R-square, R^2= 0.521, indicates that independent variables (perceived cultural difference factors) explain 52.1% of the variance in the dependent variable (managers' absorptive capacity). F-statistic value is 45.709 and it is significant at the 0.001 level. In this sense, the regression function is significant. According to regression coefficients, three dimensions of perceived cultural differences, power distance (degree of self-direction within the work

environment (β= 0.176, *p*< 0.05), uncertainty avoidance (β= -0.518, *p*< 0.001) and collectivism (encouragement of individualism (β= 0.327, *p*< 0.01)[10], decision making through teamwork (β= -0.593, *p*< 0.001), all have significantly negative relationships with absorptive capacity. That is, perceived cultural differences are inversely related to absorptive capacity of host country subsidiary managers. The hypothesis H2d is then supported. The greater the perceived cultural differences, the lower the level of absorptive capacity. To be specific, greater cultural differences in power distance, uncertainty avoidance and collectivism between MNE HQ China and host country subsidiary managers, the weaker the absorptive capacity at host country subsidiaries in the context of KT.

Results of hypothesis tests of H2a-H2d are presented from Model (1)-Model (4) in Table 5.3.

Table 5.3 Influence of perceived cultural differences on managerial dispositions in KT (n= 289)

Dependent variables / Independent variables	Model (1) Trust	Model (2) Ties	Model (3) Competencies	Model (4) Absorption
(Constant)	6.876***	7.669***	7.523***	6.890***
	(.169)	(.191)	(.136)	(.146)
Degree of self-direction within the work environment (Power distance)	.263***	.151*	.209***	.176*
	(.066)	(.075)	(.053)	(.057)
Degree of autonomy in making changes in the work environment (Power distance)	.139	.204*	.153*	.019
	(.101)	(.115)	(.082)	(.088)
Degree of rule following behaviour (Power distance)	-.310**	-.237**	-.200**	-.138
	(.106)	(.120)	(.085)	(.092)
Sharing social norms, customs, and traditions (Uncertainty avoidance)	-.526***	-.273***	-.484***	-.518***
	(.070)	(.080)	(.056)	(.061)
Recognition of individual achievements (Masculinity)	.048	.062	-.026	.045
	(.080)	(.090)	(.064)	(.069)
Encouragement of individualism and creativity (Collectivism)	.105	-.010	-.008	.327**
	(.123)	(.119)	(.084)	(.091)
Decision making through teamwork	-.470***	-.637***	-.522***	-.593***

[10] Encouragement of individualism and creativity is an inverse measure of collectivism. That is, the higher level of encouragement of individualism and creativity indicates the lower level of collectivism. The significantly positive regression coefficient of encouragement of individualism and creativity (β= 0.327, *p*< 0.01) and absorptive capacity therefore indicates the positive association between encouragement of individualism and creativity and absorptive capacity, which further indicates the negative association between collectivism and absorptive capacity.

(Collectivism)	(.059)	(.067)	(.047)	(.051)
R-square	.530	.575	.716	.521
F-statistic	47.429***	56.684***	104.829***	45.709***

Note: Independent variables: Perceived cultural differences factors (P2Q1-P2Q7)
Dependent variables: Model (1): Trust= (P3Q1+P3Q2)/2; Model (2): Ties= P3Q3; Model (3): Competences= (P3Q4+P3Q5+P3Q6)/3; Model (4): Capacity= (P3Q7+P3Q8+P3Q9)/3
Standardized errors are in brackets

*p< 0.05, **p< 0.01, ***p<0.001 (Two-tailed)

5.6 Hypothesis 3 Tests: Impact of Perceived Cultural Differences on Knowledge Structure

This section conducts regression analysis to test the third group of hypotheses (H3) to examine the impact of perceived cultural differences on knowledge structure (knowledge stickiness and knowledge adaptability). As proposed in Chapter 3, hypothesis H3 is:

H3: Perceived cultural differences have a significant impact on knowledge structure.

The central hypothesis captured two sub-hypotheses. In what follows, the report systemically presents results of tests under each hypothesis:

H3a: Knowledge stickiness is positively related to perceived cultural differences.

As shown in Table 5.4, Model (1) takes knowledge stickiness as the dependent variable and perceived cultural difference factors as independent variables in running the regression, for testing hypothesis H3a. R-square is R^2= 0.414, indicating that independent variables (perceived cultural difference factors) explain 41.4% of the variance in the dependent variable (knowledge stickiness). F-statistic value is 30.041 and it is significant at the 0.001 level. In this sense, the regression function is significant. According to regression coefficients, three dimensions of perceived cultural differences: power distance (the degree of self-direction within the work

environment (β= -0.278, *p*< 0.001)[11], uncertainty avoidance (β= 0.350, *p*< 0.001), and collectivism (β= 0.540, *p*< 0.001) all have significantly positive relationships with knowledge stickiness. Perceived cultural differences are therefore positively related to knowledge stickiness. The hypothesis H3a is then supported. The greater the perceived cultural differences, the higher the level of knowledge stickiness. To be specific, greater cultural differences in terms of power distance, uncertainty avoidance and collectivism between managers at MNE HQ China and managers at host country subsidiaries, the higher is the level of knowledge stickiness.

H3b: The adaptability of transferred knowledge within MNE host country subsidiaries is inversely related to perceived cultural differences.

Model (2) of Table 5.4 takes knowledge adaptability as the dependent variable and perceived cultural difference factors as independent variables in the regression analysis for testing hypothesis H3b. R-square is R^2= 0.618, indicating that independent variables (perceived cultural difference factors) explain 61.8% variance of the dependent variable (knowledge adaptability). F-statistic value is 67.552 and it is significant at the 0.001 level. In this sense, the regression function is significant. According to regression coefficients, three dimensions of perceived cultural differences: power distance (the degree of self-direction within the work environment (β= 0.286, *p*< 0.001) and the degree of rule following behaviour (β= -0.219, *p*< 0.05), uncertainty avoidance (β= -0.563, *p*< 0.001), and collectivism (β= -0.567, *p*< 0.001) all have significantly negative relationships with the adaptability of transferred knowledge within MNE host country subsidiaries. That is, perceived cultural differences are inversely related to adaptability of KT. The hypothesis H3b is therefore supported. Perceived cultural differences are inversely related to the adaptability in the knowledge being transferred within MNE host country subsidiaries. To be specific, greater perceived cultural differences in power distance,

[11] As emphasised earlier in Section 5.5, the degree of self-direction within the work environment is a reverse measure of power distance. The negative regression coefficient (β= -0.278, *p*< 0.001) indicates the negative association between the degree of self-direction, so as the positive association between power distance and knowledge stickiness.

uncertainty avoidance and collectivism in managers at MNE HQ China and at host country subsidiaries, the weaker is the adaptability of the transferred knowledge within MNE host country subsidiaries.

Results of hypothesis tests of H3a-H3b are presented from Model (1)-Model (3) in Table 5.4.

Table 5.4 Influence of perceived cultural differences on knowledge structure (n= 289)

Independent variables \ Dependent variables	Model (1) Knowledge stickiness	Model (2) Knowledge adaptability
(Constant)	1.189***	6.890***
	(.182)	(.122)
Degree of self-direction within the work environment (Power distance)	-.278***	.286***
	(.071)	(.048)
Degree of autonomy in making changes in the work environment (Power distance)	.074	.050
	(.109)	(.074)
Degree of rule following behaviour (Power distance)	.142	-.219*
	(.114)	(.077)
Sharing social norms, customs, and traditions (Uncertainty avoidance)	350***	-.563***
	(.076)	(.051)
Recognition of individual achievements (Masculinity)	-.102	.072
	(.086)	(.058)
Encouragement of individualism and creativity (Collectivism)	-.116	.196*
	(.113)	(.076)
Decision making through teamwork (collectivism)	.540***	-.567***
	(.063)	(.043)
R-square	.414	.618
F-statistics	30.041***	67.552***

Note: Independent variables: Perceived cultural differences factors (P2Q1-P2Q7)
Dependent variables: Model (1): Stickiness= P4Q1; Adaptability= (P4Q2+P4Q3+P4Q4+P4Q5)/4
Standardized errors are in brackets

*p< 0.05, **p< 0.01, ***p<0.001 (Two-tailed)

5.7 Hypothesis 4 Tests: Impact of Managerial Dispositions on Effectiveness of Knowledge Transfer (KT)

This section conducts regression analysis on the fourth group of hypotheses (H4) to examine the impact of managerial dispositions on effectiveness of KT from China MNE HQs to host country subsidiaries. The effectiveness of KT is measured by both the benefits from KT and the degree of KT. Benefits from KT include integrating or combining knowledge for use in the local setting, transferring firm-specific advantages to new overseas markets, augmenting capacity in the local market, advancing value for existing or new products/services, and making novel linkages or associations with the local market. The degree of KT refers to the frequency of knowledge being transferred. As proposed in chapter 3, hypothesis H4 is:

H4: Managerial dispositions play a significant role in increasing effectiveness and the benefits from KT from China MNE HQs to host country subsidiaries.

As shown in Table 5.5, Model (1), the benefits of KT is the dependent variable and the four managerial dispositions (trust, ties, competencies and absorptive capacity) are independent variables in running the regressions and in testing the group of four hypotheses (including the four sub-hypotheses H4a-H4d). Model (2) takes the degree of KT as the dependent variable and managerial disposition factors as independent variables.

For Model (1), R-squared, R^2 = 0.297, indicating that independent variables (managerial dispositional factors) explain 28.7% of the variance of the dependent variable (the benefits of KT). F-statistic value is 30.034 and it is significant at the 0.001 level. In this sense, the regression function is significant. In Model (2), R^2= 0.682, indicating that independent variables (managerial disposition factors) explain 68.2% variance of the dependent variable (degree of KT). F-statistic value is 155.307 and it is significant at the 0.001 level. In this sense, the regression function is significant too.

H4a: The trust in relationships between China HQ managers and host country subsidiary managers is positively related to the benefits from KT.

According to regression coefficients in the two models in Table 5.5, in Model (1) the regression coefficient for managerial trust as it relates to the benefits for KT is not significant though it is positive. In Model (2), managerial trust (β= 0.152, p< 0.05) has a significantly positive influence on the degree of KT. The hypothesis H4a is therefore supported. That is to say, the higher the level of trust in relationships between China HQ managers and host country subsidiaries managers, the higher the effectiveness of knowledge being transferred from MNE HQ China to host country subsidiaries.

H4b: The closer the managerial ties between China HQ managers and host country subsidiary managers, the greater the benefits from KT.

According to the regression coefficients in the two models, Table 5.5, Model (1), the regression coefficient for managerial ties in relation to the benefits from KT is not significant though it is positive. In Model (2) managerial ties (β= 0.156, p< 0.05) has significantly positive influence on the degree of KT. The hypothesis H4b is therefore supported. The stronger the managerial ties between managers, the higher the degree of knowledge being transferred from MNE HQ China and host country subsidiaries. That is, managerial ties facilitate KT within MNEs.

H4c: The higher the competencies in sharing knowledge between China HQ managers and host country subsidiary managers the greater the benefits from KT.

According to regression coefficients in the two models in Table 5.6, Model (1), managerial competencies (β= 0.308, p< 0.01) have a significantly positive effect on the benefits from KT. In Model (2), managerial competencies (β= 0.207, p< 0.001) have a significantly positive influence on the degree (frequency) of KT. The hypothesis H4c is therefore supported. That is, the stronger the competencies of

managers, the higher the effectiveness of KT (larger benefits from KT and higher frequency of transfer) from MNE HQ China to host country subsidiaries.

H4d: The absorptive capacity of host country subsidiary managers is positively related to the benefits from the knowledge transferred from China MNE HQ.

According to regression coefficients in the two models in Table 5.5, Model (1), absorptive capacity (β= 0.132, p< 0.05) has a significantly positive effect on the benefits from KT. In Model (2), absorptive capacity (β= 0.382, p< 0.001) has a significantly positive influence on the degree of KT. The hypothesis H4d is therefore supported. That is, stronger absorptive capacity of host country subsidiaries is more likely to realize the effectiveness from KT (greater benefits from KT and higher frequency of transfer) from MNE HQ China to host country subsidiaries.

Results of hypotheses tests of H4a-H4d are presented from Model (1)-Model (2) in Table 5.5.

Table 5.5 Impact of managerial dispositions on effectiveness of KT (n= 289)

Dependent variables / Independent variables	Model (1) Benefits of KT[12]	Model (2) Degree of KT[13]
(Constant)	2.865***	1.750***
	(.222)	(.139)
Managerial trust	.135	.152*
	(.063)	(.040)
Managerial ties	.021	.156*
	(.053)	(.033)
Managerial competences	.308**	.237**

[12] The benefits of knowledge transfer include: integrating or combining knowledge for use in the local setting, transferring firm-specific advantages to new overseas markets, augmenting capacity in the local market, advancing value for existing or new products/ services, making novel linkages or associations with the local market.

[13] The degree of knowledge transfer refers to the frequency of knowledge being transferred from MNE HQ to host country subsidiaries. The more frequent transfer would bring larger amount of knowledge being transferred, indicating the higher degree of transfer. Knowledge includes marketing knowledge, services knowledge, culturally-related knowledge, network knowledge, managerial experience and knowledge, high-tech knowledge, and general production.

	(.068)	(.043)
Absorptive capacity	.132*	.382***
	(.059)	(.037)
R-square	.287	.682
F-statistics	30.034***	155.307***

Note: Independent variables: Managerial trust= (P3Q1+P3Q2)/2; Managerial ties= P3Q3; Managerial competences= (P3Q4+P3Q5+P3Q6)/3; Absorptive capacity= (P3Q7+P3Q8+P3Q9)/3
Dependent variables: Model (1): Benefits of KT= (P5Q1+P5Q2+P5Q3+P5Q4+P5Q5)/5; Model (2): Degree of KT= (P6Q1+P6Q2+P6Q3+P6Q4+P6Q5+P6Q6+P6Q7)/7
Std. errors are in brackets.

*p< 0.05; **p<0.01; ***p< 0.001 (Two-tailed)

5.8 Hypothesis 5 Tests: Impact of Knowledge Structure on Managerial Dispositions

This section tests the fifth group of hypotheses (H5) and examines the impact of knowledge structure on managerial dispositions. As proposed in Chapter 3, the fifth hypothesis H5 is:

H5: The structure of knowledge (stickiness and adaptability) will have a significant impact on China MNE HQ managers' dispositions to transfer knowledge to host country subsidiary managers.

As presented in Table 5.76, Models (1) to (4), take two knowledge structure (stickiness and adaptability) as independent variables, and four managerial dispositions as dependent variables respectively for running the regression analysis. In Model (1), R^2= 0.680, indicating that independent variables (knowledge structure) explain 68.0% variance of the dependent variable (managerial trust). F-statistic value is 123.195 and it is significant at the 0.001 level. In this sense, the regression function is significant. In Model (2), R^2= 0.629, which indicates that the independent variables (knowledge structure) explain 62.9% variance of the dependent variable (managerial ties). F-statistic value is 98.713 and it is significant at the 0.001 level. In this sense, the regression function is significant. For Model (3), R^2= 0.734, indicating that independent variables (knowledge structure) explain 73.4% of the variance in the dependent variable (managerial competences). F-statistic value is 160.126 and it is significant at the 0.001 level. In this sense, the regression function is significant. In

Model (4), R^2= 0.800, indicating that independent variables (knowledge structure) explain 81.1% variance of the dependent variable (absorptive capacity). F-statistic value is 230.782 and it is significant at the 0.001 level. In this sense, the regression function is significant.

The central hypothesis captured two sub-hypotheses. In what follows, the report systemically presents test results under each hypothesis:

H5a: Knowledge stickiness is negatively related to China HQ managers' dispositions to transfer knowledge to host country subsidiary managers.

According to the regression coefficients of knowledge stickiness in the four models (presented in Table 5.6), knowledge stickiness (β= -0.302, p< 0.001) has a significantly negative effect on absorptive capacity of managers. Knowledge stickiness is inversely related to absorptive capacity of host country managers. As such, hypothesis H5a is supported. That is, the higher the level of knowledge stickiness, the weaker the absorptive capacity of managers at host country subsidiaries in the context of intra-MNE KT.

H5b: Knowledge adaptability is positively related to the managerial capabilities in managing the process of KT.

In this research, knowledge adaptability includes the following components, in terms of adaptive (easily adopted or absorbed in local practices), adaptive (easily reconfigured in adapting to local practices), adaptive (flexibility and can change when markets change), and similarity in systems/processes between HQ and subsidiaries with UK (or other foreign receivers).

As indicated in Table 5.6, in general several knowledge adaptability variables have significant positive effects on several managerial disposition factors. The major

significant statistical outcomes from regression analysis are: the flexibility of knowledge and similarity in systems/processes (two components of knowledge adaptability) have positive association with managerial dispositions (trust, ties, competencies and absorptive capacity): e.g. similarity in systems/processes and managerial trust (β= 0.291, p< 0.001), adaptive (flexibility) and managerial ties (β= 0.389, p< 0.001), similarity in systems/processes and managerial ties (β= 0.261, p< 0.01), adaptive (flexibility) and managerial competencies (β= 0.465, p< 0.001), similarity in systems/processes and managerial competencies (β= 0.254, p< 0.001), adaptive (flexibility) and absorptive capacity (β= 0.103, p< 0.05), and similarity in systems/processes and absorptive capacity (β= 0.305, p< 0.001). These significantly positive results imply that knowledge adaptability is positively associated with managerial dispositions. As such, the hypothesis H5b is supported. That is to say, the higher the level of knowledge adaptability, the stronger managerial capabilities in managing the process of KT.

Results of hypothesis tests of H5a-H5b are presented from Model (1)-Model (4) in Table 5.6.

Table 5.6 Impact of knowledge structure on managerial dispositions (n= 289)

Dependent variables / Independent variables	Model (1) Trust	Model (2) Tie	Model (3) Competence	Model (4) Absorption
(Constant)	-1.054*	-.332	-.192	2.456***
	(.457)	(.587)	(.432)	(.311)
Knowledge stickiness (tacitness)	.091	-.058	-.066	-.302***
	(.053)	(.068)	(.050)	(.036)
Adaptive (easily adopted or absorbed)	.211**	.095	.064	.138**
	(.074)	(.095)	(.070)	(.050)
Adaptive (easily reconfigured in adapting)	.123	.063	.083	.154**
	(.082)	(.105)	(.077)	(.055)
Adaptive (flexibility)	.339***	.389***	.465***	.103*
	(.075)	(.096)	(.071)	(.051)
Similarity in systems/processes	.291***	.261**	.254***	.305***
	(.075)	(.096)	(.070)	(.051)
R-square	.680	.629	.734	.800
F-statistic	123.195***	98.713***	160.126***	230.782***

Note: Independent variables: Knowledge structure (stickiness and adaptability): P4Q1-P4Q5
Dependent variable: Model (1): Managerial trust= (P3Q1+P3Q2)/2; Model (2): Managerial ties= P3Q3; Model (3): Managerial competences= (P3Q4+P3Q5+P3Q6)/3; Model (4): Absorptive capacity=

(P3Q7+P3Q8+P3Q9)/3

*p< 0.05; **p< 0.01; ***p< 0.001 (Two-tailed)

5.9 Hypothesis 6 Tests: Impact of Knowledge Structure on Effectiveness of Knowledge Transfer (KT)

The tests reported in this section focus on the impact of knowledge structure on the effectiveness of KT, the sixth hypothesis H6.

H6: Knowledge structure factors have a significant influence on the effectiveness of knowledge being transferred from China MNE HQ to host country subsidiaries.

For testing this hypothesis, it takes two knowledge structure factors (knowledge stickiness and knowledge adaptability) as independent variables, and the degree of KT (Model (1)) and the benefits of KT (Model (2)) as dependent variables, to run the regression analysis. Regression results of the two models are presented in Table 5.7. In Model (1), R^2= 0.293, indicating that independent variables (knowledge structure) explain 29.3% of the variance in the dependent variable (benefits from KT). F-statistic value is 24.877 and is significant at the 0.001 level. In this sense, the regression function is significant. In Model (2), R^2= 0.749, indicating that independent variables (knowledge structure) explain 74.9% of the variance in the dependent variable (degree of KT). F-statistic value is 172.648 and is significant at the 0.001 level. In this sense, the regression function is significant.

The central hypothesis captured two sub-hypotheses. In what follows, the report systemically presents results of tests under each hypothesis:

H6a: Knowledge stickiness is negatively related to the effectiveness of knowledge transferred from the HQs of China MNEs to host country subsidiaries.

