Obstacles on the internationalization process for the "Born Global" SMEs in China

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Declaration

I declare that the work in this thesis was carried out in accordance with the regulations of the University of Gloucestershire and is original except where indicated by specific reference in the text. No part of the thesis has been submitted as part of any other academic award. The thesis has not been presented to any other education institution in the United Kingdom or overseas.

Any views expressed in the thesis are those of the author and in no way represent those of the University.

Signed …… Date …….

(Yu Ying)

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Abstract

With China's deeper and wider integration into the world economy, Chinese small and medium sized enterprises (SMEs) have to face the global not just domestic competition. In 2016, the turnover of foreign trade of SMEs occupied over 60% of the China's total volume of imports and exports. Thus, it is important to find out how SMEs may enhance their competitiveness in the world market especially how they can internationalise in their early entry stage. Two internationalisation models have been widely used by those firms engaging in international business, which are traditional stage model and born global model. The traditional stage mode considers internationalisation as a gradual process. In contrast, firms adopting born global mode are the small, technology-oriented companies that operate in international markets from the earliest days of their establishment. They are business organisation that, from inception, seeking to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries. Unlike traditional stage model, internal factors as entrepreneurship, innovation and network play more important roles in firm's internationalisation process. In many developed countries, born global model is a better strategic choice for SMEs, which pursue international development nowadays.

This research conducts a series of quantitative analyses. First, a unique panel dataset: China Industry Business Performance Database covering the period of 2003 and 2014 is used to examine whether there is difference in performance between born global firms and firms adopting the traditional stage. Second, the impact of the role influential factors inducing firms to follow the born global path on the selected SMEs are investigated. Logit panel regressions are performed for this purpose. Finally, using the primary data collected through questionnaires and a Structural Model Equation model analysis, the role of entrepreneurship played in the performance of Born Global firms are examined.

The main findings of this research generally support the hypotheses derived from our theoretical framework. It shows positive a positive relationship between born global mode and firm's performance. And the choice to be a born global firm is affected by the location and R&D investment but not its size. In addition, it also indicates that the entrepreneurs in born global firms are aware that international knowledge is

significantly related to firm's performance. The study contributes in offering new insights into the internationalisation of Chinese SMEs by investigating the difference in firm performance between two internationalisation models and influential factors of born global firms in the context of China in particular.

Keywords

Internationalisation, Small to Medium Sized Enterprise, Uppsala model, born global model, entrepreneurship, market orientation, international entrepreneurial capability, international knowledge, China

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Chapter1: introduction

1.1 Introduction

This research focuses on exploring the understandings of decisions and applications of born global model of Chinese small and medium-sized enterprises with special reference to the entrepreneurial factors. In addition, the research also aims to determine whether there is any difference in the performance between born global firms and firms which adopt the traditional stage model in order to find a better way to carry out the internationalisation of Chinese SMEs. Within this chapter, the author will provide an overview of the research gap, research aim as well as explaining how this study will answer the research questions so as to reach the research objectives.

1.2 The context of this research

As a result of the rise in globalisation in recent times, internationalisation has become an inevitable tendency for enterprises worldwide, including those located in China. As the world's largest emerging market, China has undergone three decades of reform to create a market economy environment. This type of environment enables firms to fully develop their capabilities and accelerate their maturation process (Guthrie, 2005). Moreover, the whole country is experiencing the industry upgrading in recent years. The Chinese government encourages all types of industries to improve their technology innovation capability and adaptation capability. At present, their increased efforts have started to make a difference. According to the report released by the National Bureau of Statistics (NBS) of the People's Republic of China in 2015, the growth rate of added value in high-tech industries increased by 10.2% in comparison to the previous year. It is worth mentioning that amongst these industries, the aviation, spacecraft, and equipment industry increased by 26.2%, electronic and communication equipment manufacturing increased by 12.7%, information chemicals manufacturing increased 10.6% and pharmaceutical manufacturing increased by 9.9%. Challenges and opportunities coexist for Chinese small and medium-sized enterprises (SMEs). Since 2012, China's economy has been faced with a downward pressure on its development. According to the report that was released from the National People's Congress Meeting in March 2016, China's

GDP in 2015 was 6.9% which was lower than the anticipated target of 7% which was also recorded as being the lowest growth rate in 25 years. Moreover, Premier Li delivered a speech following the annual session of the National People's Congress during which he claimed that the Chinese SMES may face the threat of a wave of bankruptcy in 2014 (Inman, 2014); moreover, it was reported that the majority of China's SMEs are unable to survive for a period of more than three years (China enterprise news, 2015). Facing the slowing economy and the second wave of SMEs' bankruptcy, the Chinese government is actively promoting the "Go Global" strategy. In 2015, a new strategy was employed which was referred to as "one belt, one road"; this strategy encourages Chinese enterprises, including SMEs to expand into international markets, and to collaborate with foreign business partners. It is therefore expected that an increasing number of Chinese SMEs may attempt to engage in international business.

