

**THE INFLUENCE OF COUNTRY, FIRM AND  
INDIVIDUAL FACTORS ON KNOWLEDGE  
TRANSFER EFFICIENCY AMONG CHINESE  
MULTINATIONAL CORPORATIONS**

**CHENG JUNSHUAI**

**UNIVERSITI SAINS MALAYSIA**

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INDIVIDUAL FACTORS ON KNOWLEDGE  
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MULTINATIONAL CORPORATIONS**

by

**CHENG JUNSHUAI**

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## **LIST OF ABBREVIATIONS**

CD	Cognitive Distance
CI	Cultural Intelligence
KTE	Knowledge Transfer Efficiency
MNCs	Multinational Corporations
ND	Normative Distance
OT	Organizational Trust
RD	Regulative Distance
SA	Subsidiary Autonomy
SP	Subsidiary Position
WP	Work Performance

**FAKTOR NEGARA, FIRMA DAN INDIVIDU YANG MEMPENGARUHI  
KECEKAPAN PEMINDAHAN PENGETAHUAN DALAM KALANGAN  
SYARIKAT MULTINASIONAL CHINA**

**ABSTRAK**

Dalam era pengetahuan dan maklumat, pengurusan pengetahuan telah menjadi perhatian syarikat global. Selain itu, syarikat multinasional (MNC) memainkan peranan yang semakin penting dalam pembangunan ekonomi global. Pemindahan pengetahuan di MNC telah menjadi salah satu cabaran utama dalam era persaingan ini. Walau bagaimanapun, ringkasan dan analisis penyelidikan pemindahan pengetahuan dalam kajian telah menunjukkan bahawa isu-isu penyelidikan tidak mendalam dan tidak seimbang. Terutama bagi Negara China yang berbudaya dan persekitaran khas, kajian semasa tidak dapat menyelesaikan masalah praktikal. Objektif utama kajian ini adalah untuk mewujudkan Rangka Kerja yang lengkap dan menguji faktor-faktor yang mempengaruhi keberkesanan pemindahan pengetahuan di MNC Cina. Oleh itu, kajian ini memberi tumpuan kepada bidang pemindahan pengetahuan di MNC dan menggunakan perspektif holistik untuk mengkaji faktor-faktor yang mempengaruhi keberkesanan pemindahan pengetahuan. Rangka penyelidikan yang dicadangkan untuk kajian ini disokong oleh pemindahan pengetahuan dan teori jaringan sosial, digabungkan dengan hasil penyelidikan sebelumnya yang disintesis, dan mencadangkan model baru. Kajian ini menganggap faktor tahap negara (jarak regulatif, jarak normatif dan jarak kognitif), faktor tahap

perusahaan (autonomi anak syarikat, kedudukan anak syarikat dan kepercayaan organisasi) dan faktor tahap individu (kecerdasan budaya dan prestasi kerja) sebagai pemboleh ubah bebas; ciri-ciri subsidiari umur sibsidiari dan saiz subsidiari sebagai pemboleh ubah penyederhanaan, meramalkan impaknya terhadap faktor ke arah keberkesanan pemindahan pengetahuan sebagai pemboleh ubah bersandar. Penyelidikan ini menggunakan kaedah soal selidik untuk pengumpulan data dari responden pekerja sasaran ekspatriat yang bekerja di MNC Cina. Data yang dikumpulkan akan dianalisis dengan SPSS dan smart-PLS untuk menguji hipotesis yang diwujudkan. Dari perspektif teori, berdasarkan hasil analisis data 212 anak syarikat syarikat multinasional China, kajian ini menyumbang kepada teori pemindahan pengetahuan dan kecekapan dengan menangani jurang yang dikenal pasti daripada penyelidikan sedia ada. Selain itu, ia memperluaskan aplikasi teori rangkaian sosial dari pesawat ke angkasa lepas. Lebih-lebih lagi, sarjana terdahulu mengkaji pemindahan pengetahuan dari perspektif proses, menggunakan pautan dalam proses sebagai pembolehubah untuk analisis, yang mengabaikan beberapa faktor tersirat. Kajian ini menggunakan rangka kerja spatial sebagai asas untuk memasukkan pengaruh faktor kontekstual, dengan interaksi ciri-ciri subsidiari (umur subsidiari dan saiz subsidiari) yang telah lama diabaikan tetapi faktor berharga sebagai moderator, lantas memberikan hala tuju baharu kepada faktor-faktor yang mempengaruhi. Kecekapan pemindahan pengetahuan. Aspek praktikal, pengurus MNC boleh menangani faktor holistik yang ditemui oleh kajian ini untuk meningkatkan kecekapan pemindahan pengetahuan dalam kalangan MNC Cina.