According to Table 5.7 the regression coefficients from Model (1) and Model (2), knowledge stickiness (β= -0.276, p< 0.001) has a significantly negative effect on the

degree of KT. Knowledge stickiness is reversely related with the effectiveness of KT. As such, the hypothesis H6a is supported. That is to say, the higher the level of knowledge stickiness, the lower the degree of knowledge being transferred from MNE HQ China to host country subsidiaries.

H6b: Knowledge adaptability is positively related to the effectiveness of knowledge transferred from the HQs of China MNEs to host country subsidiaries.

According to Table 5.7 the regression coefficients from Model (1) and Model (2), knowledge adaptability (e.g. adaptive (easily adopted or abosrbed) β= 0.201, p< 0.001; adaptive (flexibility) β= 0.152, p< 0.05; similarity in systems/processes β= 0.287, p< 0.001) has a significantly positive effect on the degree of KT. And also, knowledge adaptability (e.g. adaptive (flexibility) β= 0.205, p< 0.05) has significantly positive on benefits of KT. As such, the hypothesis H6b is supported. That is to say, the higher level of knowledge adaptability, the more effective transfer of knowledge from MNE HQ China to host country subsidiaries.

Results of hypothesis tests of H6a-H6b are presented in Model (1)-Model (2) in Table 5.7.

Table 5.7 Impact of knowledge structure on effectiveness of KT (n= 289)

Dependent variables / Independent variables	Model (1) Benefits of KT	Model (2) Degree of KT
(Constant)	2.977***	2.799***
	(.471)	(.263)
Knowledge stickiness (tacitness)	-.097	-.276***
	(.054)	(.030)
Adaptive (easily adopted or absorbed)	.133	.201***
	(.076)	(.042)
Adaptive (easily reconfigured in adapting)	.164	.055
	(.084)	(.047)
Adaptive (flexibility)	.205*	.152*
	(.077)	(.043)
Similarity in systems/processes	.015	.287***
	(.077)	(.043)
R-square	.293	.749

F-statistic	24.877***	172.648***

Note: Independent variables: Knowledge structure (stickiness and adaptability): P4Q1-P4Q5
Dependent variable: Model (1): Benefits of KT= (P5Q1+P5Q2+P5Q3+P5Q4+P5Q5)/5; Model (2): Degree of knowledge transfer= (P6Q1+P6Q2+P6Q3+P6Q4+P6Q5+P6Q6+P6Q7)/7
Std. errors are in brackets.

*p< 0.05; **p<0.01; ***p< 0.001 (Two-tailed)

5.10 Summary

This chapter reported the results of a range of statistical tests on the hypotheses identified in Chapter 3. It reported on the nonparametric analysis tools in order to compare the perceived cultural differences between managers at MNE HQ China and managers at host country subsidiaries. Overall, the statistical results show there are significant cultural differences (power distance, uncertainty avoidance, masculinity, and collectivism) between managers at MNE HQ China and managers at host country subsidiaries in the context of KT (H1).

The subsequent five sections run several linear regressions to examine the relationship among perceived cultural differences, knowledge structure, managerial dispositions, and effectiveness of KT. Statistical results have revealed that perceived cultural differences play an important role to affect both managerial dispositions (H2) and knowledge structure (H3) in the context of KT. Also, managerial dispositions have a significant influence on the effectiveness of KT (H4). In the meanwhile, knowledge structure have significant effect on managerial dispositions (H5) and on the effectiveness of KT (H6). Table 5.8 summarizes the results of the hypotheses tests.

Table 5.8 Summary of hypotheses tests

Hypotheses	Result
H1: In the context of KT, there are significant perceived cultural differences between managers at MNE HQ China and managers at each host country subsidiary.	Supported

H2: Perceived cultural differences have a significant impact on managerial dispositions in the context of intra-MNE KT.	Supported
H2a: The level of trust between those involved in the KT is inversely related to perceived cultural differences.	Supported
H2b: The strength of China HQ managerial ties to host country subsidiary managers is inversely related to perceived cultural differences.	Supported
H2c: The competences of managers to transfer knowledge are inversely related to perceived cultural differences.	Supported
H2d: Absorptive capacity in KT is inversely related to perceived cultural differences.	Supported
H3: Perceived cultural differences have a significant impact on knowledge structure.	Supported
H3a: Knowledge stickiness is positively related to perceived cultural differences.	Supported
H3b: The adaptability of transferred knowledge within MNE host country subsidiaries is inversely related to perceived cultural differences.	Supported
H4: Managerial dispositions play a significant role in increasing effectiveness and the benefits from KT from China MNE HQs to host country subsidiaries.	Supported
H4a: The trust in relationships between China HQ managers and host country subsidiary managers is positively related to the benefits from KT.	Supported
H4b: The closer the managerial ties between China HQ managers and host country subsidiary managers, the greater the benefits from KT.	Supported
H4c: The higher the competencies in sharing knowledge between China HQ managers and host country subsidiary managers the greater the benefits from KT.	Supported
H4d: The absorptive capacity of host country subsidiary managers is positively related to the benefits from the knowledge transferred from China MNE HQ.	Supported
H5: The structure of knowledge (stickiness, and adaptability) will have a significant impact on China MNE HQ managers' dispositions to transfer knowledge to host country subsidiary managers.	Supported
H5a: Knowledge stickiness is negatively related to China HQ managers' dispositions to transfer knowledge to host country subsidiary managers.	Supported
H5b: Knowledge adaptability is positively related to the managerial capabilities in managing the process of KT.	Supported
H6: Knowledge structure factors have a significant influence on the effectiveness of knowledge being transferred from China MNE HQ to host country subsidiaries.	Supported
H6a: Knowledge stickiness is negatively related to the effectiveness of knowledge transferred from the HQs of China MNEs to host country subsidiaries.	Supported
H6b: Knowledge adaptability is positively related to the effectiveness of knowledge transferred from the HQs of China MNEs to host country subsidiaries.	Supported

The next chapter discusses the results of the hypotheses tests with regard to the relationships between perceived cultural differences on the one hand and managerial dispositions, knowledge structure and effectiveness of KT on the other hand, and comparisons are made with prior literature.

CHAPTER 6 DISCUSSIONS OF FINDINGS

6.1 Introduction

This chapter discusses the results presented in chapter 5. Section 6.2 examines the perceived cultural differences between MNE HQ managers and subsidiary managers and the impact of perceived cultural differences for KT. Section 6.3 considers the effects of perceived cultural differences on managerial dispositions. This is followed by a discussion of the impact of perceived cultural differences on knowledge structure factors in Section 6.4. In Section 6.5, there is a discussion of how managerial dispositions affect the effectiveness of KT and Section 6.6 the effect of knowledge structure on managerial dispositions is evaluated. Finally, Section 6.7 discusses the impact of knowledge structure on the effectiveness of KT.

6.2 Perceived Cultural Differences and Its Effect on Knowledge Transfer (KT) between MNE HQ China and Host Country Subsidiary Managers

For testing H1, regarding the perceived cultural differences between managers at MNE HQ China and managers at host countries subsidiaries, this section employs nonparametric analysis in terms of Chi-square test and Kruskal Wallis test to run statistics. On the one side, regarding the Chi-square test, results are: power distance (Chi-square value= 292.824, p= 0.000< 0.001, df= 8), uncertainty avoidance (Chi-square value= 185.322, p= 0.000< 0.001, df= 8), masculinity (Chi-square value= 217.211, p= 0.000< 0.001, df= 8), collectivism (Chi-square value= 196.907, p= 0.000< 0.001, df= 8). On the other side, Kruskal Wallis test results are: power distance (Chi-square value= 226.396, p= 0.000< 0.001, df= 7), uncertainty avoidance (Chi-square value= 231.262, p= 0.000< 0.001, df= 7), masculinity (Chi-square value= 227.375, p= 0.000< 0.001, df= 7), collectivism (Chi-square value= 183.595, p= 0.000< 0.001, df= 7). As such, the statistical results of both Chi-square test and Kruskal Wallis test regarding all the four dimensions of perceived cultural differences are significant. Therefore, one of the main research findings of this thesis is that there

are significant perceived cultural differences between MNE China HQ managers and host country subsidiary managers and the differences have a significant effect on HQ-host nation subsidiary KT.

Further, the One-Sample Kolmogorov-Smirnov (Poisson) Test is employed to compare the perceived cultural difference between managers at MNE HQ China and subsidiary managers located at each of the nine different host countries included in the sample. According to the test results, in India: power distance (Kolmogorov-Smirnov Z= 0.895, p> 0.05[14]), masculinity (Kolmogorov-Smirnov Z= 1.330, p> 0.05), and collectivism (Kolmogorov-Smirnov Z= 0.719, p> 0.05). That is to say, there are significant cultural differences between managers at MNE HQ China and managers at subsidiaries located in the host country India. In the UK: power distance (Kolmogorov-Smirnov Z= 0.845, p> 0.05), uncertainty avoidance (Kolmogorov-Smirnov Z= 0.475, p> 0.05), masculinity (Kolmogorov-Smirnov Z= 1.199, p> 0.05), and collectivism (Kolmogorov-Smirnov Z= 0.814, p> 0.05). That is, there are significant cultural differences between managers at MNE HQ China and managers at subsidiaries located in the UK. Similarly, the statistical results for the rest of the subsidiary locations are significant. Overall, the results from the one-sample Kolmogorov-Smirnov test (Poisson test) have revealed significant cultural differences between managers at MNE HQ China and managers at each of the eight different host country subsidiaries. Therefore, the hypothesis H1 which expects significant cultural differences between managers at MNE HQ China and managers at host country subsidiaries in the context of KT is supported.

Taking a social-psychological perspective, this thesis provides a subjective evaluation of perceived cultural differences and reveals the existence of cultural differences between managers from different nations along four dimensions power distance, uncertainty avoidance, masculinity and collectivism. This finding is consistent Kaasa

[14] When asymptotic significance value (p-value) is higher than 0.05, it indicates the Kolmogorov-Smirnov Z is significant.

et al. (2013) which develops a subjective measurement tool of perceived cultural differences based on the indicators of Hofstede (2001) using the European Social Survey (ESS) database and concludes that cultural heterogeneity varies across countries especially in some specific cultural dimensions. Minkov and Hofstede (2014) also use the ESS data including 25 European nations to replicate the measures of a specific cultural dimension: uncertainty avoidance. While acknowledging that the studies of Kaasa et al. (2013) and Minkov and Hofstede (2014) offer deep understandings to perceived cultural differences dimensions, their research is mainly based on European countries. In contrast to their studies, the thesis reveals the existence of perceived cultural differences dimensions that is wide in scope, in that it includes Asian countries along with the USA and South America, African countries, as well as several European. As such, this thesis enriches the subjective measures of perceived cultural differences from the social-psychological perspective.

More importantly, the thesis reveals the existence of perceived cultural differences in HQ-host nation subsidiary KT within MNEs, a vital contextual issue that cannot be ignored. MNE HQ and its overseas subsidiaries have their own development in different nations with heterogeneous religions, ethnicities and geographical locations (Ambos & Ambos, 2009; Qin et al., 2017). The dual effects of national culture and corporate culture would make MNE HQ and overseas subsidiaries form their own value systems and behavioural norms, embodied in beliefs, values and social customs of employees in different locations of MNEs (Zhang et al., 2014; Ling et al., 2016). The underlying beliefs, customs and values are reproduced in local cultural contexts (Peterson & Barreto, 2014; Peterson & Barreto, 2018) and lead to the heterogeneity of actions and behaviours of individuals engaged in the process of KT.

In terms of power distance, the statistical results of this thesis reveal that, in general, managers at MNEs in China have significantly different power distance compared to managers of host country subsidiaries in other nations (e.g. India, UK and US). Power

distance reflects the expectations individuals have about the distribution of power in a society. In the workplace, power distance reflects to what extent supervisors determine behaviours and actions of subordinates (Ardichvili et al., 2006; Qin et al., 2008). Larger power distance indicates there is higher level of social inequality. In other words, in companies with higher levels of power distance, leaders are likely to determine subordinates' actions (Caligiuri, 2014; Harms et al., 2018). In this thesis, power distance is defined by three elements: degree of self-direction within the work environment, degree of autonomy in making changes in the work environment, and degree of rule following behaviour. In the context of KT, the work environment with larger power distance indicates a lower degree of self-direction, lower degree of autonomy in making changes and a higher degree of rule following behaviour. China is a nation with a high level of power distance (Liu et al., 2015; Liu et al., 2018). As such, the work decisions are usually made by leaders, namely a paternalistic leadership relationship between supervisors and subordinates. Therefore, due to the high level of power distance, managers at MNE HQ China experience lower level of self-direction and autonomy in making changes in the work environment but emphasise more about the rule following behaviour in the process of KT (Ambos & Ambos, 2009; Fong Boh et al., 2013). However, to managers at overseas subsidiaries located in nations with lower power distance (e.g. UK and US), there is often a higher degree of autonomy and self-direction in the workplace. In this sense, managers and subordinates are more likely to participate in the process of decision making associated with KT (Harms et al., 2016).

In terms of individualism/collectivism, the statistical results of this thesis reveal that in general managers at MNEs in China have significantly different collectivism compared to managers at host country subsidiaries in other nations. Individualism/collectivism measures individual relationship with the group in the society. Individualism emphasises that individuals are responsible to themselves and for realizing personal achievements, whilst collectivism emphasises that individual identity is based on the total collective member's relationship (collective decision-making is seen as superior) (Chen et al., 2010; Sarala & Vaara, 2010; Zhang

et al., 2014). In this thesis, collectivism is measured from two elements: encouragement of individualism and creativity, and decision making through teamwork. In the workplace with high level of collectivism (e.g. in MNE HQ China), it is more favourable to the decision making through teamwork but weaker encouragement of individualism and creativity. MNE China HQ managers experience a collective culture. The collective-based motivations and incentives would be beneficial to motivate managers to share and transfer knowledge within MNEs, e.g. solving problems and making decisions through teamwork, so as to realize the strategic goal of the whole team/organisation (Bhagat et al., 2002; Ambos & Ambos, 2009; Chen et al., 2010). However, to managers at overseas subsidiaries located in weaker collective culture, for instance, in the UK or USA emphasise individual achievement, where responsibility for transfer resides with individual contributions. That is, the individualism culture encourages more creativity and personal innovation in the transfer (Zhang et al., 2014; Ling et al., 2016), which might bring new ways, methods, and procedures in the KT, contributing to increases in the benefits of KT within MNEs.

In terms of masculinity, the statistical results of this thesis reveal that, in general, managers at MNEs in China have significantly different masculinity/femininity compared to managers at host country subsidiaries in other nations. Masculinity reflects different expectations regarding gender roles. In a nation with masculinity culture, the social values are more likely to reflect competition, assertiveness, personal careers, wealth, and success (Qin et al., 2008; Fong Boh et al., 2013); in the femininity culture, the social values are concerned with moderation, caring for others, cooperation and life quality (Fischer et al., 2014). In this thesis, masculinity is measured by the recognition of individual achievement. That is, in the workplace with masculinity culture, it encourages and recognizes individual achievement and success; yet femininity encourages, cooperation and group outcomes. China is a nation with a moderate level of masculinity in contrast to nations such as the UK and Germany with high level of masculinity (Qin et al., 2008; Qin et al., 2011). To managers at MNE HQ China, they on the one hand pay attention to realize personal

success and achievement in contributions in KT; on the other hand they would also notice cooperation and teamwork (partially as a reflection of their collective culture). However, to managers in overseas subsidiaries with high masculine cultures, there would be a tendency to focus on whether personal achievement can be realized during the KT (Lucas, 2006; Fong Boh et al., 2013). As such, managers have different motivations and willingness concerning decisions on knowledge sharing.

For uncertainty avoidance, the statistical results of this thesis reveal that, in general, managers at MNEs in China have significantly different uncertainty avoidance compared to managers at host country subsidiaries in other nations. Uncertainty avoidance is the extent to which individuals are tolerant of ambiguity and uncertainty. The higher level of uncertainty avoidance indicates that individuals are less tolerant of uncertainty and change (Qin et al., 2008; Minkov & Hofstede, 2014). In this case, in a nation with a high level of uncertainty avoidance people expect procedures, regulations and rules to control and minimize the potential changes and uncertainties (Minkov & Hofstede, 2014). In this thesis, uncertainty avoidance is measured by the tendency of individuals to support social norms, customs and traditions. In a society with lower levels of uncertainty avoidance, individuals have a tolerance for risk and a greater acceptance of future uncertainties (Lucas, 2006; Wilkesmann et al., 2009). In this sense, in a workplace with low uncertainty avoidance, employees are likely to share social norms, customs and traditions with others rather than hide themselves (Colakoglu & Caligiuri, 2008; Minkov & Hofstede, 2014). China is a nation with a low level of uncertainty avoidance (Qin et al., 2011; Zhang et al., 2014). Managers at MNE HQ China experience the work environment with low level uncertainty avoidance. They are therefore more likely to communicate and share customs and traditions with others, contributing to mutual understanding and trusting in sharing knowledge with colleagues. However, to managers at overseas subsidiaries located in nations with high level of uncertainty avoidance, they may have weaker willingness to share social norms and traditions with others, impeding the mutual understanding as well as weakening the motivations in KT.

Overall, the research findings of this thesis reveal the existence of perceived cultural differences in the context of HQ-host nation subsidiary KT. Prior literature in the international business literature, emphasis has been given to cultural frameworks (e.g. Kogut & Singh, 1988) and their variations (e.g. GLOBE practice scores, House et al., 2004; Sarala & Vaara, 2010) to quantitatively measure perceived cultural differences. However, the use of quantitative composite indices of national cultural distance can be criticized as an inadequate measure of distance as it does not consider the context-specific features (McSweeney, 2002; Stahl & Voigt, 2005; Kirkman et al., 2006; Teerikangas & Very, 2006; Sarala & Vaara, 2010). For instance, McSweeney's (2002) criticism is that Hofstede's model of national culture precludes the consideration of interplay between macroscopic and microscopic cultural levels and between the cultural and the non-cultural, because there are rich considerations of the characteristics of individuals, organizations, societies, nations and regions both outside and within the management disciplines. As such, it needs to engage with and use theories of action which can cope with change, power, variety, multiple influences- including the non-national- and the complexity and situational variability of the individual subject (McSweeney, 2002; Sarala & Vaara, 2010).

In this thesis, however, it makes more sense to use the social-psychological approach to measure perceived cultural differences dimensions subjectively given the nature of the study and the use of survey instruments, as the thesis is concerned with the factors that motivate KT activity. Standing on the cognitive dual process theory discussed by Peterson and Barreto (2014) and Peterson and Barreto (2018) that Cultural expertise will differ across a population from the same society, which is one source of cultural difference. Thus, individual beliefs, perceptions, world views (cultural mental models) will vary according to the individual's experiences of operating in different social (work) groups (Richter et al., 2016; Peterson & Barreto, 2018). An individual's current social contexts will influence the kinds of deliberative reasoning employed in particular situations, e.g. when transferring knowledge from MNE HQ China to host nation subsidiaries. To be specific, the unit of analysis in this

thesis are individuals, managers working at the HQs of MNEs and subsidiaries. While managers vary in their disposition to act, such as engage in KT activity, the research findings indicate they are affected by national cultural values and that these values may be reproduced within the firm, as over the sample population of individuals, it is shown that differences between MNE HQ managers and subsidiary managers are significant.

From the social-psychology perspective, in the HQ-host nation subsidiary KT, the detailed cultural differences (power distance, collectivism, masculinity, and uncertainty avoidance) embedded in values, cognitive thinking, languages and beliefs of individual employees, subsequently trigger different motivations, capabilities and actions in transferring knowledge. To be more specific, the research findings of this thesis imply that localised workplace cultures in HQ and subsidiaries may have evolved differences in values, belief systems and social norms, and these local variations reflect national cultural differences. Such kind of cultural difference would affect their understanding to the strategic purpose of KT as well as their actions in implementing the strategic goal involved in the transfer. That is, each of these cultural dimensions relates to managers' dispositions (e.g. trusting, cooperation and ties) that are essential to intra-MNE KT.