After examining previous studies, it is evident that the Uppsala model is the one which is most frequently implemented during the internationalisation process (Johanson & Vahlne, 2009; Johanson, 1975). The decision to apply this strategy is primarily affected by factors such as a firm's size, age, physical location etc. (Amighini, Rabellotti, & Sanfilippo, 2013; Andersen, 1993; Wei, Clegg, & Ma, 2015). The enterprises or firms which adopt the Uppsala model prefer to gain a solid domestic base at first, and then gradually expand into international markets due to the risk and uncertainty embedded in the process (Johanson & Vahlne, 2009; Johanson, 1975). Therefore, the process of internationalisation following the Uppsala model tends to be gradual and incremental. However, it has been observed that instead of following the gradual and sequential process of internationalisation as ascribed by the Uppsala model, several firms started an international business at or near inception (Knight & Cavusgil, 2004). This phenomenon is referred as born globals, international new ventures, high-tech start-ups and global start-ups (Jolly, Alahuhta, & Jeannet, 1992; Knight & Cavusgil, 1996; Knight & Cavusgil, 2004; Madsen & Servais, 1997; McDougall & Oviatt, 1994). It has been acknowledged that firms which adopt born global model of internationalisation are binding themselves to the global market since their inception (Madsen & Servais, 1997). Such firms tend to have a more optimistic and innovative perception towards internationalisation in comparison to other enterprises (Sylvie & Colin, 2004). Madsen

and Servais (1997) claimed that unlike the traditional models, born global firms believe that international markets provide further opportunities rather than bringing unnecessary risks and uncertainties for firms. There is an increasing amount of literature on the subject of born global firms along with various other topics, including the drivers of being born global firms (Li, Qian, & Qian, 2012; Madsen & Servais, 1997), the features of the firms (Eurofound, 2012), the degree of born globalness (Kuivalainen, Sundqvist, & Servais, 2007), the efficiency of the model (Lejko & Bojnec, 2011) etc. However, in regards to the empirical study on born global firms within individual countries, they have mostly been conducted within the context of developed countries such as the UK (Hutchinson, Quinn, & Alexander, 2006), France (Lecerf, 2012), and Canada (Sui, Yu, & Baum, 2012). The research conducted on the internationalisation of SMEs in China, especially in the "born global" area, is still limited (Zhao, 2004). This research will focus on the Chinese SMEs that expand into international markets, especially the ones which fulfil the criteria of being a "born global" firm. In addition, this study will discuss the difference in the performance between traditionally internationalised SMEs and born global firms, as well as the influential factors that induce SMEs to follow the born global path. Furthermore, it also will examine how the entrepreneurship affects the performance of born global firms.

1.3 Research gaps

This research is conducted to respond to and attempt to fill certain research gaps, as follow:

Firstly, this study responds to a call for further research to be conducted on the exploration of the pattern choice of internationalisation and firm performance in general, specifically focusing on Chinese firms (Clegg et al., 2016). Specifically, Knight and Liesch (2016) are calling for studies that investigate the firm specific factors that support the development of born global firms in the global market. In this study, the researcher attempts to provide further information on this topic and add to the existing literature by identifying the links between firm-specific factors and the performance of traditional internationalised SMEs and born global SMEs. In addition, this study also aims to investigate the effects of entrepreneurial factors other than international

entrepreneurial capability on a firm's performance (Zhang et al., 2009). Due to the fact that entrepreneurship is a multidisciplinary subject (Zhang et al., 2009), the researcher attempts to explore new dimensions so as to thoroughly investigate the existing relationships between entrepreneurial factors and firm performance.

Secondly, previous research on born global mode are mainly conducted in developed countries such as the United Kingdom, France, and Canada etc. (Burgel & Murray, 2000; Efrat & Shoham, 2012; Gerschewski, Rose, & Lindsay, 2015; Moen, 2002; Nummela, Saarenketo, Jokela, & Loane, 2014; Preece et al., 1999; Rennie, 1993). In this study, the researcher will attempt to examine the application of born global model in Chinese SMEs, particularly in regards to influential factors that affect Chinese SMEs to follow the born global path.