**THE INFLUENCE OF COUNTRY, FIRM AND INDIVIDUAL FACTORS ON  
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**ABSTRACT**

With the advent of the era of knowledge and information, knowledge management has become a concern of global corporations. Moreover, multinational Corporations (MNCs) played an increasingly important role in the development of the global economy. Knowledge transfer in MNCs has been one of the key challenges in the competitive era. However, from the summary and analysis of research on knowledge transfer in previous research, it easily found that the research issues were more one-sided and not profound. Especially, for China, with special culture and environment, the current research could not solve the practical problems. The main objectives of this study were to establish a completed framework and test the influencing factors of knowledge transfer efficiency in Chinese MNCs. Therefore, this study focused on the field of knowledge transfer in MNCs and used a holistic perspective to study the influencing factors on knowledge transfer efficiency. The proposed research framework of this study is supported by knowledge transfer and social network theory, combined with previous research results synthesized, and suggests a new model. This study considers country level factors (regulative distance, normative distance and cognitive distance), firm level factors (subsidiary autonomy, subsidiary position and organizational trust) and individual level factors (cultural

intelligence and work performance) as independent variables, and subsidiary characteristics (subsidiary age and subsidiary size) as moderating variable, predicting its impact on the factors towards efficiency of knowledge transfer as the dependent variable. This research adopts the questionnaire survey method for data collection from the target respondents of expatriates working in Chinese MNCs. Data collected will be analyzed with SPSS and smart-PLS in order to test the hypotheses developed. From the theoretical perspective, based on the results of data analysis of 212 subsidiaries of Chinese multinational corporations, this study contributed to the knowledge transfer theory and efficiency by addressing gaps identified from existing research. Moreover, it expanded the application of social network theory from plane to space. What is more, previous scholars studied knowledge transfer from the perspective of process, using links in the process as variables for analysis, which ignored some tacit factors. This study adopted the spatial framework as a fundament to include the influence of contextual factors, with the interplay of subsidiary characteristics (subsidiary age and subsidiary size) that has long been neglected but valuable factors as the moderator, thus providing new direction to the influencing factors of knowledge transfer efficiency. Practical aspect, MNCs managers can address the holistic factors uncovered by this study in order to enhance knowledge transfer efficiency among Chinese MNCs.

# CHAPTER 1 INTRODUCTION

## 1.1 Introduction

As early as the 1970s, the important role of knowledge management for organizations began to be noticed. In the 1990s, the Knowledge View (KBV) was well known on the basis of the Resource View (RBV) and become part of the corporate assets. Early scholars believed that knowledge management included information processing capabilities and human creativity (Malhotra, 1999), and then knowledge management was extended to include knowledge sources, editing, transformation, dissemination, application, creation, etc. (Wiig, 1999). What is more, Drucker (2010) predicted that knowledge would be the key to corporations' competition in the coming period.

As a new economic form, the knowledge economy has quietly emerged and has become an important trend in the development of the world economy. In the model of knowledge economy, knowledge and technology-oriented companies have become the most dynamic form of economic organization in economic activities, representing the direction of future economic development. Similar to the economic growth model that relies on input factors such as material and capital, modern economic growth relies on an increase in the amount of knowledge (Drucker, 1994).

Multinational corporations (MNCs) are the main drivers of expanding the impact of the knowledge economy on a global scale (Fourné, Jansen & Mom, 2014). As the main body of direct investment in the world, MNCs play a pivotal role in the process

of international economic and technological cooperation. Their every action is increasingly affecting the direction of the world economy. Due to the increasingly fierce market competition, the rapid advancement of technology and the support of relevant preferential policies of some host countries, companies will choose to acquire knowledge and occupy a wider market by setting up subsidiaries overseas. Knowledge management capabilities have become a key competitive advantage for MNCs (Ghoshal & Bartlett, 1990), and knowledge stock has become the most strategic resource for MNCs.

With the rapid development of network information technology, the product life cycle and development time have been greatly shortened. Correspondingly, the amount of knowledge contained is also increasing. It also puts new demands on companies and organizations. An organization only knows how to use its knowledge and quickly acquire new knowledge to gain a competitive advantage (Davenport & Prusak, 1997). In the way of acquiring knowledge, knowledge transfer between parent companies and subsidiaries of MNCs is inevitably the lowest cost and most efficient way.

Minbaeva, Pedersen, Björkman, Fey and Park (2003) found in the empirical study of knowledge transfer ability between parent and subsidiary companies that as a collection of knowledge across national borders, knowledge sharing and knowledge innovation is an important source for MNCs to gain long-term competitive advantage. The use and effective sharing of all knowledge of MNCs is the decisive factor in laying the competitiveness of their industry. The use and effective sharing of all



knowledge of MNCs is the decisive factor in laying the competitiveness of their industry (Buckley & Casson, 2003).

As an emerging developing country, China has been closely following the development of the world economy. During the huge economic transition period, it is more urgent to acquire knowledge resources. The research on the knowledge transfer efficiency of Chinese multinational corporations plays a positive role in promoting the knowledge management of Chinese MNCs and increasing the competitiveness of companies.

## **1.2 Background of Study**

Based on the United Nations Multinational Code of Conduct (Draft), MNCs must participate in foreign direct investment and manage overseas assets (not just simple overseas investment in the form of finance and securities). MNCs play an increasingly important role in the development of the global economy. With the advent of the era of knowledge economy, knowledge gradually replaces traditional production factors and becomes a key factor in promoting economic development, social progress and corporate growth (Grant, 1996). The effective dissemination and transfer of core knowledge have gradually become a powerful advantage for MNCs to compete, which enhances the market position of the corporation and promotes the sustainable development of the company, it has created a continuous driving force.