6.3 Effect of Perceived Cultural Differences on Managerial Dispositions in the Context of Knowledge Transfer (KT)

In the process of intra-MNE KT, motivational and capability dispositions of managers are the essential micro-foundations that directly determine whether the transfer will happen, that is, how effectively the transferred knowledge can be absorbed and integrated within the recipient's work-environment. Based on prior literature, this thesis identifies four critical managerial dispositions that would be central to the process of KT; managerial trust (Vaara et al., 2012; Caligiuri, 2014), managerial ties (Vaara et al., 2012; Inkpen & Tsang, 2016), competencies and skills of managers (Björkman et al., 2004; Tsang, 2016; Qin et al., 2017), and absorptive capacity

(Minbaeva et al., 2014; Schleimer & Pedersen, 2014; Tseng, 2015). It makes the second group of hypothesis H2 stating the vital effect of perceived cultural differences between managers at MNE HQ China and managers at host country subsidiaries on managerial dispositions in the context of KT. Within the second group of hypotheses (H2) there are four sub-hypotheses (H2a-H2d), proposing that perceived cultural differences are negatively related with the four managerial dispositions. According to the statistical results from regression analysis, discussion of the hypotheses tests are presented subsequently.

6.3.1 Effect of Perceived Cultural Differences on Level of Trust

Based on the studies of Riusala and Smale (2007) and Vaara et al. (2012), Cavaliere and Lombardi (2015) and Najafi-Tavani et al. (2015), this thesis proposed the hypothesis H2a, which expects an inverse relationship between perceived cultural differences and level of managerial trust. The statistical results from regression analysis have revealed that three dimensions of perceived cultural differences, in terms of power distance (β= -0.310, $p< 0.01$), uncertainty avoidance (β= -0.526, $p< 0.001$) and collectivism (β= -0.470, $p< 0.001$) all have significantly negative relationship with the level of managerial trust in the process of KT. As such, the hypothesis H2a is supported. That is to say, the perceived cultural differences adversely affect managerial trust. The greater the perceived cultural differences, the less trust there is in knowledge exchange relationships. This finding is similar with Stahl and Sitkin (2005) and Cavaliere and Lombardi (2015), which have all documented that significant cultural differences are more likely to bring about social dissonance (causing mistrust and social integration fails). However, this finding differs from the work of Vaara et al. (2012) which has reported the greater national cultural difference associates with lower level of social conflict (significantly negative association). The research of Vaara et al. (2012) offers two explanations for this result. On the one hand, the negative association between national cultural differences and social conflict might be due to the factor that organisational cultural differences play dominant role in establishing social identity of managers but the national cultural differences are less central. On the other hand, this result might be

also because managers have already learnt to focus attention on apparent national cultural differences and can manage them effectively (Morosini et al., 1998; Pucik et al., 2010; Vaara et al., 2012) in the context of HQ-host nation subsidiary KT.

In the intra-MNE KT, the trusting relationship between managers at MNE HQ China and host country subsidiaries is beneficial to reduce the potential uncertainty regarding the benefits of KT, according to the research finding of this thesis. That is, managers are more likely to share knowledge with trusted colleagues (Caligiuri, 2014; Raab et al., 2014). However, greater perceived cultural differences are likely to be associated with greater heterogeneity in beliefs, values and mental representations (Peterson & Barreto, 2018). Such heterogeneity would not only increase the difficulties of forming trusting relationship between managers from different nations (e.g. MNE HQ China and host country subsidiaries) (Ambos & Ambos, 2009; Cavaliere & Lombardi, 2015), but also weaken the motivation to share knowledge due to difficulties in mutual understanding and trust (Vaara et al. 2012; Najafi-Tavani et al., 2015).

(1) Power distance and trusting relationship

To be specific, firstly this research finds that the perceived difference in power distance between MNE HQ China managers and host country subsidiary managers is inversely (β= -0.310, $p< 0.01$) related to the level of managerial trust in the process of KT. That is to say, the greater differences in power distance the less trust in knowledge exchange relationships between MNE HQ China managers and host country subsidiary managers. This finding is similar with Almeida and Phene (2004) and Lucas (2006) which have emphasised that there would be weaker trusting relationship between KT among actors located at the opposite extremes of the power distance dimension, which further impedes the effectiveness of KT.

Managers at locations with greatly different power distance would have different thoughts and actions in the process of knowledge. That is, to managers at MNE HQ China with high level of power distance, they have low level of self-direction but adhere to rule following behaviour (Caligiuri, 2014; Harms et al., 2016). In this sense, especially top executives, would control the knowledge flow and strictly control key information to employees operating at different positions in the hierarchy. However, host country subsidiaries with lower levels of power distance are more supportive of subordinate participative decision making (Fong Boh et al., 2013; Peterson & Barreto, 2018). In this situation, it would be more challenging to establish the trusting relationship between managers at MNE HQ China and managers at the host country subsidiary. This is because, as knowledge provider, managers at MNE HQ China (with high power distance) may view the knowledge recipient (host country subsidiary with low power distance) as a dependent entity whose success is highly dependent upon the provider's willingness to transfer knowledge (Zhao & Luo, 2005; Lucas, 2006). Furthermore, in strengthening this dependent relationship, knowledge provider (MNE HQ China) attempts to impose the terms, irrespective of the values and context in which this knowledge will be used. Yet, managers at host country subsidiary with low power distance attempt to convey to the provider the need for participation, compromise and negotiation (Holtbrugge & Berg, 2004; Phene et al., 2005). In other words, the differences in power distance between managers at MNE HQ China and host country subsidiaries bring different attempts, which lead to difficulties in establishing trust relationship and impede the successful transfer.

(2) Uncertainty avoidance and trusting relationship

Secondly, as indicated by the statistical results, the difference in uncertainty avoidance between MNE HQ China managers and host country subsidiary managers relates inversely (β= -0.526, $p< 0.001$) with the level of trust in the context of HQ-host nation subsidiary KT too. As such, the greater differences in uncertainty avoidance between MNE HQ China managers and host country subsidiary managers the weaker trusting in knowledge sharing relationships. This finding is similar to the

propositions from Lucas (2006) and Ling et al. (2016), which all have argued that it would more difficult to establish trusting relationship between knowledge providers and recipients located at nations with larger differences in uncertainty avoidance, which consequently impede the success of KT. However, neither Lucas (2006) nor Ling et al. (2016) have carried out empirical tests on these propositions. To the knowledge of the present author, this thesis is the first to empirically test this relationship and reveal the significant effect of differences in uncertainty avoidance on managerial trust. In this sense, the statistical results of this thesis offer some empirical evidence in support of propositions regarding the differences in uncertainty avoidance on managerial trust in the context of HQ-host nation subsidiary KT.

As emphasised in prior literature (e.g. Shenkar, 2001; Lucas, 2006; and Ling et al. (016), uncertainty avoidance is associated with a low tolerance for risk. In strong uncertainty avoidance cultures individuals have weaker tolerance for risk, avoid making changes and are less aggressive in search for new ways of doing things (Lucas, 2006; Ling et al., 2016). However, in the case of a weak uncertainty avoidance culture, risk tolerance and change are accepted. That is, individuals in weak uncertainty avoidance environment may have an open mind, have greater flexibility, and depend on social control rather than formal rules (Bengoa et al., 2015; Laukkanen, 2015). In the case when there is a large difference in uncertainty avoidance between MNE HQ China managers and host country subsidiary managers (for instance, strong uncertainty avoidance in MNE HQ China and weak uncertainty avoidance in host country subsidiary), such differences in uncertainty avoidance has negative implications for cooperation and knowledge sharing, which could lead to lower levels of trust in knowledge exchange relationships (Bengoa et al., 2015; Rallapalli & Montgomery, 2015; Ling et al., 2016). To be specific, in MNE HQ China with strong uncertainty avoidance, managers have a resistance to change. Due to the worries about the risks involved in making changes, managers as knowledge providers would be less likely to cooperate with colleagues and share knowledge with managers at host country subsidiary as knowledge recipients. To managers at

host country subsidiary with weak uncertainty avoidance, they are eager to acquire new knowledge for seeking new ways of doing things (Najafi-Tavani et al., 2015; Ling et al, 2016). That is to say, the strong uncertainty avoidance restricts the willingness of managers at MNE HQ China to provide knowledge, but the weak uncertainty avoidance encourages the willingness of managers at host country subsidiary to acquire knowledge. The different extent of motivations of managers involved in KT process then brings challenges and difficulties to the establishment of trusting relationship between managers at MNE HQ China and host country subsidiaries.

(3) Collectivism/individualism and trusting relationship

Thirdly, the statistical result of the thesis has revealed that the difference in collectivism/individualism between MNE HQ China managers and host country subsidiary managers also relates inversely (β= -0.470, $p< 0.001$) to the level of trust in the context of HQ-host nation subsidiary KT. That is, the greater the difference in collectivism between managers at MNE HQ China and host country subsidiaries the lower the level of trust in knowledge sharing relationships between managers. This result is consistent with propositions in Lucas (2006) and Ling et al. (2016) which all argue that it would be more challenging to establish trust relationships between knowledge senders and recipients when knowledge actors locate at more heterogeneous collectivist cultures. But this proposition in Lucas (2006) and Ling et al. (2016) lacks the support of empirical evidence. In the work of Chen et al. (2010), the qualitative result from interview also reports that there would be weaker trust relationships between a provider and a recipient that are located in different individualism/collectivism cultural dimensions, which consequently would reduce the possibility of successful HQ-host nation subsidiary KT. However, the work of Chen et al. (2010) offers only the qualitative empirical evidence, based on interview to a specific case study of intra-MNE KT. The statistical result of this thesis offers large sample-based quantitative empirical evidence, so as to enrich the research regarding different collectivism cultural dimensions related to trust in the context of HQ-host nation subsidiary KT (Lucas, 2006; Chen et al. 2010; and Ling et al. 2016). In

other words, this thesis is making a contribution to knowledge by offering a quantitative empirical investigation based on a valid sample, namely data and survey constructs that have passed the tests of reliability and validity.

Individualism/collectivism reflects the extent to which self-interest rather than other-regarding interests are salient in social exchanges (Lucas, 2006). In individualistic cultures, individuals are concerned more with their own well-being, whilst individuals in collectivist cultures are more likely to demonstrate prosocial behaviours, the well-being of others and a propensity for norm following (Richter et al., 2016; Peterson & Barreto, 2018). The differences in collectivism in managers at MNE HQ China and host country subsidiaries could produce inconsistent or even conflicting interests, which are then expected to have negative implications for the establishment of trust relationships and consequently impede KT. To be specific, in MNE HQ China with strong collectivist culture, it operates on the belief that self-interest is subservient to the interest of the group/MNE (Chen et al., 2010). In this sense, managers in MNE HQ China would view knowledge as the property of the MNE for use by all subsidiaries (Chen et al., 2010). This is in contrast to the attitudes of managers in host countries with weak collectivism (or strong individualistic cultures) who may be more concerned in KT in the promotion of self-interest (e.g. whether it is beneficial to participate in the transfer process) because they view knowledge as an individual property (Chen et al., 2010; Ling et al., 2016) and opportunism is more prevalent among individualistic cultures (Ling et al., 2016). In other words, the differences in collectivism make managers at MNE HQ China and host country subsidiary have different concerns and attitudes that produces a conflict between group-interest and individual-interest in KT, so as to bring difficulties in establishing trust relationships, creating barriers to effective KT. In other words, what is good for the individual may not be good for the group (the MNE and its business units), and vice-versa.

However, this finding of the thesis differs from that of Holtbrugge and Berg (2004) and Lacus (2006) which all argue that it would not necessarily ensure the success of KT even though both senders and recipients are immersed in individualistic cultures. As indicated in the empirical finding of this thesis, the greater difference in collectivism, the weaker the trust relationships between managers at MNE HQ China and host country subsidiaries. This is an important result, as it is suggesting that it is not collectivism or individualism per se that matters but it is the difference between these two positions in dyadic relationships between managers in a KT event. In other words, this finding indicates that the smaller distance or similar collectivism/individualism culture at MNE HQ China and host country subsidiary would be beneficial to the establishment of trusting relationship in knowledge exchange. This would be the case when both MNE HQ China and the host country subsidiary are with strong collectivistic culture, as managers from both MNE HQ and host country subsidiary view knowledge as the property of the MNE and have the similar attitude to realize the strategic goal of the MNE in dedicating efforts to KT, leading to the establishment of trust (Ling et al., 2016). However, when both sides of the transfer (MNE HQ and host country subsidiary) are drawn from strong individualistic environments, managers may face more challenges in establishing strong trust relationship for transferring knowledge because of the inconsistent concerns (self-interest) in the transfer process (Holtbrugge & Berg, 2004; Lacus, 2006;). In this situation, MNE HQ might consider a resource input to direct, guide and persuade host country subsidiaries to align their interests or concerns (e.g. identifying and recognizing the strategic goal of the MNE) in the KT.

6.3.2 Effect of Perceived Cultural Differences on the Strength of Managerial Ties

Based on the works of Vaara et al. (2012), Harzing et al. (2016) and Heirati and O'Cass (2016), this thesis made the hypothesis H2b, expecting that perceived cultural differences are inversely related to the strength of managerial ties. The statistical results from regression analysis revealed that the three dimensions of perceived cultural differences, in terms of power distance (β= -0.237, p< 0.01), uncertainty avoidance (β= -0.273, p< 0.001), and collectivism (β= -0.637, p< 0.001) all have

significantly negative relationship with the strength of managerial ties in the process of KT. Hypothesis H2b is therefore supported. The greater perceived cultural differences in terms of greater differences in power distance, uncertainty avoidance and collectivism between managers at MNE HQ China and managers at host country subsidiaries, the lower the strength of social ties between managers. This finding is consistent with the work of Harzing et al. (2016) that report in the context of intra-MNE KT, managers at MNE HQ and host country subsidiaries with greater perceived cultural differences tend to have weaker social ties, as the perceived cultural differences would weaken trust but bring social conflict to managers, which therefore impede successful KT. Yet, this finding is not consistent with the research of Vaara et al. (2012) whose empirical result reporting the negative role of national cultural difference on social dissonance. That is, greater levels of national cultural difference are associated with lower levels of social dissonance (indicating the likelihood of strong social ties). According to social identity theory emphasised by Vaara et al. (2012), there tends to be greater challenges to establish strong ties among individuals in environments characterized by higher levels of social dissonance and that such dissonance would threaten the establishment of social identity among the group so as to weaken social cohesion. Vaara et al. (2012) hypothesize that national cultural difference is positively associated with social dissonance by arguing that national cultural difference would bring difficulties in establishing social identity. However, the empirical test from Vaara et al. (2012) reports the opposite result, namely the negative association between national cultural difference and social dissonance. Vaara et al. (2012) offer two possible explanations to the empirical result that are opposite to the hypothesis. Firstly national cultural difference is less central in the social identify category in HQ-host nation subsidiary KT but organisational cultural difference is the key in establishing social identity of employees in the groups. Secondly, in the context of HQ-host nation subsidiary KT, managers have usually realized the national cultural difference (e.g. emphasised in pre-employment training activities) and they've learnt how to manage such kind of cultural difference at the national level (e.g. through pre-employment training activities or having cross-cultural management experience

in prior job tasks), for strengthening the ties with colleagues with heterogeneous cultural backgrounds.

In the process of KT between MNE HQ and host country subsidiaries, the mutual dependence and closeness (strength of managerial ties) between managers at MNE HQ China and managers at host country subsidiaries in terms of strong ties are advantageous to establish the cooperation and trust from MNEs' different locations (Haas & Cummings, 2015; Harzing et al., 2016). In workplaces with greater perceived cultural differences, with heterogeneous norms, values and mental representations, it might be difficult for managers to establish strong ties with colleagues, restricting cooperation and willingness to share knowledge (Vaara et al., 2012; Andersson et al., 2015; Inkpen & Tsang, 2016), depending on the cultural adaptability of managers and their tolerance or sensitivity to diverse cultures.

To be specific, firstly this research finds that the differences in power distance between MNE HQ China managers and host country subsidiary managers are inversely (β= -0.237, $p< 0.01$) related to the strength of managerial ties in the process of KT. As emphasised earlier in Section 6.3.1, in the situation of greater power distance between MNE HQ China and host country subsidiaries, managers would have different concerns, attitudes and actions related to KT. That is, to managers in MNE HQ China with greater power distance, there would be a low degree of self-direction but a high level of rule following behaviour. There is usually a paternalistic leadership style when the power distance is large (Caligiuri, 2014; Harms et al., 2016). Leaders (owning the power) view colleagues as the subordinates rather than equals. That is, in an MNE, greater power distance is associated with strict hierarchies and vertical organisational cultures that emphasise the hierarchies of different work positions and the authorities of leaders. Top executives are more likely to control and manage the process of KT (Fong Boh et al., 2013). Yet, to managers at host country subsidiaries with lower power distance (as knowledge receivers), they expect to participate in negotiations and decision-making (Phene et

al., 2005), rather than uncritically accepting directions from MNE HQ (as knowledge senders). The different concerns and expectations of managers at MNE HQ China and host country subsidiaries with greater power distance then would bring social conflicts and distrust, leading to weaker ties between managers. In other words, managers can freely communicate along with their own willingness and motivation in the KT in the scenario of smaller difference in power distance e.g. both MNE HQ and host country subsidiary have low level of power distance (Lucas, 2006; Ling et al., 2016). In this case, there would be more likely to form a cooperative relationship that involves trust between managers from MNE HQ and at host country subsidiaries, leading to stronger social ties.

Secondly, this research finds that the difference in uncertainty avoidance between MNE HQ China managers and host country subsidiary managers is inversely (β= -0.273, $p< 0.001$) related to the strength of managerial ties in the process of KT. The larger difference in uncertainty avoidance between managers at MNE HQ China and at host country subsidiaries, the weaker managerial ties in knowledge exchange relationships. This result is similar with that of Lucas (2006) and Ling et al. (2016) which all propose that it would be more challengeable to managers at MNE HQ and host country subsidiaries with greater differences in uncertainty avoidance to establish strong social ties, which are barriers of KT too. As discussed in Section 6.3.1, uncertainty avoidance reflects an individual's tolerance for risk (Rallapalli & Montgomery, 2015; Ling et al., 2016). When there is greater difference in uncertainty avoidance between MNE HQ China and host country subsidiaries, managers are likely to have different levels of risk tolerance and different capacities for change. These differences could consequently create inconsistences or even conflict in attitudes and motivations to transfer knowledge, bringing negative implications to the establishment of social ties between managers. To be specific, to managers at MNE HQ China with high levels of uncertainty avoidance, they tend to believe that change is risky. In this sense, employees are less likely to accept change. Even the transfer of new knowledge (e.g. new technology) has the potential of improving operational efficiency; individuals with higher level of uncertainty

avoidance are likely to avoid using new technology or share knowledge with colleagues, indicating weak motivations in participating in KT (Najafi-Tavani et al., 2015; Ling et al., 2016). On the converse, managers at host country subsidiaries with lower uncertainty avoidance may embrace change, more flexible working and open thinking and greater reliance on social control instead of formal rules (Lucas, 2006). As such, managers expect to seek new ways or solution opportunities to deal with problems (as this is seen as risky but rewarding because of the potential gains to efficiency), indicating strong motivation in participating in KT (Kostova, 1996; Lucas, 2006; Bengoa et al., 2015). That is to say, the difference in uncertainty avoidance would cause heterogeneous concerns and motivations of managers at MNE HQ China and at host country subsidiaries in the process of KT, which therefore bring difficulties and other negative implications to reinforce the social ties between managers at different locations of MNEs.

Thirdly, this research finds that the difference in collectivism between MNE HQ China managers and host country subsidiary managers is inversely (β= -0.637, p< 0.001) related to the strength of managerial ties in the process of KT. The greater differences in collectivist culture, the weaker the social ties between managers at MNE HQ China managers and host country subsidiary in knowledge exchange relationships. This finding is similar with the work of Lucas (2006) and Ling et al. (2016) which have argued that the heterogeneous difference of collectivism in MNE HQ and host country subsidiary is a barrier for managers to establish social ties in knowledge exchange relationships, leading to the reduced likelihood of successful KT. As discussed earlier in section 6.3.1, the difference in collectivistic culture reflects managers' different concerns regarding self-interest (Lucas, 2006; Chen et al., 2010). To managers at MNE HQ China with high level of collectivistic culture, they are more likely to share knowledge in-group (within MNEs), as where they share the common sense of identity in the group (viewing the knowledge as the property of the MNE). Yet, to managers in host country subsidiaries with weak collectivistic culture (indicating a strong individualistic culture), they concern more about individual interest. That is, they may lack the motivation to share knowledge with colleagues

(e.g. managers at MNE HQ) as they view the knowledge as individual interest, especially when they cannot realize the interests or benefits of participating in sharing knowledge (Chen et al., 2010; Ling et al., 2016). The different motivations of managers at MNE HQ China and at host country subsidiaries due to the great differences in collectivism would bring negative implications in the process of KT, leading to lower level of social ties between managers.