Thirdly, this study also attempts to adopt a combination of methods on the relative subjects. The majority of the research conducted on born global firms within China are using both primary data and qualitiative methods, including the surveys (Zhang, Tansuhaj, & McCullough, 2009; Zhou et al., 2007), interviews (Su, 2013) or a case study (Liu, Xiao, & Huang, 2008; Lin, Mercier-Suissa, & Salloum, 2016； Qu & Avgeris， 2013). Within this study, the researcher aims to investigate the existing relationships by using both longitudinal and primary data. The longitudinal data will be utilised in order to examine the influential factors that affect Chinese SMEs to follow the born global path, and to investigate the difference in performance between born global firms and traditional internationalised firms. The primary data will be obtained by distributing a questionnaire so as to investigate the internal factors, especially focusing on how the entrepreneurship affects the performance of Chinese born global firms.

1.4 Research aim

Following China's expansive integration into the world economy, SMEs within the country have been faced with an increasing number of challenges, and not only domestic competition. Therefore, it is important to discover how SMEs may enhance their competitiveness in the world market, particularly how they can internationalise in their early entry stage. The aim of this research is to investigate the decisions and application

of born global model for Chinese SMEs and to examine whether there is any difference in the performance between born global firms and firms that adopt traditional stage model.

1.5 Research questions

Based on the previous discussions, this study attempts to answer several research questions, as follows:

A. Is there any difference in the performance between firms following the born global path and firms adopting the traditional stage model?

B. What factors induce Chinese SMEs to follow the born global path?

C. How the entrepreneurship influences the performance of born global firms?

1.6 Research objectives

Both the entrepreneurs and researchers require an accurate prediction of the future of born global models in China. This research intends to provide a relatively comprehensive picture of the born global model and its application in China. Along with the previous research questions, this study also has several objectives, which are as follows:

a. To compare the performance of Chinese born global SMEs with their counterparts that adopted the traditional stage model.

b. To explore the influential factors affecting Chinese SMEs when following the born global path.

c. To investigate the entrepreneurial factors which affect the performance of born global firms.

1.7 Research methodology

The philosophical underpinning of this research is based on a positivist paradigm. Based on this paradigm, the researcher adopts quantitative methods to achieve the research aim. The link between the neo-positivist paradigm and quantitative method is evident in the literature as researchers routinely depict quantitative methodology as the primary

approach when conducting social research (Bryman, 1984). Quantitative methods are "based on numerical measurements of specific aspects of phenomena, and abstract from particular instances to seek general description or to test causal hypotheses; seek measurements and analyses that are easily replicable by other researchers" (King, 1994, as cited in Thomas, 2003, p.2). This study adopts two sets of data: secondary data and primary data. The secondary data comprises of a twelve-year panel dataset from 2003 to 2014. It contains variables of ownership, year of inception, the number of employees, foreign sales etc. The enterprises which are investigated within the study are listed SMEs on the SME Board and Growth Enterprise Board in China's stock exchange market. This data will be utilised to provide answers to the first two research questions; namely, the research will investigate the influential factors affecting Chinese SMEs to follow the born global path during their global expansion and to compare the performance of Chinese born global SMEs with their counterparts that adopted the traditional stage model. Specifically, the dataset will be used for examining the relationship between the performance of the born global firms and those following the traditional model of internationalisation. The explanatory variables include the firm's location, financial cost, leverage, sale cost, total asset, capital intensity, research & development (R&D).

The primary data is utilised to provide an answer to the third research question. The data collection is undertaken in the province of Hubei, China. This particular location was selected due to the fact that the researcher believes that the region is increasing in economic maturity, catching up with other provinces situated on China's Eastern coast. Wuhan, the capital of Hubei Province, the largest city in central China, is the focal point of the "Rising of Central Regions Strategy" which was proposed by the Chinese government in 2004 (Su &Wei, 2006). This strategy was implemented by the Chinese government in an attempt to increase the economic development of the central regions of China. Following the implementation of this strategy, Hubei has already experienced significant advances in industrialisation as well as rapid economic growth. However, many industries located in Hubei are still dominated by large state-owned firms, such as the iron and steel industry, the automobile industry etc.; therefore, there is limited opportunity for SMEs to develop in these markets. In addition, there is a low demand in

the domestic market which has aggravated the contradiction of overcapacity. Several outstanding situations, such as the cyclical industry's shortage of orders, are facing various problems such as decrease in productive capacity, poor sales and a rise in inventory (Ministry of Industry and Information Technology, 2015). Compare with the relative saturated domestic market, there are more opportunities and potential exist in international market. And besides that, Hubei province gained various advantages that have facilitated the global expansion of SMEs in recent years. For instance, Ezhou is a city located in the eastern region of Hubei province which was approved as a provincial-level e-commerce demonstration base, Amazon built up an operation centre here in 2013 and it has since become a logistics hub in central China. At present, this operation centre is primarily responsible for clearing cross-border packages passing through Shanghai, Tianjin and Guangzhou customs. Furthermore, it also assists local enterprises that attempting to access global markets with its strong and high-efficiency logistics network (Hubei Provincial People's Government, 2016).