MNCs date back to the 16th century and formed a basic prototype in the early

colonial expansion. In 1974, the United Nations Economic and Social Council formally established the name of the multinational corporation. Until the end of the 19th century and the beginning of the 20th century, industrial monopolies that truly owned modern MNCs were formed in developed countries such as Europe and the United States. After the 1990s, MNCs began to increase gradually around the world and became an important economy. MNCs gain global competitive advantage by establishing factories around the world and leveraging the host country's superior production resources.

For developed countries, the development of MNCs has greatly promoted the foreign trade of developed countries (Oppong, 2018). These advantages are reflected in the fact that products from developed countries can be produced and sold in the host country through foreign direct investment, thereby bypassing trade barriers and improving the competitiveness of products. From the perspective of raw materials and energy, it has reduced the dependence of developed countries on developing countries, making the products of developed countries more smoothly enter the foreign trade channels of the host countries and easily obtaining business intelligence information.

For developing countries, the contribution of transnational corporations to developing countries is also enormous (Buckley & Casson, 2003): (1) In terms of capital, foreign direct investment and private credit of MNCs complement the shortage of import funds in developing countries. Capital inflows have accelerated changes in commodity structures and industrialization patterns in developing

countries. (2) In terms of trade methods, developing countries introduce capital, technology and management experience of foreign companies. At the same time, they vigorously developed export processing industries, enabling certain industrial sectors to achieve technological leapfrogging and promote structural changes. Especially in recent years, with the continuous transformation of the industry structure, developing countries have gradually started the process from rough processing to refined research and development, which has enhanced the overall competitiveness of companies.

According to the 2017 World Investment Report, there are currently 100,000 MNCs and 860,000 subsidiaries worldwide. The funds have already completed the transition from the initial developed countries to the developing countries, and now the flow of developing countries to developed countries (Cuervo-Cazurra & Genc, 2011). The investment of early multinationals in developing countries was mainly due to the acquisition of human and regional resources. In the 1990s, because of the economic recession in developed countries, the developing countries, especially those in the Asia-Pacific region, continued to experience rapid economic growth. Therefore, for the purpose of acquiring knowledge and advanced technology, investment in developed countries has become more and more common.

As well as the globalization of knowledge economy has prompted MNCs to continuously adjust, reorganize and reform (Rugman & Verbeke, 2003). MNCs conduct research, development, investment, production and trade activities on a global scale (Yamin, Tsai & Holm, 2011). Effectively combine their own advantages,

such as capital, technology, talents, management and other resources with the advantages of the host country, to achieve the most effective use of resources (Zimmermann & Ravishankar, 2014). The transfer of knowledge has become the main focus of MNCs in the new time. Cross-regional cooperation has become increasingly important in the sustainable development of companies (Jasimuddin, Li & Perdikis, 2015), and the efficiency of knowledge transfer has become more and more prominent in the continuous competition of MNCs.

Chinese MNCs started late and did not continue to grow until after the reform and opening up policy in 1978.

The first phase (1978-1984) mainly invested in shipping, finance, engineering contracting and catering. The region is concentrated in a few areas such as Hong Kong, Macao and the Middle East. The formation of foreign institutions is mainly based on simple subcontracting, dispatching a small amount of labor, and establishing marketing channels.

In the second phase (1985-1991), the field expanded to resource development, processing, production and assembly. In this period, except for a small number of companies distributed in the United States, Europe and other developed countries, most of them are in developing countries and regions, which engaged in the development of domestic shortage of resources and small-scale production and processing.

In the third phase (1992-2001), numerous trade-oriented companies began to be established. More and more companies are beginning to look at the wider

international market and gradually seek opportunities for independent development. A large number of outstanding companies have successively set up companies overseas to actively try out transnational business strategies.

The fourth stage (after 2001), China joined the World Trade Organization (WTO) in 2003, and China's MNCs began a period of global development. From trade-oriented companies to companies based on industrial and resource development, foreign investment has made great progress.

Recent years, especially in the new time, with the initiative of President Xi during the visit to Central Asia and Southeast Asian countries in 2013 to jointly build the Silk Road Economic Belt and the 21st Century Maritime Silk Road (the Belt and Road Initiative), China began a new round of overseas development.

As the late beginning, in the early time inefficient knowledge transfer has wasted huge time and money costs, then Chinese MNCs try their best to improve development to keep chasing the knowledge gap with developed countries.

**In the term of investment**, during policy implementation, the total trade volume between China and the countries along the Belt and Road exceeded US\$3 trillion, and investment in the countries along the route totaled more than US\$50 billion. It will further expand its financial support and increase the capital of 100 billion RMB to encourage financial institutions to carry out RMB overseas fund business. The scale is expected to be about 300 billion RMB. After decades of development, it shows that Chinese multinational investment has occupied a decisive role in the world. Chinese MNCs' foreign investment has entered a development model that not

only focuses on the production and sales of primary products, but also to a global model of research, development, innovation. It has also focused on upgrading its brand and management capabilities, which has entered a new stage of knowledge-based economy.