6.3.3 Impact of Perceived Cultural Differences on Managerial Competencies

Based on prior literature of Sarala and Vaara (2010), Aklamanu et al. (2016) and Scaringella and Burtschell (2017), the thesis proposed the hypothesis H2c expecting that perceived cultural differences are inversely related to managerial competencies in the context of KT. As indicated from the statistical results of regression analysis, power distance (β= -0.200, p< 0.01), uncertainty avoidance (β= -0.484, p< .001) and collectivism (β= -0.522, p< 0.001) all have significantly negative relationship with competencies of managers in the process of KT. As such, the hypothesis H2c is supported. Perceived cultural differences are negatively related with managerial competencies. That is, the greater difference in power distance, uncertainty avoidance and collectivism in managers at MNE HQ China and managers at host country subsidiaries, the weaker competencies of managers in the process of KT. This finding is consistent with studies of Bjorkman et al. (2007), Sarala and Vaara (2010) and Vaara et al. (2012), which have all emphasised that managers' competencies would be weakened when there is heterogeneous cultural contexts between MNE HQ and host country subsidiaries in the process of KT.

In this thesis, managerial competencies are measured by managers' capabilities of making business decisions, negotiating with project teams, networking skills, seeking and exploiting business opportunities in the context of KT (Minbaeva et al., 2014; Nair et al., 2015). To managers involved in the intra-MNE KT, strong competencies would contribute to a deeper collaboration between MNE HQ and host country subsidiaries, offering the social basis of exchanging knowledge and increasing the effectiveness of KT (Nair et al., 2015; Aklamanu et al., 2016; Tsang, 2016). As

discussed in section 6.3.1, when there are great cultural differences in MNE HQ China managers and host country subsidiary managers, managers would have inconsistent, diversified, even conflicting views, thoughts, concerns, attitudes, motivations and actions in the process of KT, due to the heterogeneous cultures of power distance, uncertainty avoidance and collectivism. For instance, for large cultural differences, managers from MNE HQ China may have different views regarding whether to participate in the KT, why share knowledge with other colleagues or not, and how to implement KT within MNEs. Consequently, it is more difficult to create a shared identity between managers at MNE HQ China and managers at host country subsidiaries with greater perceived cultural differences (Feinberg & Gupta, 2004). Rather, it may give rise to divisive conflicts and less trustworthiness between managers from different locations involved in the KT brought by perceived cultural differences. Consequently, the divisive conflicts and weak trustworthiness could weaken managerial competencies (networking and negotiating skills for example) but increase the difficulties in managing the KT process (Vaara et al., 2012; Aklamanu et al., 2016; Scaringella & Burtschell, 2017), and consequently impede the effectiveness of intra-MNE KT.

6.3.4 Impact of Perceived Cultural Differences on Absorptive Capacity

Based on prior studies of Szulanski (1996), Minbaeva (2007), Schleimer and Pedersen (2014) and Tseng (2015), this thesis offers the hypothesis H2d, the expectation of a negative association between perceived cultural differences and absorptive capacity of host country subsidiaries in the context of KT. As indicated from the statistical results of regression analysis in chapter 5, power distance (degree of self-direction, β= 0.176, p< 0.05)[15], uncertainty avoidance (β= -0.518, p< 0.001) and collectivism (β= -0.593, p< 0.001) all have significantly negative relationship with absorptive capacity in the process of KT. As such, the hypothesis H2d is therefore supported. Perceived

[15] Degree of self-direction is one inverse measure of power distance in this thesis. The higher degree of self-direction indicates the lower the level of power distance. The significantly positive regression coefficient of degree of self-direction (β= 0.176, p< 0.05) and absorptive capacity indicates that: the lower degree of self-direction (the higher level of power distance), the lower level of absorptive capacity, indicating the inverse association between power distance and absorptive capacity.

cultural differences are inversely related to absorptive capacity of host country subsidiaries. That is, the greater the cultural differences in power distance, uncertainty avoidance and collectivism in managers at MNE HQ China and managers at host country subsidiaries, the weaker the absorptive capacity of host country subsidiaries in the context of KT. This finding is similar with Szulanski (1996), Bjorkman et al. (2007), Caligiuri (2014) and Minbaeva et al. (2014) which all have reported that perceived cultural differences are inversely related with absorptive capacity as the great perceived cultural differences cause heterogeneous beliefs and values and language barriers that would bring difficulties in mutual understanding and communication and also increase the costs of acquiring and integrating knowledge, weakening the absorptive capacity of knowledge recipients.

In this thesis, absorptive capacity is defined as the capacity to acquire, absorb and assimilate knowledge, so that knowledge can be utilized in the subsidiary practices (Cohen & Levinthal, 1990; Zahra & George, 2002). In prior empirical studies (Kotabe et al., 2011; Minbaeva et al., 2014; Song, 2014; Peltokorpi, 2017), absorptive capacity has been viewed as an essential factor determining the effectiveness of KT. This research has revealed that absorptive capacity is weaker when there are greater perceived cultural differences in managers at MNE HQ China and managers at host country subsidiaries. Cultural differences between managers at MNE HQ China and managers at host country subsidiaries are likely to lead to diverse ways of thinking, attitudes, behaviours, concerns, motivation and attempts to share knowledge, for instance, tolerance for ambiguity, signature skills and different modes of thinking (Michailova & Mustaffa, 2012; Li et al., 2014; Battistella et al., 2016), as discussed in section 6.3.1. As such, heterogeneity may lead to more difficulties for managers in host country subsidiaries to communicate, mutually understand, assess and realize the potential benefits from adopting the transferred knowledge in local settings, and increase the costs of implementing KT (e.g. due to language barriers, misunderstanding and misinterpretations of knowledge in distant culture, Javidan et al., 2005; Schleimer & Pedersen, 2014), leading to weaker absorptive capacity of recipient units (e.g. host country subsidiaries).

6.4 Effect of Perceived Cultural Differences on Knowledge Structure

In addition to affect the effectiveness of KT through affecting managerial dispositions, perceived cultural differences also affects the effectiveness of KT via affecting knowledge structure. Based on prior studies, Szulanski (1996), Vaara et al. (2003), Jensen and Szulanski (2004), Sarala and Vaara (2010) and Park and Vertinsky (2016), this thesis proposed two key essential knowledge structure factors: knowledge stickiness and knowledge adaptability. Based on this literature, the thesis proposed hypothesis H3, expecting a significant relationship between perceived cultural differences and knowledge structure, along with two sub-hypotheses H3a-H3b (corresponding with two knowledge structure factors). The empirical results from regression analysis have revealed the significant relationships between perceived cultural differences (power distance, uncertainty avoidance and collectivism) and knowledge stickiness, and between perceived cultural differences and knowledge adaptability. In general, these findings are consistent with Szulanski (1996), Sarala and Vaara (2010) and Park and Vertinsky (2016) which argue that the distant culture of MNE HQ and host country subsidiaries are likely to increase difficulties of KT and bring more challenges in knowledge adaptation. In the context of intra-MNE KT, cultural differences encompass differences in norms, beliefs and values among managers at MNE HQ China and host country subsidiaries (Sarala & Vaara, 2010; Vaara et al., 2012). Such heterogeneous cultural backgrounds would be likely to bring complexities and difficulties in knowledge structure, impeding the effectiveness of KT. For instance, prior studies (e.g., Szulanski, 1996; Sarala & Vaara, 2010) have emphasised that cultural difference is a main cause of knowledge stickiness and weakens knowledge adaptability, which are impediments to KT.

6.4.1 Perceived Cultural Differences and Knowledge Stickiness

To be specific, firstly, based on prior literature of Jensen and Szulanski (2004), Qin et al. (2008) and Qin et al. (2017), this thesis proposed the hypothesis H3a, the expectation that perceived cultural differences positively relate to knowledge stickiness. The statistical results from regression analysis have shown that power

distance (degree of self-direction, β= -0.278, *p*< 0.001[16]), uncertainty avoidance (β= 0.350, *p*< 0.001), and collectivism (β= 0.540, *p*< 0.001) are all positively related with knowledge stickiness. The hypothesis H3a is therefore supported. Perceived cultural differences have a significant positive relationship with knowledge stickiness. That is to say, the greater the cultural differences in terms of power distance, uncertainty avoidance and collectivism between managers at MNE HQ China and managers at host country subsidiaries, the higher level of knowledge stickiness. This finding is consistent with several prior literature, e.g. Simonin (1999), Qin et al. (2008), Michailova and Mustaffa (2012), Li et al. (2014) and Battistella et al. (2016), all of which have emphasised that perceived cultural differences between MNE HQ China and host country subsidiaries increase causal ambiguity in skills and resources deployment due to the heterogeneous beliefs, values and cognitive representations in cultural backgrounds, which therefore leads to increasing knowledge stickiness.

According to Szulanski (1996), stickiness emphasises the difficulties in transferring knowledge, especially tacit knowledge embedded in specific contexts and where causal ambiguity is high, the knowledge stickiness is higher (Simonin, 1999; Li & Hsieh, 2009). As emphasised in Section 6.3.1 earlier, the greater the cultural differences in terms of power distance, uncertainty avoidance and collectivism between MNE HQ China managers and host country subsidiary managers would have inconsistent or even conflicting concerns, attitude, views and attempts in the process of intra-MNE KT. Such inconsistencies and conflicts create barriers to knowledge recipients in mutual understanding patterns and the nature of the received knowledge (Michailova & Mustaffa, 2012; Li et al., 2014). These barriers would also bring challenges for the collaboration between knowledge senders (e.g. managers at MNE HQ China) and recipients (e.g. managers in host country subsidiaries), increasing the difficulties of KT and restricting the effectiveness of the transfer (Qin et al., 2008; Battistella et al., 2016).

[16] As emphasised in Section 6.3.5, degree of self-direction is one inverse measure of power distance in this thesis. The negative regression coefficient of the degree of self-direction and knowledge stickiness therefore indicates the positive association between power distance and knowledge stickiness.

However, the research finding of this thesis with respect to the positive association between perceived cultural differences and knowledge stickiness differs from the empirical work of Jensen and Szulanski (2004) which reported that institutional distance (the perceived cultural differences between the countries housing the source and recipient units) is negatively associated with knowledge stickiness in HQ-host nation subsidiary KTs. According to Jensen and Szulanski (2004), being similar (understandable, acceptable) contributes grants legitimacy, a status that is posited to be imperative to the success and survival of organisations (Meyer & Rowan, 1977). In the situation of HQ-host nation subsidiary KT, legitimacy could be obtained by adapting transferred practices to the essential characteristics of the local institutional environment (Kostova & Zaheer, 1999). Yet, in the absence of adaptation, institutional distance (perceived cultural differences) would increase stickiness. Along with the increasing distance, legitimacy is likely to decrease, which may challenge understanding and implementation of practices in local settings. As such, Jensen and Szulanski (2004) hypothesize that institutional distance, or perceived cultural differences, is to increase the stickiness. However, the empirical result from Jensen and Szulanski's (2004) work has documented the negative association between distance and stickiness (decreasing it). The explanation for this negative association from Jensen and Szulanski (2004) is that: recipients (e.g. host country subsidiaries) would be less able to adapt the knowledge when the knowledge becomes less cognitively understandable due to greater cultural differences. Host country subsidiaries (as recipients) might realize the potential difficulties in copying knowledge (e.g. best practices) and consequently choose less adaptation or delayed adaptation, even where there are pressures for getting legitimacy.

6.4.2 Perceived Cultural Differences and Knowledge Adaptability

Secondly, based on the works of Jensen and Szulanski (2004), Reus and Lamont (2009), Martins and António (2010), and Yao et al. (2013), this thesis proposed hypothesis H3b that the adaptability of the transferred knowledge within MNE host

country subsidiaries is negatively related to perceived cultural differences. According to the statistical results from regression analysis, the three elements of perceived cultural differences in terms of power distance (β= -0.219, p< 0.05), uncertainty avoidance (β= -0.563, p< 0.001), and collectivism (β= -0.567, p< 0.001) all relate with knowledge adaptability significantly and negatively. Therefore, the hypothesis H3b is supported. Perceived cultural differences are inversely related with knowledge adaptability. That is, the greater the cultural differences in power distance, uncertainty avoidance and collectivism in managers at MNE HQ China and at host country subsidiaries, the weaker the adaptability of the transferred knowledge within MNE host country subsidiaries. This empirical result is similar with the studies of Jensen and Szulanski (2004) and Yao et al. (2013), which all have reported that the heterogeneous cultural difference brings the growing incompatibility of the knowledge being transferred and the existing knowledge stock of recipients, so as to increase challenges and difficulties in the adaptation of knowledge being transferred for recipients (e.g. host country subsidiaries).

In the context of intra-MNE KT, the major purpose of adaptation is to reconstruct, integrate and adjust the knowledge being transferred from MNE HQ China so as to fit with local cultural and market frameworks of host country subsidiaries. Adaptability of knowledge is vital because it determines whether the knowledge can be easily reconstructed and integrated in local settings of recipient units, namely determining the effectiveness of KT (Jensen & Szulanski, 2004; Ang & Massingham, 2007; Reus & Lamont, 2009). In this sense, keeping strong adaptability of knowledge can be beneficial in increasing the effectiveness of knowledge being transferred to host country subsidiaries and strengthening competitive advantage.

This thesis reveals a negative association between perceived cultural differences between MNE HQ China and host country subsidiaries and the adaptability of knowledge being transferred to host country subsidiaries. When there is greater cultural difference, e.g. the heterogeneous levels of collectivism, uncertainty

avoidance and power distance between MNE HQ China and host country subsidiaries, managers from different locations of MNEs are more likely to have inconsistent or conflicting views, thoughts, concerns, attitudes and attempts with respect to the process of KT, due to more heterogeneous cognitive maps, norms and values of managers in distant culture, as discussed in Section 6.3.1 earlier. These heterogeneities might bring difficulties for the both sides of the transfer (e.g. managers at MNE HQ China and managers at host country subsidiaries) to understand the goal of the transfer and the nature of knowledge being transferred (Jensen & Szulanski, 2004; Martins & António, 2010; Yao et al., 2013), because of differences in shared cognitive categories. The greater perceived cultural differences also tend to create barriers to understanding, communicating and trust relationship between both sides of the transfer activity. Consequently, it increases the difficulties in adapting knowledge in local context of host country subsidiaries, or it absorbs more resources for host country subsidiaries to adjust, reconstruct and integrate the knowledge in local settings, restricting the effectiveness of KT within MNEs (Jensen & Szulanski, 2004; Ang & Massingham, 2007; Yao et al., 2013).

6.5 Impact of Managerial Dispositions on Effectiveness of Knowledge Transfer (KT)

Based on prior literature, e.g. Björkman et al. (2004), Jasimuddin et al. (2012), Vaara et al. (2012), Caligiuri (2014), Minbaeva et al. (2014) and Inkpen and Tsang (2016), this research proposes four managerial dispositions that are essential to affect the intra-MNE KT, managerial trust, managerial ties, managerial competencies, and absorptive capacity. The effectiveness of KT is measured by two aspects in this thesis: the benefits from KT (integrating knowledge for use in the local setting, transferring firm-specific advantages to new overseas markets, augmenting capacity in the local market, advancing value for existing or new products/services, making novel linkages or associations with the local market), and the degree of KT (the amount of knowledge being transferred). This thesis proposes the fourth group of hypotheses (H4) expecting a significant impact from managerial dispositions on effectiveness of KT from China MNE HQs to host country subsidiaries based on prior studies (e.g., Szulanski, 1996; Schlegelmilch and Chini, 2003; Islam et al. 2015; Li and Lee, 2015;

and Sheng et al. 2015). Along with these four managerial dispositions, there are four sub-hypotheses H4a-H4d expecting the significant effect of each of managerial disposition (managerial trust, managerial ties, managerial competencies, and absorptive capacity) on the effectiveness of KT. These research hypotheses are tested via linear regression analysis. Discussions of hypothesis testing are then based on statistical results.

6.5.1 Managerial Trust and Effectiveness of Knowledge Transfer (KT)

Firstly, based on the empirical works of Kostova (1999), Bjorkman et al. (2007), Chang et al. (2012) and Khan et al. (2015), this research proposed the hypothesis H4a that trusting relationship plays a positive role to effectiveness of KT from MNE HQ China to host country subsidiaries. The statistical outcome from regression analysis has revealed the significantly positive association between trust in relationship between China HQ managers and host country subsidiaries managers to the effectiveness of KT (the degree of KT) (β= 0.152, p< 0.05). As such, the hypothesis H4a is supported. The higher level of trust between China HQ managers and host country subsidiaries managers, the higher the degree of knowledge being transferred from MNE HQ China to host country subsidiaries.

This finding is similar with the proposition of Kostova (1999), which argues that the success of transfer of strategic organisational practices from a parent company to a recipient unit is positively associated with the trust of the transfer coalition in the parent company. The finding is also similar with the argument of Inkpen and Tsang (2005) that trust is a vital relational dimension of social capital, which facilitates the success of KT. Yet, the works of both Kostova (1999) and Inkpen and Tsang (2005) lack empirical support. The finding of this thesis is also similar with the empirical work of Tortoriello, Reagans and McEvily (2012) which report that the network cohesion is beneficial to strengthen the cross-unit transfers and knowledge acquisition in recipients, whilst the trust and cooperation are more likely to develop in a cohesive or closed group. In other works such as Bjorkman et al. (2007), Chang et al. (2012) and Khan et al. (2015), the research findings also indicate a positive

association between trust (e.g. in social mechanisms) and KT. However, none of these studies have directly tested the relationship between trust and effectiveness in KT. The research finding of this thesis offers empirical evidence for the proposition of Kostova (1999) and Inkpen and Tsang (2005) with respect to the role of trusting relationship to KT, and it directly tests the effect of managerial trust on KT. Therefore, the research findings enrich prior literature regarding the important role of social mechanisms (trust, cooperation) facilitating the success of intra-MNE KT.

In the context of intra-MNE KT, according to the research finding, stronger trust relationships between managers at MNE HQ China and host country subsidiaries would contribute to mutual understanding but with perceived lower levels of uncertainty and risk (Chang et al., 2012; Khan et al., 2015; Monteiro & Birkinshaw, 2017). Standing on the strong trust relationship with host country subsidiary managers, managers at MNE HQ China are likely to share a sense of identity or belonging with co-workers. Consequently, they're expected to cooperate and participate in knowledge sharing with colleagues, leading to higher degree of transfer of knowledge from MNE HQ China to host country subsidiaries (Tortoriello, Reagans & McEvily, 2012; Burmeister & Deller, 2016). As such, considering the positive role of trust relationship, Bjorkman et al. (2007) have suggested that MNEs are likely to increase internal communication, especially between different units or departments such as between HQ of the MNE and subsidiaries, so as to decrease mistrust but motivating the knowledge sharing.

6.5.2 Managerial Ties and Effectiveness of Knowledge Transfer (KT)

Secondly, based on studies of Inkpen and Tsang (2005), Kotabe et al. (2011), Khan et al. (2015) and Burmeister and Deller (2016), this research hypothesized H4b regarding the close managerial ties between managers at MNE HQ China and managers at host country subsidiaries have significantly positive associations with effectiveness of KT. The statistical outcome from regression analysis has revealed the significantly positive association of managerial ties (β= 0.156, p< 0.05) with the effectiveness of KT (the degree of KT). In this sense, the hypothesis H4b is supported.

The stronger managerial ties between managers, the higher degree of knowledge being transferred from MNE HQ China and host country subsidiaries. That is, managerial ties facilitate KT within MNEs.

The research finding is similar to the argument of Inkpen and Tsang (2005), which define the network tie between two units (e.g. MNE HQ and host country subsidiaries) is the essential social capital source of the two units. As time passes, the trust relationship between MNE HQ and host country subsidiaries would develop when there is strong network, which would bring benefits facilitating the knowledge exchange between the two units. Yet, as emphasised earlier, Inkpen and Tsang (2005)'s work does not have the empirical evidence support. The finding is also with the empirical work of Tortoriello, Reagans and McEvily (2012) which has reported that strong ties are characterized by strong interpersonal connections (great degree of trust and cooperation) and high levels of commitment and emotional attachment, so as to be positive to overcome the barriers in cross-unit KTs. In the meanwhile, in studies of Kotabe et al. (2011), Khan et al. (2015) and Burmeister and Deller (2016), the research findings all suggest the positive role of managerial ties (as one dimension of social capital or social mechanism) to facilitate the success of KT.