1.8 The structure of this thesis

This thesis is comprised of eight chapters, which are outlined below:

Chapter Two starts with an overview of the role China played in the global market followed by explaining the importance of small and medium-sized enterprises (SMEs) to China's economy. The researcher introduces the definitions of SMEs adopted in China, before comparing it to the ones adopted in other countries. Later in the research, the importance of SMEs in China's economy will be discussed along with the dilemmas faced by Chinese SMEs and how the government has attempted to solve these dilemmas. Next, the study explores the possible reasons for Chinese SMEs' move towards internationalisation. The chapter concludes by providing an overview of the development and global expansion of China's SMEs.

Chapter three is divided into two sections. The first section begins with a literature review of theories relating to internationalisation of firms, including the Uppsala model, the revised Uppsala model, the Eclectic paradigm, Transaction cost theory, and Resource based view, etc. This section then reviews the concepts of the original Uppsala model as well as the revised Uppsala model. The second section begins by introducing

the concept of born global, followed by a discussion of the driving factors behind it, including both external and internal factors. The differences between the Uppsala model and born global model are examined; moreover, the literature on international entrepreneurship literature will help to explore the theoretical underpinnings of the entrepreneurial capabilities as well as help to identify the driving factors behind born global model.

Chapter four provides an overview of the selected methodology that will be implemented in this study, beginning with the philosophical position, and the development of the hypotheses as well as providing definitions and details of the constructs. The next part of this chapter will discuss model selection, and building elements. Following this, a data sample description that includes population, sampling method, and data collection are also included in this chapter. Overall, this chapter provides an explanation for the research design, the author's philosophical stance, and the related methodology. The following chapter will describe the methods employed for data processing and analysis.

Chapter five considers the statistical data analysis techniques including the most appropriate approach for evaluating the secondary and primary data adopted in this study. It comprises basic concepts and techniques for the analysis, as well as methods for conducting regression analysis and structural equation modelling (SEM) analysis. This chapter explains the techniques that are adopted in this study.

Chapter six focuses on secondary data analysis. This chapter starts with a description of the dataset that reveals the details of the target firms and the area. It concludes the distribution of location, industry, and ownership, the descriptive statistics of the dependent and independent variables, and the results of the correlation analysis. Following this, the chapter also reveals the results of the two sets of empirical analysis and also provides a discussion of these results. The first set of empirical analysis is a set of panel data analysis utilised to find an answer to the first research question. The second set of empirical analysis is a set of binary panel data analysis used to answer the second research question. The results obtained from the individual statistical tests can be found in the appendix. This chapter highlights the analysis of the secondary data in

order to provide answers to the first two research questions and to examine the proposed hypotheses.

Chapter Seven primarily focuses on the primary data analysis. This chapter begins with results collected from the correspondent characteristics, including the ownership, export intensity, and firm sales. This chapter also summarises the distribution of respondents' answers by analyse the percentage of each answer provided by them. Following this, this chapter also presents the results of the SEM analysis which consists of measurement and a structural model analysis. This chapter provides the goodness of fit indices for both the measurement model and the structural model. The model fit is tested by comparing the obtained values and determined cut-off values of the goodness of fit indices. The next section of the chapter includes an empirical analysis that tests the significance of indicators when measuring their constructs. Following this, a reliability test and a convergent validity test will be presented. This chapter also provides the hypotheses testing that can be found in the SEM analysis; the results of the hypotheses testing are derived from the significance test that investigates the existing relationship between constructs in the structural model.

Chapter eight draws conclusions from the whole research based on this research's aim, objectives, methodology, and primary findings. It begins with a review of the research objectives, questions, and hypotheses. Following that, the chapter details the researcher's main findings, contribution, managerial implications and government policy implications of the study. The first part of the discussion considers the relationship between the internationalisation model and firm performance, followed by a discussion of the relationships that exist between other firm specific factors and firm performance. The second part of the discussion explores the relationships between the born global model and firm-specific factors such as location, R&D investment, firm size etc. The third part of the discussion examines the relationships between entrepreneurial factors and firm performance. This chapter also provides a discussion of firms' management and implementation for the born global business leaders. The following discussion details government policy and implementation for the policy makers. In the end, this chapter also explores how this research has contributed to knowledge and

practice. Limitations of this research are also acknowledged while the researcher will also consider potential areas for conducting future research in relation to the born global model.