**In the term of mergers and acquisitions (M&A)**, China's investment in developed countries and regions accounts for almost half of the total investment, showing a trend of reverse investment. There also have been many M&A for developed countries, and their numbers and amounts have increased in fluctuations. Among the many M&A industries, the top five industries are manufacturing, IT and information technology, health care, finance and the Internet, which respectively accounts for 18.4%, 10.1%, 9.3%, 7.0% and 6.2%. High-tech industry has become the main direction of overseas M&A.

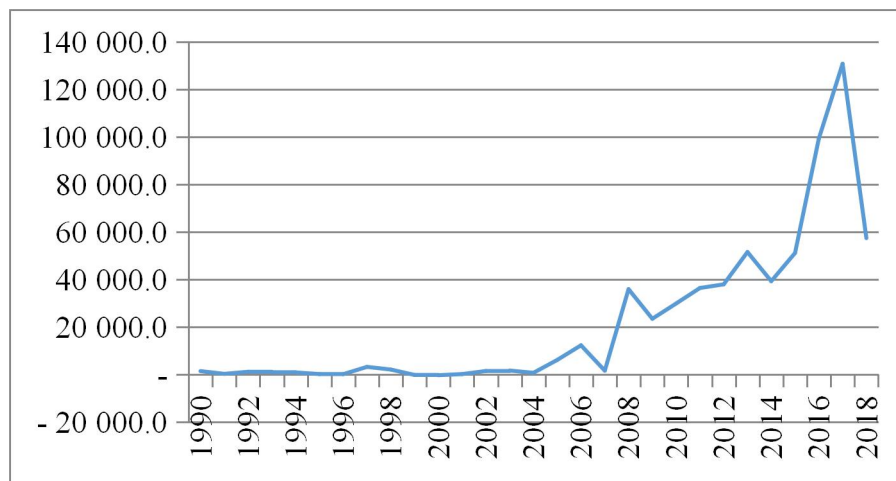


Figure 1.1 Value of Net Cross-border M&As by China, 1990-2018 (Billion Dollars).

*Source:* UNCTAD cross-border M&A database ([www.unctad.org/fdistatistics](http://www.unctad.org/fdistatistics)).

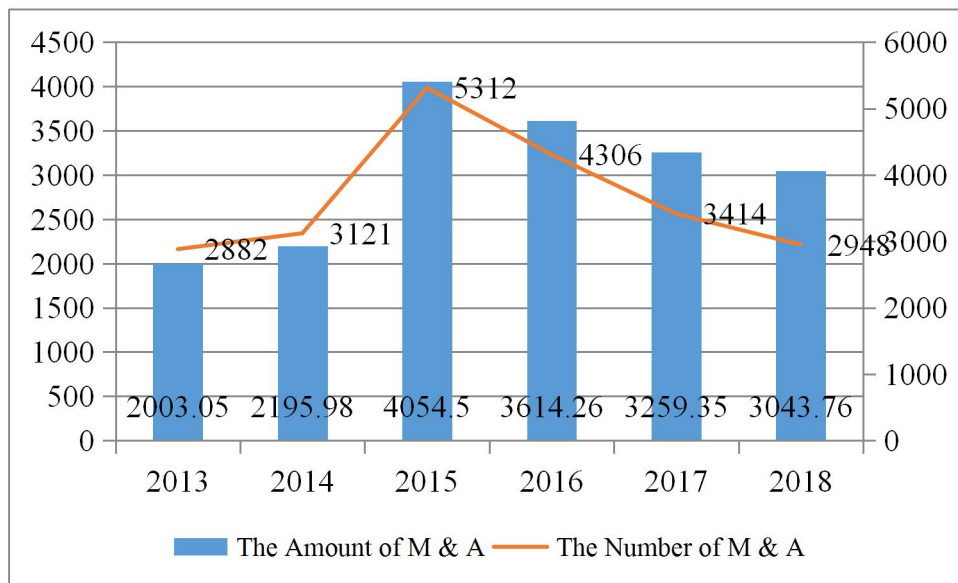


Figure 1.2 The Amount and number of Chinese corporate M&A, 2013-2018

Source: Chinese Company M & A Market Data Report

**In terms of knowledge transfer**, different from the previous focus on resource acquisition, the number and amount of technology-introducing industry targets rank high. Subsidiaries are closer to the host country market and are better able to access local market resources for innovation. Therefore, the role of the host country of MNCs has gradually shifted from the downstream activities such as traditional sales, service and assembly to the upstream activities of research, such as development and strategic management (Gupta & Govindarajan, 2000), which have become a contributor of the development of knowledge transfer competitive advantage.