With strong ties, managers at MNE HQ China are likely to establish communication channels, offer opportunities for conversations and improve circumstances for team working and learning with managers at host country subsidiaries, contributing to easing the difficulties in KT (Burmeister & Deller, 2016; Nair et al., 2018). In the meanwhile, it would be easier to establish the trust relationships between managers at MNE HQ China and host country subsidiaries if there have already been strong ties in the context of KT (Zoogah et al., 2011; Chang et al., 2012). Consequently, trust relationships formed in strong ties leads to more effective transfer of knowledge from MNE HQ China to host country subsidiaries. Besides, even realizing the advantages of sharing knowledge with host country subsidiaries, MNE HQ China managers (as knowledge source) may not want to engage in KT process as it is costly

in time and effort. However, when there is a strong tie between managers at MNE HQ China and managers at host country subsidiaries, the strong interpersonal connections (due to strong ties, greater degree of trust and cooperation) would motivate MNE HQ China managers to spend time and exert more effort in sharing knowledge with host country subsidiary managers (Inkpen & Tsang, 2005; Tortoriello, Reagans & McEvily, 2012).

6.5.3 Managerial Competencies and Effectiveness of Knowledge Transfer (KT)

Thirdly, based on prior literatures such as Yang et al. (2008), Gooderham et al. (2011), Michailova and Mustaffa (2012), Nair et al. (2015) and Ferraris et al. (2017), this research hypothesizes H4c that managerial competencies in sharing knowledge play positive role to effectiveness of KT from MNE HQ China to host country subsidiaries. The statistical outcome from regression analysis has revealed the significantly positive role of managerial competencies to the effectiveness of KT, including both the benefits from KT (β= 0.308, p< 0.01) and the degree of KT (β= 0.273, p< 0.01). In this sense, the hypothesis H4c is supported. That is to say, the stronger competencies of managers, the higher effectiveness of KT (large benefits from KT and higher degree of the transfer) from MNE HQ China to host country subsidiaries.

This finding is similar with the proposition of Caligiuri (2014), which argues that individual competencies such as authentic communication, team engagement and helpful collaboration are all beneficial to facilitate knowledge sharing. However, Caligiuri (2014) only makes conceptual argument for this statement from a qualitative perspective and lacks large sample-based quantitatively empirical evidence. This research finding is also similar with the empirical works of both Gooderham et al. (2011), Chang, Gong and Peng (2012) and Roussel and Deltour (2012), which have all argued that capabilities and competences of employees (e.g. networking skills and capabilities in seeking and exploiting business opportunities) are beneficial to facilitate the effective transfer of knowledge. These studies stand on the social capital perspective, by emphasizing that the strong managerial competences contribute to strengthening the cognitive dimension of social capital

(there are more likely to form the shared representation and interpretation, a common language to facilitate interactions, and the development of sense making between knowledge actors, Roussel & Deltour, 2012; Peltokorpi & Vaara, 2014; Nair et al., 2015). Yet, none of these empirical works have directly tested the association between managerial competences and the effectiveness of KT within China MNEs. The research finding from this thesis offers empirical evidence to support the direct effect of managerial competences on the success of intra-MNE KT.

As indicated by the empirical finding of H4c, managers with stronger competencies are more capable of making business decisions, negotiating with project teams, networking skills, seeking and exploiting business opportunities in the context of KT (Choi & Johanson, 2012; Caligiuri, 2014). On the one side, the negotiating and networking skills facilitate both sides (e.g. managers at MNE HQ China and managers at host country subsidiaries) realizing the benefits from KT (e.g. combining or integrating the received knowledge in local setting or developing the new capabilities of host country subsidiaries, Michailova & Mustaffa, 2012; Ferraris et al., 2017) and also, these skills are beneficial to both sides, they facilitate common feelings and interests for realizing strategic goals via KT (Roussel & Deltour, 2012; Berry, 2015). On the other hand, competencies such as making reasonable business decisions, seeking and exploiting business opportunities, would contribute to more effective reconstruction, combination and integration of knowledge being transferred from MNE HQ China in local setting of host country subsidiaries, which would then be beneficial to strengthen the competitive advantage of subsidiaries in host country markets (Chang, Gong and Peng, 2012; Nair et al., 2015; Aklamanu et al., 2016).

6.5.4 Absorptive Capacity and Effectiveness of Knowledge Transfer (KT)

Finally, based on the research of Szulanski (1996), Lee and Wu (2010), Schleimer and Pedersen (2014) and Tseng (2015), this research hypothesizes H4d that absorptive capacity of host country subsidiaries play a positive role to effectiveness of KT from MNE HQ China to host country subsidiaries. The statistical outcome from regression

analysis has revealed the significantly positive role of absorptive capacity to the effectiveness of KT, in terms of both positive role to the benefits from KT (β= 0.132, p< 0.05) and the degree of KT (β= 0.382, p< 0.001). In this sense, the hypothesis H4d is supported. That is to say, the stronger absorptive capacity of host country subsidiaries is more likely to realize the effective transfer of knowledge (more benefits from KT and higher degree of the transfer) from MNE HQ China to host country subsidiaries.

This finding from H4d has revealed that absorptive capacity plays essentially a positive role to intra-MNE KT, consistent with empirical studies of Szulanski (1996) and Minbaeva (2007) which have reported the direct positive association between absorptive capacity and KT. According to Szulanski (1996), absorptive capacity is a function of the recipients' knowledge endowment prior to the transfer and it becomes manifest in their ability to value, assimilate and apply new knowledge successfully to commercial ends. In this sense, lack of absorptive capacity is a critical barrier for successful KT. Minbaeva (2007) defines absorptive capacity as the ability and motivation of the subsidiary's employees to absorb knowledge. Minbaeva (2007)'s empirical work reports that the higher level of absorptive capacity contributes to higher degree of KT. In the process of intra-MNE KT, both ability and motivation of the subsidiary's employees have to be present for achieving a higher degree of KT. This is because ability without motivation will probably result in poor performance, and vice versa.

The finding also supports the theoretical proposition of Song (2014) which hypothesizes that subsidiary absorptive capacity relates to intra-MNE KT positively. As argued by Song (2014), the effective KT between senders and recipients requires absorptive capacity. MNEs are often chosen for studies of KT because the capacity to create and transfer knowledge internally is one of their major competitive advantages. In other words, absorptive capacity is advantageous to overcome the liability of foreignness in global markets. At the same time, the research finding of

this thesis is also similar with the empirical results of Chang et al. (2012), and Schleimer and Pedersen (2014) which have all implied the positive association between absorptive capacity and KT though they do not directly test this association. For example, the work of Chang et al. (2012) has reported that the absorptive capacity of a subsidiary contributes to strengthening the relationship between expatriate competencies and the degree of knowledge being received in the subsidiary. Schleimer and Pedersen (2014) reveal the vital effect of MNE parent effort and social structure on subsidiary absorptive capacity and emphasise the mechanism that MNEs devote to nurturing absorptive capacities so as to optimize the global transfer of knowledge. This thesis offers the empirical evidence support regarding the direct positive role of absorptive capacity of host country subsidiaries to KT within MNEs, enriching relevant studies regarding the absorptive capacity in the context of MNE KT.

In the context of intra-MNE KT, stronger absorptive capacity (both strong motivation and ability to absorb) of host country subsidiary indicates that managers are more ready to receive the knowledge being transferred, and to integrate the received knowledge within existing routines for adoption in subsidiary practices and operations (Szulanski, 1996; Lee & Wu, 2010; Chang et al., 2012; Schleimer & Pedersen, 2014). In other words, with strong absorptive capacity, KTred from MNE HQ China would be effectively combined or integrated with existing knowledge base in host country subsidiaries, so as to create novel and valuable new knowledge, fitting the usage in local setting of host country market (Smith et al., 2005; Song, 2014; Peltokorpi, 2017).

However, the research finding of positive association between host country subsidiary absorptive capacity and effectiveness of KT in this thesis is somewhat different with Minbaeva et al. (2014). Absorptive capacity contains both the motivation to absorb and the ability to absorb knowledge. The research finding of this thesis implies that either motivation or ability dimension of absorptive capacity

or both of the two dimensions affect the effectiveness of KT significantly. That is, the motivational element of absorptive capacity would contribute to an increase in the degree of KT, and the ability dimension would contribute to increase the benefits of KT. However, according to the empirical work of Minbaeva et al. (2014), it is the interaction between motivation and ability that plays a significantly positive role to improve the effectiveness of KT, rather than the single dimension of motivation or the ability. This is because higher abilities to absorb knowledge may only have limited effect on the degree of KT if knowledge actors are without motivation to transfer. This result from Minbaeva et al. (2014) implies that China MNEs should pay attention to cultivate or strengthen both motivational and ability elements when enhancing the absorptive capacity of host country subsidiaries.

6.6 Impact of Knowledge Structure on Managerial Dispositions

As discussed in prior literature Argote et al. (2003), Chang et al. (2012), and Park and Vertinsky (2016), knowledge structure (stickiness and adaptability) would also impact the effectiveness of KT through impacting managerial dispositions. That is, complex knowledge structure would increase the difficulties of KT, requiring managers to input more resources and efforts to establish dispositions (motivations, competences and abilities) for realizing the successful transfer (Kauppila et al., 2011; Park & Vertinsky, 2016; Qin et al., 2017). Based on prior literature (Jensen & Szulanski, 2004; Minbaeva & Michailova, 2004; Chang et al., 2012; Qin et al., 2017), this thesis makes the fifth group of hypotheses (H5) that examines the impact of knowledge structure on managerial dispositions in the context of KT. Two knowledge structure factors: knowledge stickiness and knowledge adaptability motivate two sub-hypotheses H5a-H5c, which are tested using linear regression.

6.6.1 Knowledge Stickiness and Managerial Dispositions

Firstly, based on the work of Minbaeva (2007), Minbaeva et al. (2014), Szulanski et al. (2016) and Dasí et al. (2017), this thesis hypothesizes H5a that knowledge stickiness plays a negative role to managerial dispositions (managerial trust, managerial ties, managerial competencies and absorptive capacity) to transfer knowledge. The

statistical result from regression analysis has revealed that knowledge stickiness has significantly negative association with absorptive capacity (β= -0.302, p< 0.001). Therefore, hypothesis H5a is supported. The higher level of knowledge stickiness, the weaker the absorptive capacity of managers at host country subsidiaries in the context of intra-MNE KT.

This research finding in H5a is similar to the empirical work of Minbaeva (2007), which has reported a negative association between knowledge stickiness and absorptive capacity of recipients in the context of KT, because the sticky knowledge is hard to articulate with formal language or express directly, which consequently increases the knowledge ambiguity but bring difficulties for recipients to absorb. The finding is also similar with studies of Szulanski et al. (2016) and Dasí et al. (2017), which have all argued that knowledge stickiness brings higher costs to transfer due to the complexity and difficulty in teaching, leading to the increasing likelihood of transferred knowledge being misunderstood or misinterpreted, so that weakening the absorptive capacity of recipient units.

As indicated in the research finding, sticky knowledge is from tacit knowledge which is complex, less codifiable and less teachable, so that the transfer of sticky knowledge is more challenging for MNE HQ China (Li & Hsieh, 2009; Szulanski et al., 2016). Given that sticky knowledge is complex and often accompanied by causal ambiguity, it would increase the difficulties for host country subsidiaries (as recipients) in understanding, absorbing and integrating the knowledge being transferred. In this sense, host country subsidiaries of China MNEs could focus on individual effort, time and resources (e.g. HRM practices) to effectively absorb the knowledge being transferred, leading to weaken absorptive capacity (Jensen & Szulanski, 2004; Szulanski et al., 2016; Dasí et al., 2017).

6.6.2 Knowledge Adaptability and Managerial Dispositions

Secondly, based on prior literature Szulanski and Jensen (2006), Schleimer and Pedersen (2014), Harzing et al. (2016) and Jeong et al. (2017), this thesis hypothesizes H5b that knowledge adaptability is positively related to managerial capabilities in managing the process of KT. The statistical outcome from regression analysis has revealed that flexibility of knowledge and similarity in systems/processes (two components of knowledge adaptability) play positive roles in strengthening managerial dispositions (trust, ties, competencies and absorptive capacity): e.g. similarity in systems/processes and managerial trust (β= 0.291, p< 0.001), adaptive (flexibility) and managerial ties (β= 0.389, p< 0.001), similarity in systems/processes and managerial ties (β= 0.261, p< 0.01), adaptive (flexibility) and managerial competencies (β= 0.465, p< 0.001), similarity in systems/processes and managerial competencies (β= 0.254, p< 0.001), adaptive (flexibility) and absorptive capacity (β= 0.103, p< 0.05), and similarity in systems/processes and absorptive capacity (β= 0.305, p< 0.001). As such, the hypothesis H5b is supported. That is, the higher level of knowledge adaptability, the stronger managerial capabilities in managing the process of KT.

This research finding is similar to prior studies of Kostova and Roth (2002), Szulanski and Jensen (2006) and Harzing et al. (2016), which have all emphasised the positive role of knowledge adaptability to managerial capabilities or competencies, leading to more effective transfer of knowledge. As emphasised by Kostova and Roth (2002), the knowledge which is adapted comprehensively to match cognitive and normative institutions presumed relevant in the host environment (e.g. MNE HQ) is both more understandable and more acceptable to host country subsidiaries (local environment) to implement, leading to strong capabilities of host country subsidiary managers in managing the KT process. The research finding of this research reveals the essential role of knowledge adaptability in determining the effectiveness of KT through affecting the managerial capabilities in the context of intra-MNE knowledge.

As indicated by the research findings, high levels of knowledge adaptability indicate that knowledge is flexible and can change when markets change, and is more easily adapted or absorbed in local practices, and easily reconfigured in adapting to dissimilar practices (Cummings, 2004; Szulanski & Jensen, 2006; Khan et al., 2015; Harzing et al., 2016). That is, higher adaptability of knowledge indicates the knowledge is more flexible and adaptive to the existing knowledge base of host country subsidiaries. As such, the more adaptive knowledge would require less effort, time and resources of host country subsidies to combine, integrate and reconstruct the knowledge being transferred, indicating the stronger managerial dispositions to manage effective transfer from MNE HQ China to host country subsidiaries (Szulanski & Jensen, 2006; Harzing et al., 2016; Lupton & Beamish, 2016; Jeong et al., 2017). Oppositely, when the knowledge is characterised as low in adaptability, the heterogeneous knowledge bases and systems of senders and recipients would create difficulties in absorbing, reconfiguring and integrating knowledge, requiring managerial dispositions (e.g. establishing trusting relationship, strengthening the social ties, enhancing managers' competencies and reinforcing absorptive capacity) to input, so as to realize effective intra-MNE KT (Schleimer & Pedersen, 2014; Harzing et al., 2016; Jeong et al., 2017).

6.7 Effect of Knowledge Structure on Effectiveness of Knowledge Transfer (KT)

In addition to managerial dispositions that would directly affect KT, knowledge structure factors also play an important role in determining the effectiveness of KT through strengthening or weakening managerial dispositions. Based on prior literature e.g. Minbaeva et al. (2014), Inkpen and Tsang (2016), and Szulanski et al. (2016), this thesis makes the sixth group of hypothesis (H6), expecting the vital impact of knowledge structure on the effectiveness of KT. Along with the two knowledge structure in terms of knowledge stickiness and knowledge adaptability, two sub hypotheses (H6a-H6b) are made as well. Research hypotheses are tested through linear regression analysis.

6.7.1 Knowledge Stickiness and Effectiveness of Knowledge Transfer (KT)

Firstly, based on the research of Simonin (1999), Minbaeva (2007), Reiche et al. (2015) and Szulanski et al. (2016), this thesis hypothesizes H6a that knowledge stickiness is negatively affected by the effectiveness of KT from MNE HQ China to host country subsidiaries. The statistical outcome from regression analysis has revealed the significantly negative association between knowledge stickiness and effectiveness of KT (degree of KT) (β= -0.276, p< 0.001). As such, the hypothesis H6a is supported. That is, the higher the level of knowledge stickiness, the lower the degree of knowledge being transferred from MNE HQ China to host country subsidiaries. This finding is consistent with the empirical work of Minbaeva (2007), which find that the higher level of knowledge stickiness (higher degree of knowledge tacitness, complexity, non-specificity and non-availability), would cause the lower level of KT from MNE HQ to the subsidiary. This finding is also similar with other studies such as Szulanski (1996), Sanchez-Vidal et al. (2016) and Szulanski et al. (2016) which all have reported that the complexity causes the knowledge stickiness or tacitness in dealing with ambiguity, which makes the knowledge less prone to imitation and difficult to transfer.

However, the research finding on the negative role of knowledge stickiness to the effectiveness of KT in this thesis is opposite to the empirical work of Nair et al. (2015) which reports the significantly positive association between knowledge complexity (causing stickiness) on the degree of reverse KT from host country subsidiaries to MNE HQ India. They report that the extent of reverse KT increases along with the increasing complexity of knowledge. Their explanation for this finding is that Indian MNEs would have tried to transfer knowledge residing with their subsidiaries irrespective of the associated complexity levels. To Indian MNE HQs, the complex knowledge of host country subsidiary would be more valuable, though sticky. In this sense, the primary concern of Indian MNEs is the reverse transfer of more valuable but complex knowledge from host country subsidiaries back to MNE HQ for strengthening the competitive advantage of MNEs, leading to higher degree of reverse KT. Different with Nair et al. (2015) which focuses on the reverse transfer

from host country subsidiaries to MNE HQ, this thesis is more concerned with the conventional knowledge flow from China MNE HQ to host country subsidiaries. The differences in mechanism between conventional KT and the reverse KT might cause the different empirical findings between this thesis and Nair et al. (2015).

As indicated in the research finding of this thesis, stickiness is often associated with tacit knowledge that is usually difficult to codify and teach (Szulanski, 1996; Minbaeva, 2007). Transferring sticky knowledge is more challenging and requires more resources input from MNEs (e.g. hiring experts with diversified backgrounds to teach; making efforts in interactions and communications). In the context of intra-MNE KT from HQ China to host country subsidiaries, sticky knowledge dispersed among different departments and subsidiaries would increase the difficulties in absorbing and mastering the knowledge being transferred (Simonin, 1999; Minbaeva, 2007; Reiche et al., 2015). Transferring sticky knowledge is more difficult and, to recipient units of MNEs (HQ China), sticky knowledge is more difficult to absorb, modify, and integrate in local settings of host country markets, leading to weaker effectiveness of KT (Minbaeva, 2007; Riusala & Smale, 2007; Reiche et al., 2015).

6.7.2 Knowledge Adaptability and Effectiveness of Knowledge Transfer (KT)

Secondly, based on Szulanski and Jensen (2006), Li and Hsieh (2009), Corredoira and McDermott (2014) and Reus et al. (2016), this thesis hypothesizes H6c that knowledge adaptability is positively related with the effectiveness of KT from MNE HQ China to host country subsidiaries. The statistical outcome from regression analysis has revealed the significantly positive association between knowledge adaptability and effectiveness of KT, in terms of both benefits from KT (β= 0.205, p< 0.05) and the degree of KT (e.g. adaptive (easily adopted or absorbed) β= 0.201, p< 0.001; similarity in systems/processes, β= 0.287, p< 0.001). As such, the hypothesis H6b is supported. That is to say, the higher level of knowledge adaptability, the more effective transfer of knowledge from MNE HQ China to host country subsidiaries.

This research finding is similar with the works of Kostova and Roth (2002), Li and Hsieh (2009), Khan et al. (2015) and Rui et al. (2016), which all have argued that the high level of adaptability of knowledge is characterized by flexible, easily adopted or absorbed in the local practices and easily reconfigured in adapting to local practices, leading to a reduction in the difficulties and challenges of KT, and also leading to lower costs (e.g. less time, effort and resource input for facilitating the transfer), contributing to an increase in the effectiveness of KT. However, this research finding is different to the findings of Jensen and Szulanski (2004) and Szulanski and Jensen (2006), which have reported negative relationships between knowledge adaptability and KT. In the empirical work of Jensen and Szulanski (2004), they find that higher levels of knowledge adaptability increase the difficulty in KT (decreasing the effectiveness of KT). This is because adaptation involves not just adaptation to an ambiguous environment but the mutual adaptation between the practice and the environment. Even the experienced local managers are less likely to correctly understand the features and characteristics of the local environment that the knowledge should be adapted to. In other words, many adaptation efforts are misdirected which subsequently increase the difficulties in effective transfer of knowledge, while local managers have sufficiently realized the importance of adaptation. In the work of Szulanski and Jensen (2006), they report that knowledge adaptation (involves alterations of sufficient magnitude that the comparability of the modified knowledge and the original knowledge is reduced). In this sense, the adaptation would diminish the value of the original knowledge which is as a referent when diagnosing and solving problems in the new settings. When the transfer of knowledge does not occur smoothly, the presumptive adaptation might severely impede the performance of implementing the adjusted knowledge, leading to weak performance of subsidiaries.