Chapter 2: The development of Chinese SMEs: significance & problems

2.1 Introduction

With the intense globalisation nowadays, internationalisation becomes an inevitable tendency for firms worldwide, including China. China as the world's largest emerging market, has undergone almost four decades of reform to create a market economy environment which could produce mature firms with fully developed capabilities (Guthrie, 2005). In China, large state-owned enterprises performed as a leading role both in domestic and international markets in the past. These firms are operating in more than 100 countries, covering research and development, production, logistics, marketing, and customer support across multiple sites and with a massive range of resources (Mathews & Zander, 2007). However, at present, these firms are becoming gradually outnumbered by the small and medium-sized firms (SMEs) (National Bureau of Statistics, 2015). Oliveria and Fortunato (2006) noted that no matter in developed industrialised economies or emerging ones, SMEs are the backbones of every economy, and the key source of economic vitality and flexibility. SMEs as one of the fastest growing economic force in numerous countries' economies, not only contributes to country exports around the world (Fletcher, 2004) but also plays an important role in a nation's employment generation (Arinaitwe, 2006). Especially for the countries in emerging economies, which are experiencing rapid economic growth with growing income and buying power, these firms present a great impact on aspects such as economic and social development (Bruton, Ahlstrom, & Obloj, 2008; Xue, 2011).

This chapter illustrates the role and importance of SMEs in China. Additionally, it discusses the challenges and opportunities these firms face in the development process in order to establish a foundation for the further analysis of the internationalisation mode choice made by Chinese SMEs.

2.2 Definition of small and medium sized enterprise (SME)

2.2.1 Chinese definition of SME

The definition of SMEs varies from country to country because the term changes over time and varies in size ranges (Xie, Zeng, & Tam, 2010). Some researchers emphasise the responsibility of the owner/manager of SMEs. For example, McMahon et al. (2005) suggest that as an owner of a SME, he/she has to perform as an independent decision maker, who purely relies on their knowledge and ability. They are also responsible for making all the critical management decisions in areas such as finance, accounting, personnel, processing or servicing, marketing, selling, and so on. However, most of the definitions take a quantitative perspective, such as total asset, the number of employees, to distinguish SMEs from the large ones. The criterion in China is a typical example. In 2003, the Chinese government promulgated the small and medium-sized enterprises promotion law, which clarifies the specific requirements for SMEs. It defines SMEs as companies with sales between RMB30 million and RMB400 million with a workforce ranging from 400 to 3,000 employees (Hilgers, 2009). In addition, the Chinese government also set out the criterion for SMEs across different sectors. Table 2.1, presents China's classifications of SME based on the quantifiable criteria set by the Chinese government.

Table 2.1. Definition & Classification of SMEs across sectors in China

Sectors		Employees number	Annual revenue (RMB million)	Total Assets (RMB million)
Industrial		<300-2,000	>3,000-30,000	>4,000-40,000
Construction		<600-3,000	>3,000-30,000	>4,000-40,000
Transport& posts	Transport	<500-3,000		
	Postal Service	<400-1,000	>3,000-30,000	
Wholesale& retail	Wholesales	<100-200	>3,000-30,000	
	Retails	<100-500	>1,000-15,000	
Hotel and restaurant		<400-800	>3,000-15,000	

Source: State Economic and Trade Commission, State Development Planning Commission, Ministry of Finance, the Small and Medium-sized Enterprises Promotion Law of the People's Republic of China, 02/19/2003. (www.stats.gov.cn-18/08/2003)

From Table 2.1, it can be seen that the maximum number of employees is 3000 people as the benchmark of a SME, both in the construction enterprises and transportation enterprises. However, at the same time, the maximum turnovers in these two industries is 30000 million RMB. In general, SMEs are defined as a firm having up to a maximum 3000 employees with an annual revenue not exceeding RMB 30,000 million, and maximum RMB40,000 million total assets (National Bureau of Statistics, 2003). However, this classification of a SME does not perfectly represent the realities of SMEs in China, as it neglected the importance of non-manufacturing sectors. For instance, there are considerable numbers of SMEs engaged with the "Tertiary Industry" or service sector, undertaking services related to foreign trade, tourism, hotel, finance, education, medical care, culture, recreation, and so on (Xue, 2011). The size of the firms is much smaller than those in the manufacturing and construction sector. The State Council in China therefore published 'Standards on the Small and Medium-sized Enterprises', another new document, distributed to relevant government agencies in 2003. In this document, the official definition of SMEs in non-manufacturing sectors are firms with less than 50 employees (Cunningham & Rowley, 2010).