As we all know, huge differences are in different countries, such as culture, policies, or even the social ways (Lucas, 2006). Thus this spatial framework is

suitable for application in any different countries. While, this research chooses the MNCs in China because except the large number of oversea subsidiaries, China has more especial characteristics, for example, it is an emerging developing country but the second economy, has long history, more 5000 years, unique culture and different regime from other countries, which demonstrates the discrepancies of laws or regulars. Company management requires a certain cost, and knowledge transfer is no exception, especially for the knowledge transfer of different subsidiaries around the world, which is bound to form a larger cost (Casimir, Lee & Loon, 2012). Obviously, inefficient knowledge transfer will cause a great waste of resources, time and money, just like the experience of Chinese MNCs in the early time.

Overall, in the process of investing in foreign countries and regions, the goal of MNCs gradually shifts from the acquisition of material resources to acquire knowledge resources. Subsidiaries of MNCs are in a diverse environment and they can make better use of decentralized resources from different geographical regions for innovating and management. The advanced technology and management experience of the subsidiaries has continuously entered the parent company, making the whole corporation grow stronger.

Therefore, the study of knowledge transfer is not just a matter that the developed countries need to pay attention to, but also an issue for emerging developing countries like China in increasing the competitiveness of MNCs. Compared with mature knowledge transfer systems in developed countries, emerging developing countries are relatively new to knowledge transfer, and the problems they encounter



are also more specific and research-oriented.

For the theory part, as the core economic form, the knowledge economy differs from the traditional industry. The globalized knowledge economy is not only limited to the inside of the company, but also transferred a lot through the mutual exchange and cooperation between the company and the company (Qian, 2018). In order to face the ever-changing market changes, MNCs are accelerating the development of the world economy at an unprecedented rate. They increase the amount of knowledge in the company and make the companies in the region have considerable advantages in activities in various economic zones.

Knowledge as a corporate resource has unique value. It was first seen in Horton's resource management theory in 1979. In 1985, in his book *Information Resource Management*, Horton reports the general methodology of information resource management, including determining the organization's information resources, estimating the value of information resources, determining the price of information resources, analyzing problems in the information flow and rebuilding the information system.

Since the mid-1990s, developed countries have begun work on knowledge management research and popularization, and a group of economists (e.g. Mankiw, Romer & Weil, 1992), based on the endogenous economic growth theory, propose different views from the neoclassical growth theory. They indicate that knowledge and technology are more important factors of production than capital and labor, which is the real cause of economic growth. Durcker (1994) argues that the

traditional production factors only maintain the corresponding dominance of entrepreneurship, and knowledge will gradually replace the production factors such as capital, land and labor and become a key resource to promote company growth.

In 1996, the report of the Organization for Economic Cooperation and Development (OECD) Knowledge-based Economy officially led to the arrival of the Knowledge Economy Era. According to the report, the knowledge economy is an economy based on the production, distribution and use of knowledge and information. Similar to the view of Drucker, the report also depicts that the knowledge economy is a new economic form compared to the traditional agricultural and industrial economy: it is a new economic model that is different from the agricultural economy (mainly with land and labor as the production factor) and the industrial economy (mainly with capital, resources and labor as the production factors). Knowledge has become the most basic and effective production factor for economic growth.

As a developing country, China has a huge gap in its core technological capabilities compared with developed countries, and the development of globalization has promoted the improvement of knowledge management capabilities of Chinese companies (Chao, Liu & Zhang, 2011). The research on knowledge management in China began around 2000, which it was formed in the context of the arrival of the knowledge economy, economic globalization, and rapid development of technology. Since then, research on knowledge management has gradually increased, as well as companies have attached importance to the significant role of

knowledge and knowledge management in organizational development (Alavi & Leidner, 2001).

Through the query on the subject key words of corporate knowledge transfer included in the Chinese academic database--CNKI (2000-2020), a total of 2680 Chinese papers were found (the online query results on March 8, 2020). According to the core content, they can be divided into process research, cluster research, performance research and context research.

Process research mainly studies the problems in each link of knowledge transfer, which is the whole process from knowledge source, knowledge stock, to knowledge transfer, to being finally accepted and absorbed. In the research of knowledge transfer process, according to the topic keywords (as shown in Figure 1.3), it shows that the research direction of scholars focuses on knowledge characteristics (tacit or explicit knowledge) and the absorption capacity of receiver.