This thesis reveals the positive association between knowledge adaptability and the effectiveness of KT from MNE HQ China to host country subsidiaries. In the context

of intra-MNE KT, adaptability is determined by whether there are similar knowledge management systems between sender and recipient units (Harzing et al., 2016; Lupton & Beamish, 2016). Higher levels of adaptability imply that the knowledge is flexible, easier to be modified, combined, reconfigured and integrated in the local setting (e.g. in host country subsidiaries), so that the knowledge being transferred is easy to understand and absorb (Li & Hsieh, 2009; Corredoira & McDermott, 2014; Reus et al., 2016; Rui et al., 2016). As such, the higher level of adaptability of knowledge being transferred to host country subsidiaries contributes to the effectiveness of KT from MNE HQ China to host country subsidiaries.

6.8 Overall Discussions to the Mechanism of Intra-Firm Knowledge Transfer (KT) within Emerging Economy MNEs (EMNEs)

This thesis establishes a mechanism of HQ-host nation subsidiary KT within EMNEs that links the perceived cultural differences and managerial dispositions and knowledge structure with the effectiveness of KT. This mechanism has been supported with empirical evidence in the thesis. According to previous discussions regarding empirical results (Section 6.2 to Section 6.7), perceived cultural differences between MNE HQ China and host country subsidiaries do play essential role to affect the effectiveness of KT through affecting managerial dispositions (motivations, actions and capabilities) and knowledge structure. Major cultural differences are inversely related to the effectiveness of KT as heterogeneous cultural contexts bring challenges and difficulties to managerial dispositions that are crucial to the success and effectiveness of KT within EMNEs; cultural differences also bring stickiness, complexities and incompatibilities to knowledge structure, which impede the effectiveness of the transfer as well.

The mechanism of HQ-host nation subsidiary KT within EMNEs established in this thesis emphasises two essential issues in terms of perceived cultural differences and managerial dispositions from the social-psychological perspective. In traditional HQ-host nation subsidiary KT within developed economy MNEs (DMNEs), knowledge

is often from MNE HQ in developed nations to host country subsidiaries located in developing economies (Cantwell & Mudambi, 2011; Awate, Larsen & Mudambi, 2015). In such kind of KT within DMNEs, the HQ of MNE is usually the knowledge provider and expects to expand markets in host countries depending on its technological, organisational and management advantages, whilst host country subsidiaries, as knowledge recipients, are usually eager to acquire advanced technologies and management experiences (Luo & Tung, 2007; Ramamurti, 2012). In this process, perceived cultural differences issues may be less important to managerial dispositions in the KT as the both sides have already had motivations and expectations to transfer knowledge (Qin et al., 2008; Qin et al., 2017). However, as latecomers in international markets, EMNEs would face more challenges and impediments to KT, so as to seek and retain competitive advantage because EMNEs are less likely to have the technological and management advantages like DMNEs that are essential to transferring knowledge. This thesis establishes a mechanism of intra-firm KT within EMNEs considering the effects of perceived cultural differences and managerial dispositions, which contribute to an understanding of knowledge impediments in EMNE transfer activity.

In line with the established mechanism of KT in this thesis, it indicates that EMNEs should pay attention to cultural integration and enhance managerial dispositions, in order to improve the effectiveness of KT. On the one hand, EMNEs recognize the cultural integration as a means for reducing the potential negative implications on the transfer of knowledge. As emphasised by Sarala-Vaara et al. (2010), cultural integration has shown the greatest positive effect in the context of large national cultural differences. That is, EMNEs can create a positive social dynamic through cultural integration so as to reduce the risks of nationalistic confrontation, and obtain the knowledge potential in distant national cultures. The cultural integration can contribute to this point through reducing the differences in cultural differences which impede the KT (e.g. realizing cultural convergence) or through establishing a new platform for facilitating the KT (convergence) (Larsson & Lubatkin, 2001; Ling et al., 2016; Qin et al., 2017).

On the other hand, EMNEs acknowledge the importance of Human Resource Management (HRM) practices to establish and strengthen managerial dispositions (abilities, motivations and competencies) involved in KT. As emphasised by Minbaeva et al. (2003), Caligiur (2014) and Minbaeva (2014), a bundle or system of HRM practices is necessary to help develop, strengthen and encourage the use of managerial dispositions for facilitating the effective transfer of knowledge. These HRM practices could be training, performance management, merit-based promotion, performance-based compensation and internal communication (Minbaeva et al. 2003). Caligiuri (2014) also suggests a number of HRM practices, including mentoring, training and development, performance management and rewards, and job design, so as to consolidate managerial dispositions in improving the effectiveness of KT.

6.9 Summary

This chapter conducts a discussion on the statistical results and research findings reported in Chapter 5 based on comparisons with prior literature. It firstly has revealed that there is perceived cultural differences (power distance, uncertainty avoidance, masculinity and collectivism) between managers at MNE HQ China and managers at host country subsidiaries in the context of KT. Secondly, regarding the effect of perceived cultural differences on managerial dispositions, this research reveals that, in general, perceived cultural differences are negatively associated with major managerial dispositions (managerial trust, managerial ties, managerial competencies and absorptive capacity). Thirdly, regarding the effect of perceived cultural differences on knowledge structure factors, this research has revealed that perceived cultural differences is positively associated with knowledge stickiness but negatively associated with knowledge adaptability. Fourthly, regarding the effect of managerial dispositions on effectiveness of KT, this research has revealed the positive associations of four managerial dispositions (managerial trust, managerial ties, managerial competencies, and absorptive capacity) with the effectiveness of KT (benefits from KT and the amount of KT). Fifthly, regarding the effect of knowledge structure on managerial dispositions, the research reveals that knowledge stickiness

is negatively associated with managerial dispositions, whilst knowledge adaptability is related with managerial dispositions positively. Sixthly, regarding the effect of knowledge structure on the effectiveness of KT, the research reveals that knowledge stickiness is negatively associated with the effectiveness of KT, whilst knowledge adaptability is related with the effectiveness of KT positively. In overall, this thesis establishes the mechanism of intra-firm KT within China MNEs, which could be valuable to EMNEs to implement knowledge management via focusing on two essential issues involved in HQ-host nation subsidiary transfer, in terms of bridging perceived cultural differences and influencing the managerial dispositions to transfer knowledge. Chapter 7 offers a conclusion and some implications for research in this area and managerial practices.

CHAPTER 7 CONCLUSIONS, CONTRIBUTIONS AND IMPLICATIONS

7.1 Introduction

In this concluding chapter, the study firstly draws out major points from the research findings and then highlights the research contributions and implications. The contributions firstly capture how the research findings contribute to theoretical frameworks and extend the debate in the extant literature. Secondly, it demonstrates how the study in some alternative ways contributes to the empirical analysis and analytical techniques for future research. The chapter also offers ideas and discussions for practical implications for HQ-host nation subsidiary knowledge management of MNEs and, in particular, in the context of China MNEs. The final section provides some future research orientations and suggestions for studies in this area.

7.2 Concluding Remarks

A rigorous study has been carried out for addressing gaps in the extant literature, theorizing conceptions, and seeking empirical support to the conjectures raised by this thesis. The extant literature has highlighted that HQ-host nation subsidiary KT requires MNEs to develop learning capabilities for absorbing, integrating and developing knowledge from the process (Vaara et al., 2012; Harzing et al., 2016). Effective transfer however requires an understanding of managerial dispositions, e.g. motivations, experiences and capabilities which relate to motivations and actions in intra-MNE KT (Björkman et al., 2004; Minbaeva et al., 2014; Schleimer & Pedersen, 2014; Tseng, 2015; Tsang, 2016; Qin et al., 2017). Importantly, the effective transfer of knowledge requires MNEs to deal with discrete situations (due to overseas operations, e.g. perceived cultural differences) that would cause different managerial dispositions (e.g. trust, ties, competences, motivations and capabilities) in transferring and integrating knowledge and cause different characteristics of knowledge (for instance, stickiness and adaptability) (Jensen & Szulanski, 2004; Sarala & Vaara, 2010; Tippmann et al., 2012; Michailova & Mustaffa, 2012).

Prior literature on the one hand has emphasised the essential role of cultural differences between MNE HQ and host country subsidiaries to the effectiveness of intra-MNE KT. However, our understanding of how distance affects HQ-host nation subsidiary KT within MNEs is incomplete (Ambos & Ambos, 2009; Heirati & O'Cass, 2016; Qin et al., 2017), especially in emerging economy MNEs (EMNEs). On the other hand, extant literature has examined some of the impediments of intra-MNE KT from the individual level perspective (managerial dispositions), recognizing the heterogeneity of individuals in terms of values, beliefs and cognitive framing that are influenced by distance, as well as differences in motivations and capabilities to act in transferring knowledge (Vaara et al., 2012; Peltokorpi & Vaara, 2014; Schleimer & Pedersen, 2014; Haas & Cummings, 2015; Tseng, 2015; Harzing et al., 2016). Yet, these literatures have produced conflicting results among many of the key variables such as motivation, ties, competences and absorptive capacity. As such, this thesis uncovers some of the major impediments to KT of China MNEs in the context of innovation, by linking perceived cultural differences, managerial dispositions and knowledge structure with the effectiveness of KT.

The thesis establishes a theoretical model that captures the critical elements and their indicative relationships in the context of intra-MNE KT. The critical elements with respect to intra-MNE KT are perceived cultural differences, managerial dispositions, knowledge structure, and effectiveness of KT (Szulanski, 1996; Cummings, 2004; Li & Hsieh, 2009; Jasimuddin et al., 2012; Vaara et al., 2012; Minbaeva et al., 2014; Harzing et al., 2016). Along with the conceptual model, hypotheses are proposed to state the indicative relationships between these critical elements for statistical tests.

Based on a positivist philosophy, this research employs the deductive approach and the quantitative methods for methodological design, along with the questionnaire survey for data collection. The questionnaire contains four key parts, covering

measures of key terms including perceived cultural differences, managerial dispositions, knowledge structure and effectiveness of KT. After conducting the pre-test to the questionnaire, the researcher hands out the formal questionnaire to managers of China MNEs via face-to-face, WeChat and QQ using snowball sampling method, and finally obtains 289 valid samples for data statistics. The SPSS 22.0 version is used in this thesis for processing data in terms of descriptive statistical analysis, reliability tests, nonparametric tests (Chi-Square Test, Kruskal-Wallis Test and One-Sample Kolmogorov-Smirnov Test), and linear regression analysis for testing the research hypotheses.

Through the empirical testing of hypotheses, firstly the study identifies that ***there are significant perceived cultural differences between managers at MNE HQ China and managers at each host country subsidiary in the process of KT.*** This is evidenced by empirical results while the finding demonstrate that managers at MNE HQ China have significant cultural differences compared with managers at host country subsidiaries, based on Chi-square Test and Kruskal Wallis Test results. For instance, results from Chi-square Test show: power distance (Chi-square value= 292.824, *p*= 0.000< 0.001, df= 8), uncertainty avoidance (Chi-square value= 185.322, *p*= 0.000< 0.001, df= 8), masculinity (Chi-square value= 217.211, *p*= 0.000< 0.001, df= 8), collectivism (Chi-square value= 196.907, *p*= 0.000< 0.001, df= 8). Results from Kruskal Wallis Test show: power distance (Chi-square value= 226.396, *p*= 0.000< 0.001, df= 7), uncertainty avoidance (Chi-square value= 231.262, *p*= 0.000< 0.001, df= 7), masculinity (Chi-square value= 227.375, *p*= 0.000< 0.001, df= 7), collectivism (Chi-square value= 183.595, *p*= 0.000< 0.001, df= 7). Further, managers from different locations (nations) of MNE subsidiaries have perceived significant cultural differences in the process of KT. This is revealed by the One-Sample Kolmogorov-Smirnov Test. Overall, managers at MNE HQ China have significantly different cultures (power distance, uncertainty avoidance, collectivism and masculinity) compared with managers at subsidiaries in other nations (e.g. UK, EU countries, US, African countries and so on).

Secondly, the findings reveal that ***in the context of intra-MNE KT, perceived cultural differences have a significant effect on managerial dispositions.*** In this research, perceived cultural differences have four elements: power distance, uncertainty avoidance, collectivism and masculinity. Managerial dispositions are mapped as four elements: managerial trust, managerial ties, managerial competences and absorptive capacity. To be specific, three cultural difference factors in terms of power distance, uncertainty avoidance and collectivism all lead to significantly lower managerial trust, weaker managerial ties, and lower managerial competences. This is evidenced by statistical results from linear regression analysis. For instance, to the relationship between perceived cultural difference factors and trust, results are: power distance (β= -0.310, $p< 0.01$), uncertainty avoidance (β= -0.526, $p< 0.001$) and collectivism (β= -0.470, $p< 0.001$). To the relationship between perceived cultural differences factors and managerial ties, results are: power distance (β= -0.237, $p< 0.01$), uncertainty avoidance (β= -0.273, $p< 0.001$), and collectivism (β= -0.637, $p< 0.001$). To the relationship between perceived cultural differences factors and managerial competences, results are: power distance (β= -0.200, $p< 0.01$), uncertainty avoidance (β= -0.484, $p< 0.001$) and collectivism (β= -0.522, $p< 0.001$). In the meanwhile, two perceived cultural differences factors, namely uncertainty avoidance and collectivism also lead to significantly lower absorptive capacity of managers. This is evidenced by the statistical result from regression analysis too: power distance (degree of self-direction, β= 0.176, $p< 0.05$)[17], uncertainty avoidance (β= -0.518, $p< 0.001$) and collectivism (β= -0.593, $p< 0.001$).

Thirdly, the thesis reveals that ***perceived cultural differences have significant effect on knowledge structure in the context of intra-MNE KT.*** In this research, knowledge

[17] Degree of self-direction is one inverse measure of power distance in this thesis. The higher degree of self-direction indicates the lower level of power distance. The significantly positive regression coefficient of degree of self-direction (β= 0.176, $p< 0.05$) and absorptive capacity indicates that: the lower degree of self-direction (the higher level of power distance), the lower level of absorptive capacity, indicating an inverse association between power distance and absorptive capacity.

structure has two elements: knowledge stickiness and knowledge adaptability. Regarding the knowledge stickiness, power distance, uncertainty avoidance and collectivism relate to knowledge stickiness significantly and positively. This is evidenced by the statistical results from regression analysis: power distance (degree of self-direction, β= -0.278, $p< 0.001$[18]), uncertainty avoidance (β= 0.350, $p< 0.001$), and collectivism (β= 0.540, $p< 0.001$). Regarding the knowledge adaptability, the three perceived cultural difference factors in terms of power distance, uncertainty avoidance and collectivism weaken (significantly negative) the adaptability of transferred knowledge within MNE host country subsidiaries. This finding is evidenced by the statistical results from regression analysis as well: power distance (β= -0.219, $p< 0.05$), uncertainty avoidance (β= -0.563, $p< 0.001$), and collectivism (β= -0.567, $p< 0.001$).

Fourthly, the thesis reveals that ***managerial dispositions have a significantly positive role in increasing effectiveness of KT from China MNE HQs to host country subsidiaries.*** In this research, the effectiveness of KT emphasises the benefits of transferring knowledge to recipient units (for instance, integrating or combing knowledge for use in the local setting, and transferring firm-specific advantages to new overseas market) and the degree of KT (higher degree of KT indicates the more effective process of the transfer). Among the four managerial dispositions (managerial trust, managerial ties, managerial competencies and absorptive capacity), managerial competencies and absorptive capacity all contribute to an increase in the effectiveness of the transfer in terms of increasing both the degree of the transfer and the benefits from the transfer. This is evidenced by the statistical results from regression analysis. Regarding the managerial competencies, results are: benefits from KT (β= 0.308, $p< 0.01$) and the degree of KT (β= 0.237, $p< 0.001$). Regarding the absorptive capacity, results are: benefits from KT (β= 0.132, $p< 0.05$) and the degree of KT (β= 0.382, $p< 0.001$). This thesis also finds that managerial trust

[18] Degree of self-direction is one inverse measure of power distance in this thesis. The negative regression coefficient of the degree of self-direction and knowledge stickiness therefore indicates the positive association between power distance and knowledge stickiness.

and managerial ties all play significantly positive roles in increasing the degree of the transfer, as evidenced by the statistical results from regression analysis. Regarding the managerial trust, result is: the degree of KT (β= 0.152, p< 0.05). Regarding the managerial ties, result is: the degree of KT (β= .156, p< 0.05).

Fifthly, the thesis reveals that ***knowledge structure (stickiness and adaptability) have a significant impact on China MNE HQ managers' dispositions to transfer knowledge to host country subsidiary managers.*** There are four managerial dispositions in this research: managerial trust, managerial ties, managerial competences and absorptive capacity. Regarding the knowledge stickiness, it has a negative effect on absorptive capacity of managers in the process of KT, as evidenced by the statistical result of regression analysis: absorptive capacity (β= -0.302, p< 0.001). Regarding the knowledge adaptability, in general it affects managerial dispositions significantly and positively as well. This is evidenced by the statistical results from regression analysis: flexibility of knowledge and similarity in systems/processes (two components of knowledge adaptability) play positive role to strengthen managerial dispositions (trust, ties, competencies and absorptive capacity): e.g. similarity in systems/processes and managerial trust (β= 0.291, p< 0.001), adaptive (flexibility) and managerial ties (β= 0.389, p< 0.001), similarity in systems/processes and managerial ties (β= 0.261, p< 0.01), adaptive (flexibility) and managerial competencies (β= 0.465, p< 0.001), similarity in systems/processes and managerial competencies (β= 0.254, p< 0.001), adaptive (flexibility) and absorptive capacity (β= 0.103, p< 0.05), and similarity in systems/processes and absorptive capacity (β= 0.305, p< 0.001).

Finally, the thesis reveals that ***knowledge structure (stickiness and adaptability) have a significant influence on the effectiveness of knowledge being transferred from China MNE HQ to host country subsidiaries.*** Regarding the knowledge stickiness, higher level of stickiness tends to weaken the degree of knowledge being transferred. This finding is evidenced by the statistical result from regression analysis:

degree of KT (β= -0.276, *p*< 0.001). Regarding the knowledge adaptability, the higher level of adaptability plays a more positive role to increase both the benefits from the KT and the degree of the transfer. This finding is evidenced by the statistical result from regression analysis: benefits from KT (e.g. adaptive (flexibility) β= 0.205, *p*< 0.05) and the degree of KT (e.g. adaptive (flexibility) β= 0.152, *p*< 0.05; similarity in systems/processes β= 0.287, *p*< 0.001).