2.2.2 International comparison of SMEs' definitions

It is interesting to compare the definitions of SMEs used in China with those used in other countries, such as the United States (US), the United Kingdom (UK), Australia, and Japan.

Table2.2: Definitions of SMEs in most Asian and other countries

Country	Category of industry	Criteria/country's official definition
Australia	Small	<20 employees
	Medium	≤200 employees
Canada	Manufacturing	Independent firms having <200 employees
European Union	SME	<500 employees
Indonesia	SME	<100 employees
Japan	Manufacturing, mining and transportation construction industries	<300 employees or invested capital <£0.42 million
	Wholesale trade	<100 employees or capitalisation <£0.13 million
	Retail trade and services	<50 employees or capitalisaiton <£41, 920.843
Korea	Manufacturing	<300 employees, £10.89-43.57 million of capital(assets)
	Mining and transportation	<300 employees construction; <200 employees commerce and other service business; <20 employees
Malaysia	Small and medium industries	≤150 full time workers or with a shareholder fund of <£3.64 million
Philippines	SME	<200 employees, asset size<£0.63 million
Singapore	Manufacturing	Fixed assets <S$15 million
	Services	<200 employees and fix assets<£4.98 million
Taiwan	Manufacturing, mining and construction industries	<£0.93 million and <200 employees
	Services industries and others	<£1.24 million of sale volume and <50 employees
Thailand	SME	≤200 employees or fixed assets <£1.49 million
Unitied Kingdom	SME	The company law thresholds for SMEs have recently been increased to the maximum possible under EU regulations (i.e. <500 employees)
United States	Very small enterprises	<20 employees
	Small enterprises	20-99 employees
	Medium enterprises	100-499 employees
Vietnam	SME	No fixed definition, generally <500 employees

Source: Cunningham (2007)

"The statistical definition of an SME differs from one country to another, and is usually based on the number of employees, the volume of output or sales, or the value of assets employed" (Cunningham, 2007, p.40). The European Commission set the standard for SMEs in 2003. According to this standard, enterprises that have less than 250 employees and an annual turnover less than 50 million Euros are SMEs. The purpose of this definition is to diminish the risk of vicious competition in a single market (EU, 2009). On the other hand, in the US in 1947, the Committee of Economic Development (CED) defined a SME as a business entity that is managed independently, owners supply the capital and operated in the same industry (Wolff & Pett, 2000). Until 1953, the promotion of the Small Business Act authorised the Small Business Administration

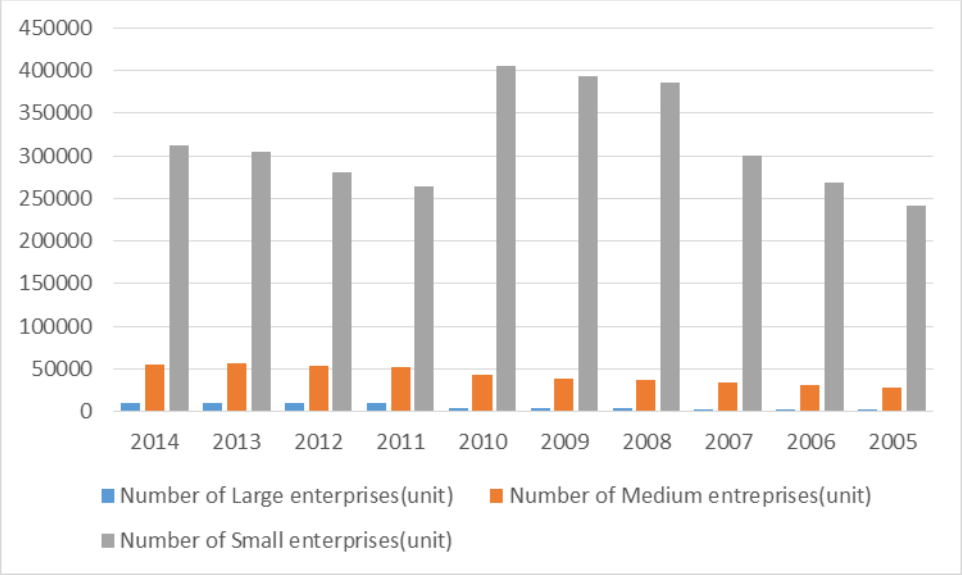
(SBA) to set a standard of employers with less than 500 employees to define the scale of businesses (Wolff & Pett, 2000).