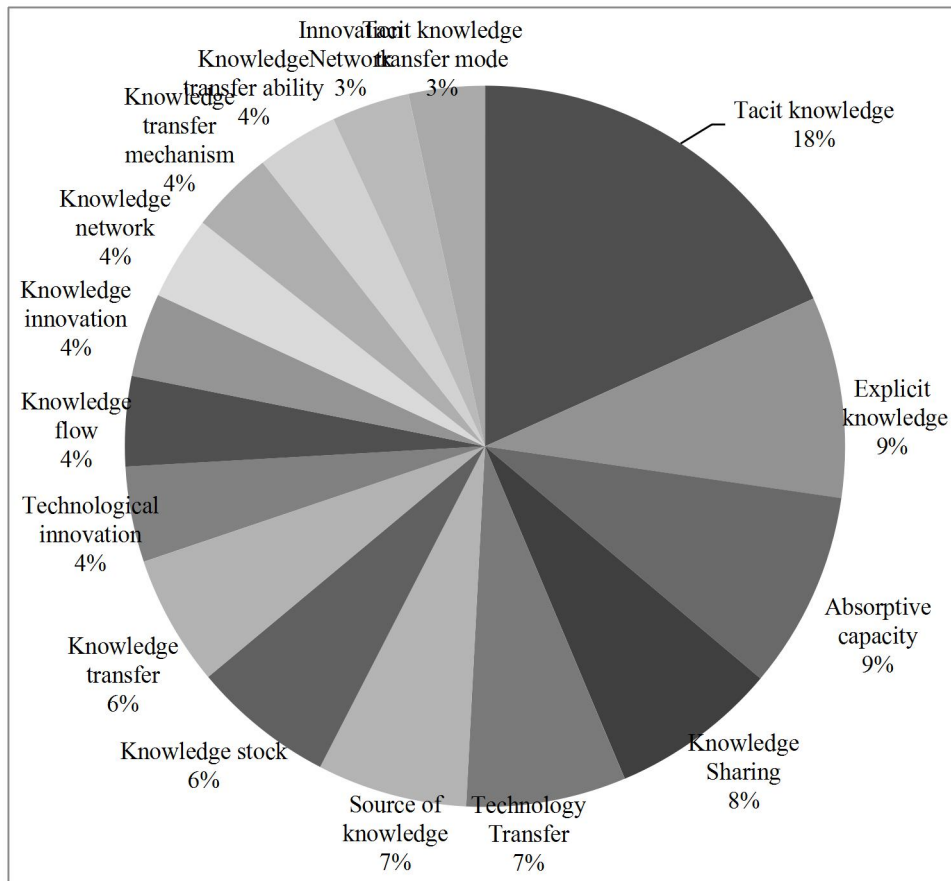


Figure 1.3 Proportion of keywords in the knowledge transfer process research

Source: CNKI (inquired on March 8, 2020)

Because of the different institutions, cluster research has emerged. It mainly studies the problem of knowledge transfer between different types of organizations. At present, the parent and subsidiary companies, industry alliances and cooperative companies are commonly mentioned. According to the Figure 1.4, it shows that parent-subsidiary companies and industrial cluster issues are the focus of current research.

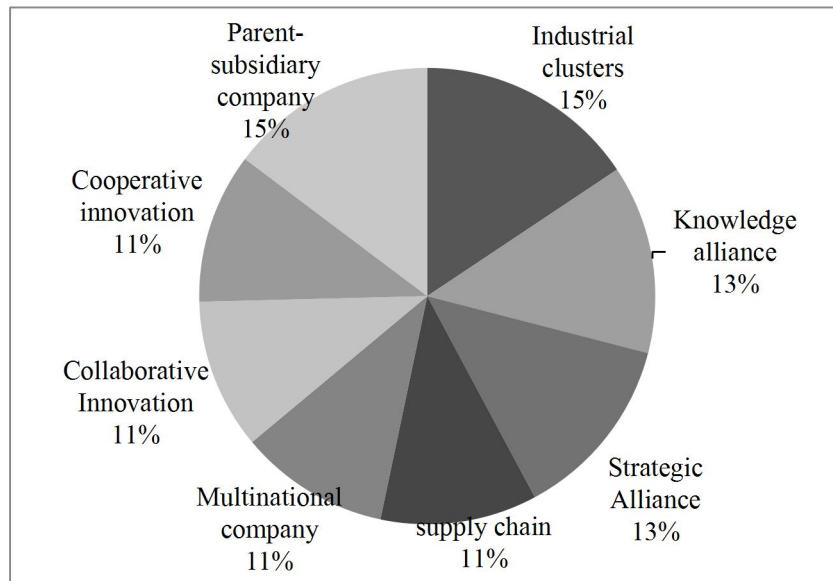


Figure 1.4 Proportion of objects in the knowledge transfer research

Source: CNKI (inquired on 8<sup>th</sup> March, 2020)

From the above, we find that in the field of knowledge transfer, there are many articles that take parent-subsidary companies and alliances as research objects, which is inseparable from the development of globalization. In terms of research content, there are many research contents from the perspective of process, but the selection of influencing factors is relatively simple and one-sided.

### 1.3 Problem Statement

With the rapid development of network information technology, the life cycle and development time of products have been greatly shortened. The knowledge content contained in this process is also increasing day by day, which has greatly promoted the generation of new knowledge. This also puts new demands on businesses and organizations-an organization can only gain a competitive advantage

if it knows how to use its knowledge and quickly acquire new knowledge (Davenport & Prusak, 1997).