7.3 Research Contributions of the Thesis

Firstly, prior literature in the area of IB has tended to use cultural frameworks to measure distance at the national level (e.g. Hofstede, 1980; Kogut & Singh, 1988). This thesis, has given greater consideration to the local context-specific features of perceived cultural differences by examining individual differences in culture, the distance between HQ and subsidiaries in China MNEs, an approach that is consistent with several recent studies (e.g. Sarala & Vaara, 2010; Richter et al., 2016; Peterson & Barreto, 2018). Given the nature of the study and the use of survey instruments, the thesis seeks an understanding of what motivates or demotivates managers in KT activity. The unit of analysis in this thesis are individuals, managers working at the HQs of MNEs and subsidiaries; it constitutes a subjective measure of perceived cultural differences by making use of the informed views of managers involved in HQ-host nation subsidiary KT activity. In taking a social-psychology perspective, the thesis evaluates the roles of perceived cultural differences in KT. The subjective measures adopted in this thesis enrich the literature dealing with perceived cultural differences and complements the work in international economics (e.g. Ghemawat, 2001; 2007; Ambos & Ambos, 2009) which has tended to use observable characteristics such as language, religion, gender, ethnicity which are seen as objective measures. The IB literature in contrast has tended to measure perceived cultural differences using underlying value relationships that surface at the national level in the form of cultural dimensions (e.g. Hofstede, 1980; 2001) and its variations, as in Kogut and Singh (1988) to measure national cultural distance. From the social-psychology perspective, this research subjectively measures perceived cultural differences by asking managers to reveal perceived differences in the four

dimensions proposed by Hofstede (1980): power distance, uncertainty avoidance, masculinity, and collectivism in the context of HQ-host nation subsidiary KT. This perspective is standing on the cognitive dual process theories emphasized by Peterson and Barreto (2018) which offers a good explanation to why Hofstede's national culture dimensions can be employed to survey individuals' perceived cultural differences (Richter et al., 2016). As emphasized by Peterson and Barreto (2014) and Peterson and Barreto (2018), cultural expertise will differ across a population from the same society that is one source of cultural difference. Therefore, individual beliefs, perceptions, world views (cultural mental models) will vary according to the individual's experiences of operating in different social (work) groups. An individual's current social contexts will influence the kinds of deliberative reasoning employed in particular situations, such as when transferring knowledge, especially given all the impediments that affect KT. The empirical results have revealed there are significant cultural differences in all the four dimensions of culture between managers at MNE HQ China and managers at overseas subsidiaries.

Secondly, the thesis reveals the roles of perceived cultural differences as it relates to the effectiveness of intra-MNE KT via affecting knowledge structural factors and managerial dispositions, especially managerial beliefs, values and cognitive interpretations that could impact their expectations, motivations and actions in KT and management. On the one hand, based on prior literature (e.g. Szulanski, 1996; Minbaeva, 2007; Vaara et al., 2012; Caligiuri, 2014; Harzing et al., 2016; Sanchez-Vidal et al., 2016; Scaringella & Burtschell, 2017), the thesis hypothesizes that cultural differences are negatively related to managerial dispositions (trust, social ties, competences and absorptive capacity) in the context of KT. The empirical results of this thesis have revealed that the greater the cultural differences between managers at MNE HQ China and managers at overseas subsidiaries the more likely it will weaken managerial dispositions to transfer knowledge through their effect on trust relationships, social ties, competences and absorptive capacity. On the other hand, this thesis also hypothesizes that perceived cultural differences increases the complexity of knowledge structure in terms of increasing stickiness and adaptability

of transferred knowledge, based on prior literature, e.g. Jensen and Szulanski (2004), Szulanski (2004), Sarala and Vaara (2010), Peltokorpi and Vaara (2014) and Park and Vertinsky (2016). The empirical outcomes of this thesis support these hypotheses, revealing that greater perceived cultural differences increase the stickiness of knowledge, but decrease the adaptability of transferred knowledge. Overall, the empirical results indicate that perceived cultural differences bring challenges to HQ-host nation subsidiary KT as it weakens managerial dispositions and increases the complexity of knowledge structure. A better understanding of perceived cultural differences would help to alleviate some of the impediments that frustrate HQ-host nation subsidiary KT and could act as a guide for China MNEs in transferring product and process innovations more effectively across the network of subsidiaries.

Thirdly, the thesis has revealed that knowledge structure and managerial dispositions are crucial for the effectiveness of the transfer (benefits from the KT and the frequency of KT). On the one hand, regarding knowledge structure factors, stickiness is negatively associated with the effectiveness of KT, but knowledge adapability is positively associated with it. On the other hand, all the four managerial dispositions in terms of trust, managerial ties, competences and absorptive capacity are all positively associated with the effectiveness of KT. As such, the thesis tests the efficacy of cognitive theories and social psychology theories in the context of intra-MNE KT. The empirical results of this thesis reveal that perceived cultural differences between managers at MNE China HQ and at host country subsidiaries bring challenges and difficulties to the effectiveness of HQ-host nation subsidiary KT as heterogeneous cultural elements weaken managerial dispositions (trusting, managerial ties, competences and absorptive capacity) and increase the complexity of knowledge structure (higher stickiness and lower adaptability). As such, the research responds to the call for sociology and psychology of culture in IB (Michailova & Mustaffa, 2012; Peltokorpi & Vaara, 2014; Hass & Cummings, 2015), contributing to understanding how cultural context (beliefs, values and cognitive structures) impact individual motivations, competences and abilities in intra-MNE KT from the managerial micro-foundations perspective.

Finally, this thesis establishes a mechanism for knowledge management in China multinationals, linking perceived cultural differences with managerial dispositions and knowledge structure factors that would affect the effectiveness of KT within MNEs. Considering the dissimilarities between DMNEs and EMNEs, there is a need to explore (and explain) the unique KT processes within EMNEs. This thesis constructs a knowledge management model covering perceived cultural differences, managerial dispositions and knowledge structure that link to the effectiveness of intra-MNE KT of China MNEs. As the world's largest emerging economy, China demonstrates typical emerging economy characteristics. This model of knowledge management in the China context would be advantageous to understand how EMNEs can effectively manage distance and social-cultural challenging issues in order to facilitate KT. This responds to the call for empirical research to explore knowledge management of EMNEs, especially focusing on matching knowledge management strategies with different contexts (Michailova & Mustaffa, 2012; Hislop, 2013; Hass & Cummings, 2015; Park & Vertinsky, 2016; Qin et al., 2017).

7.4 Practical Implications for Knowledge Management

From the social-psychological perspective, the thesis has revealed the existence of perceived cultural differences and its negative role in weakening the effectiveness of KT via weakening managerial dispositions (motivations, ties, trust, competences and capabilities) and complicating the characteristics of knowledge (e.g. increasing the stickiness but weakening the knowledge adaptability) within China MNEs. In the process of HQ-host nation subsidiary KT, perceived cultural differences are still a major impediment, as the heterogeneous cultural backgrounds (embodied in social norms, customs, beliefs, values and mental representations) of knowledge actors. For China MNEs, the cultural differences between MNE HQ China and host country subsidiaries would cause difficulties, conflicts and misunderstandings in communications, which further weaken the establishment of trusting relationship, social ties and competences, as well as the absorptive capacity. Meanwhile, perceived cultural differences also increase the stickiness of knowledge and

increases difficulties to guarantee the knowledge adaptability. Therefore, China MNEs could focus on the management of cultural difference, in order to reduce its negative effects on managerial dispositions and knowledge structure that largely determine the effectiveness of KT. The thesis makes several recommendations for knowledge management in China MNEs based on the research conclusions.

7.4.1 Fitting the Knowledge Transfer (KT) Model to Different Cultural Dimensions and Enhancing the Cultural Intelligence of Managers

China MNEs might also consider fitting its operation and management model of KT with different cultural dimensions, so as to control the potential negative role of cultural difference on the knowledge structure and managerial dispositions which would ultimately affect KT (Qin et al., 2017; Liu et al., 2018). Firstly, low power distance emphasises the equal work atmosphere. Therefore, China MNEs might consider employing a flexible hierarchical organisational structure and participative management models when transferring or acquiring knowledge from subsidiaries located in nations with low power distance. To be specific, China MNEs might consider implementing flexible management in terms of establishing flat management structure and encouraging participative management. Flatter management structures can reduce unnecessary hierarchies in vertical management structure but extend the horizontal management. In MNEs with flatter structures, where middle management have greater discretion, could increase decision making autonomy, increase trust and therefore improve managerial commitment. In the meanwhile, the horizontal management would be beneficial to China MNEs to implement the comprehensive information communication. For instance, in the process of KT, MNEs may consider setting work groups or teams as information nodes with greater equality in positions, and encourage employees to communicate, share information, and participate in business decision-making procedure.

Secondly, collectivism culture indicates a tight social structure, where individuals have strong behavioural tendencies that accord with external expectation or social

rules and view mutual goals and organisational wealth as most important. Therefore, in China MNEs and its host country subsidiaries, the management of employees in collective culture may emphasise the maximization of group wealth and concern for in-group members, so as to exchange their high loyalty to the group and the organization. In order to do so, China MNEs may consider setting up clear visions and goals for the purpose KT in specific projects. In the meanwhile, they could establish relevant incentives and HR practices such as promotion, rewards and internal communication mechanisms in encouraging employees to realize team goals in implementing KT. Employees in collectivist cultures are more likely to have the mutual common understanding to the importance and the purpose of doing KT, whilst the incentives and HR practices may drive them to work towards team/group goals in KT.

Thirdly, uncertainty avoidance refers to the tolerance for risk and change. Employees in nations with high uncertainty avoidance are less tolerant of cognitive ambiguity and less willing to take risks (Zhao & Luo, 2005; Ling et al., 2016). Therefore, the management might focus on formal rules, systems and information system to manage behaviours in workplace, and offer long-term career planning. In doing this, employees become aware of KT as an important factor in the global growth of the MNE. Career planning could contribute to guide this kind of employees clearly know the purpose of HQ-host nation subsidiary KT, how it can be achieved as part of their career development.

China MNEs could consider enhancing the global leadership through fostering greater Cultural Intelligence (CQ) among managers and other employees. That is, MNEs could focus on cultivating '*distance capable managers*' (Ghemawat, 2007: 263), managers with developed CQ that can provide leadership in culturally diverse contexts. These ideas, developed in Steers et al. (2012), Bird and Mendenhall (2016), Caligiuri and Bonache (2016) and Reiche et al. (2017), emphasise the imperatives of developing global leadership as a means of bridging perceived cultural differences in

MNEs. As defined by Earley and Ang (2003), cultural intelligence reflects managers' capabilities in collecting and processing information in new cultural backgrounds, making evaluations and acting implementations effectively so as to adapt to the new culture. Cultivating CQ would therefore be beneficial to strengthen cross-cultural competences as a means of developing better global leadership of MNEs in order to improve competitiveness in international markets. Developing greater CQ might require greater cultural integration, e.g. offering various internal platforms for communication and coordination, encouraging and stimulating managers to proactively overcome potential challenges and difficulties caused by cultural differences. Encouragement and guidance related to cross-cultural management practices could also strengthen the confidence of managers in overcoming cultural barriers and enhancing cross-cultural competences. Also, China MNEs may provide various channels and forms for managers to evaluate and reassess their cultural intelligence level, e.g. offering training, job rotation in overseas subsidiaries (as expatriates), for consolidating their cross-cultural competences (Caligiuri & Bonache, 2016).

7.4.2 Establish the Knowledge-Sharing-Oriented Corporate Culture

This research has revealed a negative relationship between cultural differences and the effectiveness of KT within China MNEs through weakening managerial dispositions (trust, ties, competences and absorptive capacity) and increasing the complexities of knowledge structure (stickiness and adaptability). Given that cultural differences between MNE HQ China and host country subsidiaries cause challenges and difficulties in management and communication, it is important that China MNEs establish a series of explicit or implicit mutual culture and values for reducing the negative effect of heterogeneous cultural backgrounds and promoting the HQ-host nation subsidiary transfer of knowledge (Chen et al., 2010; Ling et al., 2016).

The establishment of corporate culture is a long-term and cumulative process, which requires that employees have a consistent understanding of the mission and

strategic goals of China MNEs and maintain this consistency. In order to do so, China MNEs may consider developing the incentive HR practices and promoting learning-oriented organisational cultural context. Due to the worries about losing knowledge ownership, special position or advantageous knowledge position, knowledge sources may not intend to share knowledge with colleagues or regret that they did not obtain an appropriate return after sharing knowledge, or they may not want to offer time and resources for supporting KT. Therefore, knowledge sources are more likely to participate in KT only when there are sufficient incentives. Rather than focus on incentive mechanisms, or in addition to, China MNEs might focus on strategies that foster a cooperative corporate context based on the encouragement of prosocial behaviours. A challenging issue is how the MNEs can develop intrinsically motivated managers that are disposed to share knowledge without expecting a reward because performing the activity provides satisfaction in and of itself. In contrast, extrinsically motivated managers are motivated by rewards, promotion, and pay for performance. These ideas, borrowed from motivation crowding theory (Frey & Jegen, 2001; Benabou & Tirole, 2006), suggest the need for MNEs to consider mechanisms for cultural adaptation such as norm following which could be beneficial in developing a context for knowledge sharing within China MNEs (Ling et al., 2016; Rui et al., 2017).

7.4.3 Cultivate the Global Learning Capability of China MNEs

Along with the growing intensity of competition in global markets, knowledge has become the essential source for a firm's competitive advantage. For China MNEs, the capability of acquiring and transferring knowledge in the global scope has become the key to their survival and development. Firms' global learning capability includes sensing and seizing new business opportunities, develop creative response and diffuse innovation in global scope (Li et al., 2014; Song, 2014). Only MNEs that can use global learning capability to continuously create new knowledge and transfer new knowledge within the organization, quickly develop new technology and new product, so as to realize the global knowledge sharing and comprehensively strengthen their international core competitive advantages can realize the success.

As such, in the multinational operation China MNEs might promote the overseas subsidiaries embedded in the local network of host country markets, so as to acquire local knowledge via close ties and relationships with local suppliers, distributors, dealers, consumers and other companies (Chang et al., 2012; Song, 2014). And also, develop the capacity to integrate knowledge acquired from host country markets with the existing knowledge base for creating new knowledge, and realize the effective sharing between MNE HQ China and host country subsidiaries, in order to strengthen the global competitive capability of China MNEs.

To be specific, on the one side, when subsidiaries are set up in developed economies, they could actively recruit talent in local industrial clusters and expand the channels and means of communication, so as to absorb advanced technologies, market and management experiences. Subsidiaries might also pay attention to learn and imitate the management model and organisational structure of leading companies in host countries and proactively seek local alliance partnership resources. In the meanwhile, subsidiaries could also consider assisting HQ of China MNEs introduce advanced technological equipment and overseas experts, and cultivate their own capabilities of research and development, so as to accelerate the speed of KT.

On the other side, when subsidiaries are set up in developing economies, employees of subsidiaries are primarily focused on learning and reflecting, via organising multiple forms of knowledge sharing and communications. Also, subsidiaries may consider updating internal management functional system in terms of seeking local cooperative partners and decentralising tasks to host country markets. Subsidiaries are well positioned to enhance embeddedness and ties in host country markets and sufficiently understand the heterogeneity within local markets, in order to develop and produce products and services adapted to local demands and requirements.

7.4.4 Explore Knowledge Transfer (KT) Strategies Comprehensively to Promote the HQ-Host Nation Subsidiary Transfer

This thesis confirms the challenges posed by knowledge stickiness for the effectiveness of HQ-host nation subsidiary transfer, especially the transfer of tacit knowledge (Minbaeva et al., 2014; Szulanski et al., 2016; Dasí et al., 2017). Therefore, China MNEs may consider adopting different strategies to transfer the different types of knowledge. On the one side, regarding the explicit knowledge, China MNEs may consider using codification strategies such as knowledge base and internal network (electric forums, e-mails and social media tools) to promote its global transfer.

On the other hand, regarding the tacit knowledge, China MNEs may consider adopting interpersonal communication strategies, such as cross-functional teams, employee rotation, expatriation and international assignments, meetings and conferences, on-side investigation and demonstration, to promote HQ-host nation subsidiary transfer. Besides, China MNEs may integrate both codification and interpersonal communication strategies together, so as to promote the transfer of both explicit and tacit knowledge, such as establishing virtual practical communities, story-telling and learning histories.

7.4.5 Implementing Effective Expatriate Policies and Strengthening Cross-Cultural Competences of Expatriates

The findings of the thesis reveal that managers in host country subsidiaries perform an essential role in strengthening the effectiveness of KT and with this come the challenge of absorptive capacity. Making use of expatriates from China HQ is a vital means of enhancing the absorptive capacity of host country subsidiaries (Chang et al., 2012; Minbaeva et al., 2014). Because expatriates can transfer (e.g. via teaching and learning-by-doing) their managerial experiences and technical capabilities to local employees, they contribute effectively to host country subsidiaries by enhancing the

absorptive capacity, and they are the intermediary of KT between MNE HQ China and host country subsidiaries. China MNEs on the one hand focus on improvements to expatriate policies to promote the KT between HQ and subsidiaries. On the other hand they can enhance management capabilities, technological, communicating and coordinating capabilities and cross-cultural adaptive capabilities via the effective human resource practices (recruiting and selecting, training, and performance evaluating) specifically targeted at expatriates. In order to do so, China MNEs might consider increasing inputting resources to encourage and stimulate the cultivation of expatriates' capabilities. For example, China MNEs may consider the following incentive mechanisms to expatriates: I) encourage and support the cross-department, -organisational and -national learning, offering attractive compensation and welfare; II) evaluating the skills and capabilities of expatriates in learning and offering rewards to expatriates with excellent performance or impressive progress; III) encouraging expatriates to strengthen their own capabilities such as skill training, professional title training and language training, offering rewards to expatriates with excellent progress.

Besides, China MNEs might consider taking cultural intelligence as the essential factor when selecting expatriates. China MNEs could evaluate whether the cultural intelligence is appropriate when recruiting and selecting expatriates for overseas tasks and assignments, in addition to evaluate the professional skills or language abilities of candidates. Candidates with high level of cultural intelligence are likely to have strong cross-cultural adaptive competences. That is, they could differentiate the differences between host country and home country quickly when they are in the host country environment, and further actively respond with the differences so as to better adapt in culturally distant situations (Chen & Kirkman et al., 2010; Caligiuri & Tarique, 2012; Caligiuri & Bonache, 2016). As such, China MNEs might set up the evaluation system of cultural intelligence and choose candidates with high level of cultural intelligence as priorities in expatriates. To candidates with low level of cultural intelligence, MNEs may offer other work opportunities or arrange

relevant cross-cultural management training practices first and then select them working for overseas assignments.

7.4.6 Extend Internal Knowledge Transfer (KT) Channels

This research has revealed the positive role of managerial dispositions (e.g. trust relationship, ties and competences) to the effectiveness of intra-MNE KT, in addition to the absorptive capacity which has been discussed in section 7.4.5. As such, China MNEs might give more attention to establish the KT channels between HQ and host country subsidiaries, to strengthen managerial dispositions which are ultimately contributing to improve the effectiveness of the transfer. On the one side, China MNEs may consider implementing formal integration mechanisms such as setting up liaison systems, mission groups, work teams and permanent committees, contributing to the communicating and connecting between managers at MNE HQ China and host country subsidiaries, and consequently being beneficial to the flow of knowledge.

On the other side, China MNEs might consider establishing informal integration mechanisms or socializing mechanism between MNE HQ and host country subsidiaries or between host country subsidiaries, e.g. encouraging employee rotation among different host country subsidiaries or setting up projects participated by multiple subsidiaries, or the job rotation between MNE HQ China and different host country subsidiaries, so as to develop the social ties, establish trusting relationships and networking skills for managers (Caligiuri, 2014; Minbaeva et al., 2014). In order to do so, China MNEs may consider offering the capital support for the establishment of transfer channels. They might also set up special work positions for assigning specific employees in establishing such transfer channels and offer rewards and promotions to employees who perform excellent in developing informal integration mechanisms for transferring knowledge.

7.5 Research Limitations and Suggestions for Future Studies

While the thesis advances the understanding of the role of cultural differences in HQ-host nation subsidiary KT and management, the limitations of this research need to be acknowledged. Firstly, this thesis used perceptual measures of cultural differences, managerial dispositions, knowledge structure and effectiveness of KT. While this is a widely accepted approach, it also involves a risk that the relationships between the variables drawn from the survey may be affected by common method bias (Podsakoff et al., 2003; Vaara et al., 2012). To address this possibility, several pre-tests were carried out and based on these tests survey questions were adjusted and checked for content validity and ambiguous items. The results from statistical tests indicated the survey data has high level of validity and reliability. Therefore, the common method bias was unlikely to significantly affect the results in this thesis.

Secondly, this thesis mainly ran statistical analysis to test the relationships between cultural differences, managerial dispositions, knowledge structure and effectiveness of KT from the quantitative perspective and a positivist philosophical stance. Positivism is a dominant philosophy in the field of KM of MNEs (Hislop, 2013; Fjellstrom & Guttormsen, 2016) as it assumes the organisational knowledge is objective and measurable so that KT processes can be revealed and tested via scientific methods of verification (Nonaka & Peltokorpi, 2006; Hallin & Lind, 2012; Reiche et al., 2015). Yet, purely quantitative methods may bring inadequacies in comprehensively understanding cultural challenges and difficulties related in HQ-host nation subsidiary KT. However, the major purpose of this thesis is to uncover some of the major impediments to HQ-host nation subsidiary KT with the fundamental premise that organisational knowledge is a key resource for China MNEs that are difficult to replicate and therefore are a potential source of advantage. Conducting quantitative analysis can contribute to the task of distinguishing the factors (e.g. cultural differences, managerial dispositions, and knowledge structure factors) and delineating from among these factors those that have the greatest impact on the effectiveness of KT.