In the UK, the Bolton Committee (1971) defined small and medium-sized businesses from three perspectives. Firstly, small and medium-sized businesses could only own a small market share, which is not enough to affect the market price or volume. Secondly, the owner should act as the manager of the firm at the same time (Meredith, 1986). Lastly, the firm should obtain an independent decision-making system that cannot be controlled by any outside influences. The UK also follows a quantitative definition of SMEs, set out by the European Union: the number of employees should be less than 500 in a SME.

2.3 SMEs as driving force in China's economy

Initially, the Chinese government promoted the development of SMEs to create jobs, dealing with the redundancies of rural labor (Li & Chen, 2006). However, SMEs gradually replaced multinationals (MNE) and became a vital force in China's economy (Luo & Tung, 2007). Until now, the SMEs performed as engines of economic growth in China (Singh, Garg, & Deshmukh, 2010). In China, the number of SMEs has been significantly increased in recent years. According to the SME Development Plan (2016－2020), a report which was released by the State Administration for Industry & Commerce of the People's Republic of China, SMEs accounted for over 95% of all registered firms until 2015. Figure 2.1 presents the number of Chinese enterprises from 2005 to 2014. It is obvious that the number of small enterprises experienced a continuous increase since 2005, and reached a peak of over 400,000 firms in 2010. Meanwhile, the number of medium-sized enterprises has also constantly increased since 2005 and reached 55,408 in 2014. In comparison, the numbers of large enterprises have stayed at a static point over the 10-year period.

Figure 2.1: Number of Chinese Enterprises (2005-2014)



Source: National Bureau of Statistics of China (2016)

It is noted that small and medium firms are irreplaceable in China's economy (National Bureau of Statistic, 2015). From an economic point of view, these firms contribute more than 60% of the nation's GDP, 50% of tax revenues, 80% of urban employment, 69% of import and export trade, and 82% of new products (National Bureau of Statistics, 2015). Regarding their R&D contribution, SMEs developed 65% of innovation patterns and 80% of new products (National Bureau of Statistics, 2015). This data illustrates that SMEs do not only perform as a key contributor to China's rapid development, but also engage in a broad set of business activities related to technological development, market enhancement, and internationalisation (Gedajlovic, Cao, & Zhang, 2012). In addition, according to Chen (2006), the increasing number of Chinese SMEs, especially the private ones, is due to the demand for a market with efficient operation of self-governance, self-determination, and dynamism.

Overall, considering SMEs' significant influence on aspects such as entrepreneurship, job creation, technology diffusion, fiscal income, identification and adoption of international best practices, risk diversification, and wealth generation, Chinese authorities have started to actively pursue these firms' development, both in national and international markets (Cardoza, 1997).

Based on the report released by the National Bureau of Statistic (NBS) named 'small and medium-sized enterprises 2015', SMEs in China are mostly concentrated in industries like non-metallic mineral products, agricultural and food processing, and so on. They occupied 9.2% and 6.7% of the total number of SMEs respectively. By the end of 2015, the top ten industries of SME operation were non-metallic mineral products industry, agricultural and sideline food processing industry, chemical raw materials and chemical products manufacturing industry, general equipment manufacturing industry, electrical machinery and equipment manufacturing industry, fabricated metal products industry, the textile industry, the rubber and plastic products industry, the metal products industry, and textile and apparel industry (NBS, 2016). The ten industries mentioned above includes 218,000 SMEs in total, accounting for 59.8% of the total number of small and medium enterprises. According to the sector distribution of SMEs mentioned above, it is obvious that the SMEs are active in various sectors and help the economy with maintaining its diversification and vitality.

Table 2.3: Regional distribution of Chinese SMEs

Area	**the proportion of all SMEs**	**compared with 2014, increased by**
East	58.30%	3.00%
Central	22.10%	7.30%
West	13%	6.80%
Northeast	6.60%	-6.60%
Total	100%	3.70%

Source: National Bureau of Statistics of China (2016)

Table 2.3 presents the regional distribution of Chinese SMEs. 58.3% of SMEs are located in the eastern area, followed by 22.1% located in the central area. It is worth mentioning that the regional distribution of SMEs matches the degree of regional development in China. For instance, the eastern cities are the most developed areas in China, so the number of SMEs in this area is the highest among all the SMEs in China. However, the central area gained the highest percentage increase in 2015, which is 7.3%, and the western area achieved 6.8%, which is the second highest. In comparison, the

eastern area only achieved 3% of increase, which implies the development in this area is almost saturated. Moreover, the central area and western area provide more room for SMEs to develop because of a series of policies that has been promoted by the government, such as 'Rise of Central China'[1], 'China's "Great Western Expansion[2]" campaign', and 'One Belt, One Road[3]'. These development strategies were designed to stimulate the balance growth in China. They can provide SMEs with a better platform to start. From another point of view, the increasing number of SMEs reflects that the government promoted the strategies successfully. However, it is noted that the northeast area has the lowest number of SMEs, with the number even experiencing a decrease in 2015.