**For theoretical aspect**, from the summary and analysis of research on knowledge transfer in China, it easily finds that the research issues are more one-sided and shallow. 1) in the term of the object, most researches use the final market performance as the evaluation standard, but less research on the efficiency of knowledge transfer (e.g. Ambos et al., 2006; Martínez et al., 2016); 2) in the term of context, most of them focus on the culture but laws or regulars (e.g. Lucas, 2006; Boh et al., 2013); 3) in terms of process research, it focuses more on the objective conditions of knowledge research (e.g. Schleimer & Pedersen, 2014; Latukha & Veselova, 2019) and lacks the research of participants; 4) in the term of individual, it mainly pays attention to the manager, but the different level employees (e.g. Armstrong & Li, 2017; Kong et al., 2018). Moreover, knowledge always exists in certain situations (Badaracco, 1991), it is necessary to take contextual factors into consideration. Although some research involve in contextual factors, but they are one-sided and only focus on obvious points, such as differences in national institutions and cultures, or differences in organizational mechanisms. Then subsidiary characteristics (subsidiary age and subsidiary size) are always as the control variables or ignored, while some researchers gradually discover that these characteristics include some tacit meaning that with the longer of age and the larger of size, the two parts will have more frequent communication, which help to weaken gaps between different countries.

This study focuses on knowledge transfer efficiency, because with the increasing globalization of economic activity and the proliferation of cross-border business, the demand for effective and efficient cross-border knowledge transfer is more important than ever (Bhagat, Kedia, Harveston & Triandis, 2002).

**For realistic aspect**, it is evident that Chinese MNCs are playing an increasingly important role in the world economy. The globalization of markets and production has led to a fundamental change in the core strategies of Chinese MNCs. Knowledge has gradually replaced the original material capital and has become the main resource for MNCs in the new era. Therefore, the organization's knowledge transfer capability has become one of the main competitive advantages for future development. According to some preliminary research, it finds that in the global knowledge competition, Chinese MNCs are also trying to catch up by internal adjustment. They will set up specialized knowledge management departments and send a large number of employees to study or work abroad, then hold on staff training.

However, although Chinese MNCs have carried out large-scale investment and M&A activities, the acquisition and application of knowledge have not made much progress (Meng & Zhao, 2018). In the 2019 Fortune Global 500 list, the top five industries for Chinese MNCs are energy mining, commercial trade, banking, insurance, aviation and defense. Compared with the huge investment in high-tech industries mentioned above, China is still in the stage of relying on traditional trade and energy for benefits.

With the increasing globalization of economic activity and the proliferation of cross-border business, the need for efficient cross-border knowledge transfer is more important than ever (Bhagat et al., 2002). This is not only a challenge faced by MNCs in a certain country, but also a common issue facing global companies under the background of intensified world competition (Pérez-Nordtvedt, Kedia, Datta & Rasheed, 2008). Therefore, in this huge transition period, studying the problem of knowledge transfer of Chinese MNCs is a practical need to promote the competitiveness of Chinese MNCs. And clarifying the deeper problems encountered by knowledge in the transfer of MNCs will help achieve the rapid and effective transfer of knowledge.

In order to cover the factors that may affect knowledge transfer as comprehensively as possible, this study decides to use macro–medium–micro (3M) framework (Serpa & Ferreira, 2019) to conduct a more comprehensive, in-depth and accurate analysis of knowledge transfer. The framework focuses on factors at different spatial levels, which are represented in this research at the country, firm and individual levels. The research correspond the environment and personnel that must be involved in the knowledge transfer process of MNCs to the 3M framework: (1) the macro level is defined as the impact of country level on knowledge transfer; (2) the medium level is defined as the firm level impact on knowledge transfer; (3) the micro level is defined as the individual level impact on knowledge transfer.

The country level is dominated by the national institution. Different countries will involve different institutional standards, which are the factors that knowledge



transfer has to face at a macro level. The firm level is dominated by companies. Taking the status and rights of both transfer parties as the research object, it can better understand the factors that affect knowledge transfer at the firm level from the subjective and objective aspects. The individual level is dominated by participants. Starting from the two aspects of personnel motivation and ability, it makes up for the lack of exploring only objective conditions.

Therefore, research on Chinese MNCs has room for adjustment and improvement at both the practical and theoretical levels. On a practical level, through the study of the factors affecting knowledge transfer, it is expected to increase the efficiency of knowledge transfer and enhance the competitive advantage of Chinese MNCs. At the theoretical level, it is innovative to break from the previous horizontal research with *Process* as the core, and to focus on the influential factors that can affect the efficiency of knowledge transfer from the vertical space level. This study establishes a more complete and in-depth research model, which includes country, firm and individual and cultural intelligence as a moderator.

#### **1.4 Research Objectives**

Based on the framework and social network theory, combining the research of previous scholars, the study aims to attain the following research objectives:

1. To examine the relationship between country level factors and knowledge transfer efficiency in Chinese MNCs.

2. To examine the relationship between each factors at country level (Regulative Distance, Normative Distance, Cognitive Distance) and knowledge transfer efficiency in Chinese MNCs.

3. To examine the relationship between firm level factors and knowledge transfer efficiency in Chinese MNCs.

4. To examine the relationship between each factors at firm level (Subsidiary autonomy, Subsidiary position, Organizational trust) and knowledge transfer efficiency in Chinese MNCs.

5. To examine the relationship between firm level factors and knowledge transfer efficiency in Chinese MNCs.

6. To examine the relationship between each factors at individual level (cultural intelligence, work performance) and knowledge transfer efficiency in Chinese MNCs.