This thesis has added to our understanding of the interplay and effects of cultural differences in relation to managerial dispositions and the effectiveness of HQ-host nation subsidiary KT. However, it has also revealed the need for further studies in this area. Firstly, while acknowledging that survey-based instruments can help to test the relationships between cultural differences, managerial dispositions and the effectiveness of KT, future studies may consider adding qualitative analysis (e.g. based on interviews) as a means of enriching knowledge of how cultural differences affect the effectiveness of HQ-host nation subsidiary KT. Secondly, the intra-MNE KT process is a dyadic relationship that not only includes forward transfer (from MNE HQ to subsidiary) examined in this thesis, it includes other transfer relationships, such as reverse transfer (from subsidiaries back to MNE HQs) and the lateral transfers between the MNE's subsidiaries. Future studies therefore may consider the other means of transfer, as subsidiaries could interact with their local environment and tap into domestic sources of knowledge that are diffused and exploited within the MNE (Dellestrand & Kappen, 2012; Rabbiosi & Santangelo, 2013).

Nevertheless, the ability to integrate, combine, and create new knowledge is the basis for competitive advantages of MNEs. For China MNEs, the effective transfer of critical capabilities (including its creation, sharing, absorption, and adoption) largely determine their performance as it indicates the core competences of MNEs to create and maintain market competitiveness. The mechanism of KT process established in this thesis may lead China MNEs to acknowledge cross-cultural management as a key aspect of the business that requires development if they are to maintain global competitiveness.

Appendix 1: Full Questionnaire (Both English and Chinese Version)

Questionnaire Survey (English Version)

Dear Madam/Sir,

I would be grateful for your cooperation in completing this questionnaire – it will take about 15 minutes to complete. It is concerned with issues and mechanisms related to MNE (Multinational Enterprise) knowledge transfer between headquarters and subsidiaries. It serves academic research purposes only. Thank you. Please provide your email address if you would like a copy of the results.

E-mail address: _____.

Part 1: Background Information

To each question, please select ONE from the elements or items provided by ticking the appropriate box.

Q1. Location of the subsidiary

□ China, □ India, □ Other Asian countries; □ UK, □ EU countries, □ Other non-EU European countries; □ USA, □ Other North American countries; □ African countries; □ South American countries; □ Oceanian countries

Q2. Number of employees in the subsidiary

□ <100; □ 100-299; □ 300-499; □ 500-699; □ 700-899; □ 900-1100; □ > 1100

Q3. Core activity of the subsidiary

□ Manufacturing; □ Marketing; □ R&D; □ Distribution; □ Regional Governance; □ Other: _____

Q4. The number of years the subsidiary has been in operation:

□ < 1 year; □ 1-5 years; □ 6-10 years; □ 11-15 years; □ > 15 years

Q5. How long has the company (group/headquarters) been in operation

□ < 1 year; □ 1-5 years; □ 6-10 years; □ 11-15 years; □ > 15 years

Q6. Please rate the competences of the subsidiary in the local market by selecting one of the following from 1 to 7: (1= Very uncompetitive; 4= Above average; 7= Highly competitive)

□ 1; □ 2; □ 3; □ 4; □ 5; □ 6; □ 7

Q7. How would you describe the life-cycle stage of the subsidiary in the local market?

□ Embryonic; □ High Growth; □ Low Growth; □ Mature; □ Decline

Q8. Your personal details:

(1) Gender: □ Male; □ Female; □ Other

(2) Age (years): □ 18-25; □ 26-35; □ 36-45; □ 46-55; □ > 55

(3) Number of years working in the current subsidiary: □ < 1; □ 1-3; □ 4-6; □ 7-10; □ > 10

(4) Occupation: □ Frontline manager; □ Middle-level manager; □ Executive; □ CEO

(5) Location of your last assignment: □ China; □ India; □ UK; □ EU□ US; □ Other: _____.

(6) How many international assignments (working more than 6 months in another country) have you undertaken within the same company

□ 0; □ 1-3; □ 4-6; □ 7-10; □ > 10

(7) What is your longest length of stay in an international assignment (years) in the same company?

□ < 1; □ 1-3; □ 4-6; □ 7-10; □ > 10

Part 2: Perceived cultural differences between Host (e.g. UK) and Home (e.g. China) Countries

P2	Evaluate below items (1=least differences, 4= neutral, 7= greatest differences) tick √ one cell for each question	1	2	3	4	5	6	7
Q1	Degree of self-direction within the work environment							
Q2	Degree of autonomy in making changes in the work environment							
Q3	Degree of rule following behaviour							
Q4	Sharing social norms, customs, and traditions (uncertainty avoidance)							
Q5	Recognition of individual achievements (masculinity)							
Q6	Encouragement of individualism and creativity							
Q7	Decision making through teamwork (collectivism)							

Part 3: Managerial influence on knowledge transfer

P3	Identify importance of the following managerial influences on knowledge transfer (1=least important, 4= neutral, 7= most important) tick √ one cell for each	1	2	3	4	5	6	7

	question							
Q1	Managers have trust in others							
Q2	Team coherence (sharing mental models, common goals, joint actions)							
Q3	Strong ties (e.g, HQ or Subsidiary) in local markets (e.g. UK)							
Q4	Managerial competences (decision making, negotiating, networking)							
Q5	Managerial sensing skills in opportunity development							
Q6	Managerial seizing skills in exploiting opportunities							
Q7	Capacity for absorbing other peoples' ideas (receptivity to transfer)							
Q8	HQ knowledge can be absorbed and utilized in subsidiary practices							
Q9	Subsidiary knowledge is utilized or absorbed by the local (UK) market							

Part 4: Knowledge structure affecting knowledge transfer

P4	Identify the importance of the following characteristics on knowledge transfer (1=least important, 4= mutual, 7= most important) tick one cell each √ for each question	1	2	3	4	5	6	7
Q1	Knowledge stickiness (tacitness)							
Q2	Adaptive (easily adopted or absorbed in local practices)							
Q3	Adaptive (easily reconfigured in adapting to local practices)							
Q4	Adaptive (flexibility and can change when markets change)							
Q5	Similarity in systems/processes between HQ or subsidiaries with UK (or other foreign receivers)							

Part 5: Benefits of knowledge transfer for Host country subsidiaries

P5	Assess the importance of the following benefits for host countries (1=least important, 4= neutral, 7= most important) tick one cell each √ for each question	1	2	3	4	5	6	7
Q1	Integrating (or combining) knowledge for use in the local setting							
Q2	Transferring firm-specific advantages to new overseas markets							
Q3	Augmenting capacity in the local (UK) market							
Q4	Value advancement for existing or new products/services							
Q5	Making (novel) linkages or associations with the UK (or other countries) market							

Part 6: Degree of Knowledge transfer from headquarters of MNEs to subsidiaries

P6	Identify the frequency of the following items in knowledge transfers from	1	2	3	4	5	6	7

	headquarters of MNEs to subsidiaries (1=least often, 4= Above average, 7= most often) √ one for each							
Q1	Marketing knowledge (key customers and competitors, distribution channels)							
Q2	Services knowledge (level of post-sales services, customer support)							
Q3	Culturally-related knowledge (local practices, norms, values, attitudes)							
Q4	Network knowledge (quality of subsidiary industry networks)							
Q5	Managerial experience and knowledge (best practices)							
Q6	High-tech knowledge (state-of-the-art technology)							
Q7	General production (production processes, systems)							

This is the end of the survey. Thank you very much for your participation!

问卷调查（中文版）

亲爱的女士/先生，

诚挚邀请您参加此次问卷调研。填写该问卷将花费您 15 分钟左右的时间完成。该调查是关于中国跨国企业母子公司之间的知识转移。问卷收集的数据仅用于学术研究，而非商业目的。如果您对研究结果感兴趣，请留下您的邮箱。我们将会把研究结果发到您邮箱。感谢您的支持与配合。

您的邮箱地址：_____

第一部分：背景信息

对如下每个问题，请选择一个最符合您背景的选项：

Q1. 贵公司的子公司所在地（您目前工作的或过去工作过的）：

□ 中国, □ 印度, □ 其他亚洲国家; □ 英国, □ 其他欧盟国家, □ 其他非欧盟的欧洲国家; □ 美国, □ 其他北美国家; □ 非洲国家; □ 南美国家; □ 大洋洲国家.

Q2. 该子公司的员工数量：

□ <100; □ 100-299; □ 300-499; □ 500-699; □ 700-899; □ 900-1100; □ > 1100.

Q3. 该子公司的核心业务：

□ 制造; □ 营销; □ 研发; □ 分销; □ 区域管理; □ 其他: _____

Q4. 该子公司成立的时间年限:

□ < 1 年; □ 1-5 年; □ 6-10 年; □ 11-15 年; □ > 15 年.

Q5. 贵公司（母公司集团）成立的时间年限：

□ < 1 年; □ 1-5 年; □ 6-10 年; □ 11-15 年; □ > 15 年.

Q6. 请从如下 1 到 7 个数字里，选择一个最能反映该子公司在当地市场的竞争能力水平：(1= 非常没有竞争力; 4= 高于平均水平; 7= 非常有竞争力)

□ 1; □ 2; □ 3; □ 4; □ 5; □ 6; □ 7.

Q7. 请问该子公司在当地市场所处的生命周期阶段?

□ 萌芽期; □ 高速成长期; □ 低速成长期; □ 成熟期; □ 衰退期.

Q8. 您个人信息：

(1) 性别: □ 男; □ 女; □ 其他.

(2) 年龄 (岁): □ 18-25; □ 26-35; □ 36-45; □ 46-55; □ > 55.

(3) 您在该子公司工作的时间年限（年）: □ < 1; □ 1-3; □ 4-6; □ 7-10; □ > 10.

(4) 您目前的职位: □ 基层经理; □ 中层经理; □ 高层经理; □ C 总经理/董事长.

(5) 您上次工作派遣任务的地点: □ 中国; □ 印度; □ 英国; □ 其他欧盟国家；□ 美国; □ 其他国家: _____.

(6) 在贵公司里，您目前已经承担过多少次国际派遣任务（1 次国际派遣是指在其他国家工作超过 6 个月）：

□ 0; □ 1-3; □ 4-6; □ 7-10; □ > 10.

(7) 您在贵公司里，承担过的最长的一次国际派遣任务的时间是（年）：

□ < 1; □ 1-3; □ 4-6; □ 7-10; □ > 10.

第二部分：东道国（子公司所在国）和母国（总部所在国：中国）的感知的文化差异

P2	对如下每个因素**关于**子公司工作环境和母国（中国）文化**差异的程度**，请从 1 到 7 里选择一个最符合的选项 (1=距离/差异最小, 4= 中立/不确定, 7= 距离/差异最大)	1	2	3	4	5	6	7
Q1	工作环境中自我导向的程度							
Q2	工作环境中自主改变的程度							
Q3	员工遵守规则行为的程度							
Q4	共享社会规范，习俗和传统							
Q5	对个人成就的重视							
Q6	对个人主义和创意的鼓励							
Q7	基于团队合作进行决策							

第三部分：管理层对知识转移的影响

P3	对如下关于每个管理层**因素**对知识转移的**影响程度**，请从 1 到 7 里选择一个最符合的选项 (1=影响最小, 4= 中立/不确定, 7= 影响最大)	1	2	3	4	5	6	7
Q1	经理对其他人的信任							
Q2	团队凝聚力（共享心智模式，共同目标，一致行动）							
Q3	跨国公司总部在本地市场（子公司所在国）有强联结/深厚的关系							
Q4	管理层的竞争力（决策，谈判和社交）							
Q5	管理层察觉市场机会的能力							
Q6	管理层抓住并开发市场机会的能力							
Q7	吸收其他人想法的能力（知识接受能力）							
Q8	总部知识能被吸收并用于子公司实践							
Q9	子公司知识能被用于或被当地市场吸收							

第四部分：知识结构/特征对知识转移的影响

P4	对如下关于每个知识结构/特征对知识转移影响的**重要程度**，请从 1 到 7 里选择一个最符合的选项 (1=最不重要, 4= 中立/不确定, 7= 最重要)	1	2	3	4	5	6	7
Q1	知识粘性（知识内隐性）							
Q2	知识适应性（很容易用于子公司本地实践或被本地吸收）							
Q3	知识适应性（很容易被重构以适应子公司本地实践）							
Q4	知识适应性（知识灵活且能随着市场变化而变化）							
Q5	母子公司间的系统/过程相似性							

第五部分：知识转移对东道国子公司的利益/作用

P5	对如下关于每个知识转移对东道国子公司**作用/利益的重要程度**，请从 1 到 7 里选择一个最符合的选项 (1=最不重要, 4= 中立/不确定, 7= 最重要)	1	2	3	4	5	6	7
Q1	整合知识以用于子公司本地实践							

Q2	转移企业特有优势到新的海外市场							
Q3	加强子公司在本地市场的能力							
Q4	提升现有或新产品/服务的价值							
Q5	创造新的跟子公司本地市场的连接							

第六部分：知识从总部到子公司的转移

P6	对如下每个关于**知识转移**（从总部到子公司）的**频繁程度**，请从 1 到 7 里选择一个最符合的选项 (1=非常少, 4= 超过平均水平, 7= 非常频繁)	1	2	3	4	5	6	7
Q1	营销知识（关键客户和竞争对手，分销渠道）							
Q2	服务知识（售后服务水平，客户支持）							
Q3	文化相关知识（本地实践，规范，价值观，态度）							
Q4	本地网络知识（本地子公司行业网络质量）							
Q5	管理经验和知识（最佳实践）							
Q6	高新技术知识（最先进的科技）							
Q7	一般性生产知识（生产工序，系统）							

问卷调查到此结束，再次感谢您的参与！

Appendix 2: Brief Introduction to Five Sampling China MNEs

SAMPLE COMPANY 1: Huawei Group

Huawei is a Chinese multinational networking and telecommunications equipment and services company, established in 1987 and headquartered in Shenzhen. It is the largest telecommunications equipment manufacturer in the world. It now has businesses and subsidiaries over 170 countries in the worldwide. In Fortune Global 500 List 2018, Huawei's rank is 27.

SAMPLE COMPANY 2: Lenovo Group

Lenovo is a Chinese multinational technology company, established in 1984 and headquartered in Beijing. It designs, develops, manufactures and sells personal computers, tablet computers, smartphones, workstations, servers, electronic storage devices, IT management software, and smart televisions. Since 2013, Lenovo is the world's largest personal computer vendor by unit sales. Lenovo has operations in more than 60 countries and sells its products in around 160 countries. In Fortune Global 500 List 2018, Lenovo's rank is 240.

SAMPLE COMPANY 3: Tencent Group

Tencent is a Chinese investment holding company whose subsidiaries provides media, entertainment, payment systems, internet and mobile phone value-added services and operates online advertising services in China, established in 1998 and headquartered in Shenzhen. Its many services include social network, web portals, e-commerce, mobile games and multiplayer online games. It has businesses and subsidiaries over 100 countries and regions in the world. In Fortune Global 500 List 2018, Tencent's rank is 331.

SAMPLE COMPANY 4: Haier Group

Haier is a Chinese collective multinational consumer electronics and home appliances company, established in 1984 and headquartered in Qingdao. It designs, develops, manufactures and sells products including air conditioners, mobile phones, computers, microwave ovens, washing machines, refrigerators, and televisions. It has subsidiaries over 100 countries and regions in the world. In Fortune Global 500 List 2018, Haier's rank is 499.

SAMPLE COMPANY 5: Skyworth Group

Skyworth is a Chinese holding company, established in 1988 and headquartered in Shenzhen. Its subsidiaries design, manufacture and sell televisions and audio-visual products. It has subsidiaries in 11 countries. Skyworth is on the 196th position of Fortune China 500 List 2018, though not on the Fortune Global 500 List 2018.

Appendix 3: One-Sample Kolmogorov-Smirnov Test for Perceived Cultural Differences between Managers at MNE HQ China and Each Host Country Subsidiary

Table 1 One-Sample Kolmogorov-Smirnov Test for perceived cultural differences between managers at MNE HQ China and each host country subsidiary

Location of subsidiary	Perceived cultural differences	One-sample Kolmogorov-Smirnov test		
		n	Poisson parameter mean	Kolmogorov-Smirnov Z
India	Degree of self-direction within the work environment (Power distance)	53	3.25	.816*
	Degree of autonomy in making changes in the work environment (Power distance)	53	2.15	.884*
	Degree of rule following behaviour (Power distance)	53	2.30	.895*
	Sharing social norms, customs, and traditions (Uncertainty avoidance)	53	3.85	1.396
	Recognition of individual achievements (Masculinity)	53	3.87	1.330*
	Encouragement of individualism and creativity (Collectivism)	53	3.81	1.370
	Decision making through teamwork (Collectivism)	53	3.91	.719*
Other Asian Countries	Degree of self-direction within the work environment (Power distance)	52	3.33	.887*
	Degree of autonomy in making changes in the work environment (Power distance)	52	1.90	1.173*
	Degree of rule following behaviour (Power distance)	52	2.15	1.252*
	Sharing social norms, customs, and traditions (Uncertainty avoidance)	52	2.63	1.048*
	Recognition of individual achievements (Masculinity)	52	2.65	1.297*
	Encouragement of individualism and creativity (Collectivism)	52	2.87	1.449
	Decision making through teamwork (Collectivism)	52	3.38	.794*
UK	Degree of self-direction within the work environment (Power distance)	13	6.08	1.285*
	Degree of autonomy in making changes in the work environment (Power distance)	13	6.15	1.242*
	Degree of rule following behaviour (Power distance)	13	5.31	.845*

	Sharing social norms, customs, and traditions (Uncertainty avoidance)	13	3.54	.475*
	Recognition of individual achievements (Masculinity)	13	6.23	1.199*
	Encouragement of individualism and creativity (Collectivism)	13	5.38	1.078*
	Decision making through teamwork (Collectivism)	13	3.15	.814*
EU countries	Degree of self-direction within the work environment (Power distance)	33	5.09	1.269*
	Degree of autonomy in making changes in the work environment (Power distance)	33	5.00	1.192*
	Degree of rule following behaviour (Power distance)	33	4.73	1.580
	Sharing social norms, customs, and traditions (Uncertainty avoidance)	33	5.52	1.518
	Recognition of individual achievements (Masculinity)	33	4.33	.851*
	Encouragement of individualism and creativity (Collectivism)	33	4.70	1.782
	Decision making through teamwork (Collectivism)	33	3.55	.990*
Other non-EU European countries	Degree of self-direction within the work environment (Power distance)	7	4.29	.527*
	Degree of autonomy in making changes in the work environment (Power distance)	7	3.57	.814*
	Degree of rule following behaviour (Power distance)	7	4.14	.577*
	Sharing social norms, customs, and traditions (Uncertainty avoidance)	7	5.14	.722*
	Recognition of individual achievements (Masculinity)	7	4.86	.950*
	Encouragement of individualism and creativity (Collectivism)	7	4.14	1.074*
	Decision making through teamwork (Collectivism)	7	3.86	.309*
USA	Degree of self-direction within the work environment (Power distance)	20	4.75	1.350*
	Degree of autonomy in making changes in the work environment (Power distance)	20	4.90	1.249*
	Degree of rule following behaviour (Power distance)	20	5.05	1.154*
	Sharing social norms, customs, and traditions (Uncertainty avoidance)	20	5.30	1.071*
	Recognition of individual achievements (Masculinity)	20	5.60	1.251*
	Encouragement of individualism and creativity (Collectivism)	20	5.30	1.071*
	Decision making through teamwork (Collectivism)	20	4.35	1.423

African countries	Degree of self-direction within the work environment (Power distance)	26	3.92	1.077*
	Degree of autonomy in making changes in the work environment (Power distance)	26	3.35	1.058*
	Degree of rule following behaviour (Power distance)	26	3.62	.942*
	Sharing social norms, customs, and traditions (Uncertainty avoidance)	26	5.27	1.169*
	Recognition of individual achievements (Masculinity)	26	3.23	.924*
	Encouragement of individualism and creativity (Collectivism)	26	3.92	1.111*
	Decision making through teamwork (Collectivism)	26	3.88	.809*
Note: When asymptotic significance value is higher than 0.05, it indicates the Kolmogorov-Smirnov Z is significant.				

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