7. To examine the moderating role of subsidiary characteristics (subsidiary size, subsidiary age) on the relationship between country level factors and knowledge transfer efficiency in Chinese MNCs.

8. To examine the moderating role of subsidiary characteristics (subsidiary size, subsidiary age) on the relationship between firm level factors and knowledge transfer efficiency in Chinese MNCs.

9. To examine the moderating role of subsidiary characteristics (subsidiary size, subsidiary age) on the relationship between individual level factors and knowledge transfer efficiency in Chinese MNCs.

## 1.5 Research Questions

Aiming at the research objectives, the following questions are put forward:

1. Do country level factors have positive significant relationship with knowledge transfer efficiency in Chinese MNCs?
2. Do each factors at country level (Regulative Distance, Normative Distance, Cognitive Distance) has positive significant relationship with knowledge transfer efficiency in Chinese MNCs?
3. Do firm level factors have positive significant relationship with knowledge transfer efficiency in Chinese MNCs?
4. Do each factors at firm level (Subsidiary autonomy, Subsidiary position, Organizational trust) has positive significant relationship with knowledge transfer efficiency in Chinese MNCs?
5. Do individual level factors have positive significant relationship with knowledge transfer efficiency in Chinese MNCs?
6. Do each factors at individual level (Cultural intelligence, Work performance) have positive significant relationship with knowledge transfer efficiency in Chinese MNCs?
7. Do both of subsidiary characteristics (subsidiary size, subsidiary age) moderate the relationship between country level factors and knowledge transfer efficiency in Chinese MNCs?

8. Do both of subsidiary characteristics (subsidiary size, subsidiary age) moderate the relationship between firm level factors and knowledge transfer efficiency in Chinese MNCs?

9. Do both of subsidiary characteristics (subsidiary size, subsidiary age) moderate the relationship between individual level factors and knowledge transfer efficiency in Chinese MNCs?

### **1.6 Scope of the Study**

The present piece of study is the vivid significance of country level factors, firm level factors and individual level factors with the effect of knowledge transfer efficiency. Moreover, it tested if each of factors (regulative distance, normative distance, cognitive distance, subsidiary autonomy, subsidiary position, organizational trust, work performance and cultural intelligence) at these levels has relationships with knowledge transfer efficiency. Creatively, the ignored factors (subsidiary size and subsidiary age) were proposed as moderators in this study.

This study ponders the subsidiaries of Chinese MNCs as a prominent subject, and the respondents are the expatriates who worked in foreign countries or regions because they were familiar with the differences, including environment, culture, or laws et al., between parent and subsidiaries.

## **1.7 Significance of Study**

### **1.7.1 Theoretical Significance**

Under the strategic framework of acquiring incremental knowledge advantages, the study of the efficiency of knowledge transfer in MNCs has profound implications for the comprehensive development of MNCs. The multinational subsidiaries distributed around the world are affected by both the internal organization of the MNCs and the local environment. Knowledge always exists in certain situations (Badaracco, 1991), the degree of knowledge spillover and embedding, the ability of people in the process of knowledge transfer, the cultural and institutional distances of both sides of knowledge transfer, the success and failure of knowledge transfer and efficiency. There are inseparable relationships. Therefore, it cannot only consider the process of knowledge transfer like general knowledge transfer research.

Social network theory was popularly used in the study of knowledge transfer, while it prefers to a line or plane transfer process. Thus on the basis of predecessors, this research integrates knowledge transfer that needs to be faced at the level of multination, which is from the perspective of vertical space. Moreover, knowledge always exists in a certain context, and knowledge transfer is accompanied by various society, country, organization and their own characteristics. This current study summarized all the factors, and tested the impact of each situational factor on the efficiency of knowledge transfer. At the same time, the moderator factor of subsidiary size and subsidiary age were added to make research more practical.

### **1.7.2 Practical Significance**

The knowledge stock and the ability advantage in MNCs is an important foundation for international expansion (Barney, 1991; Spender & Grant, 1996). The competitive advantages of knowledge and technology possessed by MNCs can be replicated, transferred and disseminated throughout the corporate network system (Pérez-Nordtvedt et al., 2008). It successfully participates in competition in multiple markets, and thus incremental knowledge creation and transfer is increasingly becoming an important basis for the sustainable development of MNCs. Especially for MNCs with unique technology, marketing and management skills, international expansion is not only a process of utilizing the accumulated stock advantages of the country, but also a process of continuously creating incremental knowledge.

Learning and acquiring valuable knowledge from overseas has become the primary purpose of international expansion of MNCs after acquiring traditional resources and sharing risks (Bontis, Crossan & Hulland, 2002). The knowledge superiority of MNCs depends largely on the utilization of the stock knowledge advantage (Lind, Kang, Ljung & Forsgren, 2020). Therefore, whether it is the utilization of the stock knowledge advantage or the creation of the incremental knowledge advantage, it involves the knowledge transfer problem and the unique transfer of resources and knowledge. How to transfer knowledge assets to various group companies, how to copy and transfer knowledge advantages faster than competitors, these issues will be an important factor affecting the company's growth.

Knowledge transfer is divided into internal transfer and external transfer. First,