However, how could these firms generate such enormous influence on country's economy? As Bennis (2001) claims, apart from the predominance these firms hold, they are also more motivated to pursue customers and respond to the demands of the market. Compared with the large firms, small and medium firms are usually able to operate in an environment without the interference of red tapes. Moreover, the owner/manager mechanism stimulates both owner and employees to hold stronger ambitions towards success. The limitation on the number of employees and the scale of the business also helps employees to recognise their contribution to the firm's success much easier (Onkelinx, Manolova & Edelman, 2016).

2.4 Factors constraining the growth of the small business sector

Although the SMEs are experiencing a booming period in China, they still face many obstacles that constrain these firms' growing further. As Smallbone et al. (2003) claimed,

[1] 'Rise of Central China': a policy adopted by the People's Republic of China to accelerate the development of its central regions. It was announced by Premier Wen Jiabao on 5 March 2004. It covers six provinces: Shanxi, Henan, Anhui, Hubei, Hunan, and Jiangxi.

[2] 'Great Western Expansion': a policy adopted for the western regions. The policy covers 6 provinces (Gansu, Guizhou, Qinghai, Shaanxi, Sichuan, and Yunnan), 5 autonomous regions (Guangxi, Inner Mongolia, Ningxia, Tibet, and Xinjiang), and 1 municipality (Chongqing).

[3] 'One Belt, one Road': is a development strategy and framework, proposed by Chinese paramount leader Xi Jinping that focuses on connectivity and cooperation among countries primarily between the People's Republic of China and the rest of Eurasia.

among these obstacles poor financial condition and technological capabilities are the major problems. These problems are examined in the next section in greater detail.

2.4.1 Financial dilemma

The first problem that Chinese SMEs are facing is limited channels for financing. Although China's market economy has experienced decades of development, it still stays in a preliminary stage. The financial market in China is not as mature as the ones in developed countries. Thus, its financial innovation is relatively slow and only provides a limited number of financial products (Zhu, 2015). Under these circumstances, Chinese SMEs are struggling to find other channels to finance themselves, despite the limited bank or some non-governmental loans.

The owner of small and medium-sized firms always encounters problems concerning financial capital (Smallbone et al., 2003). Financial capital is the foundation of a firm that enables the firm to start, operate or grow (Bygrave, 1992). Lack of enough capital is a major obstacle to firm's development regardless of size, location, or the type of industry (Westhead, Wright, Ucbasaran, & Martin, 2001). Nevertheless, apart from a few well-performing SMEs, most of the SMEs do not hold sufficient self-raised financial capital to meet their full capital requirements. Despite the lack of financial capital, Chinese SMEs are also facing some other financial problems, such as lack of credit systems (Zhu, 2015), asymmetric information (Chen,2011), and so on.

The second problem that Chinese SMEs face is that China lacks an impartial and reliable finance system for SMEs, most of the SMEs use two sets of financial statements to deal with the different situations. In one account, turnover or profit may be exaggerated in order to get bank loans, whereas in another one, profit is minimised to avoid taxes. Consequently, for banks it is hard to issue a loan to SMEs because they cannot trace these firms' daily transactions in the traditional way. So banks are concerned about the moral hazard that might be raised by these firms. Therefore, it is necessary for banks to spend time and effort to vet these SMEs. Meanwhile, it costs banks more to lend to SMEs, as these firms are frequently seeking loans for small amounts (Berger & Udell, 2006). As a result, SMEs are paying a comparable higher interest rate when they have to borrow from the bank (Baas & Schrooten, 2006). In

comparison, large enterprises are usually owned or partially owned by the government; hence the government will back up these firms when a crisis occurs. So the State Owned banks and commercial banks are not incentivised to provide loans to SMEs, but to the large, usually State Owned firms. However, at present,

the number of banks lending to SMEs is increasing. There are 6.1 trillion RMB outstanding loans to SMEs, occupying 51.7% of the total outstanding loans. Compared with 2013, the percentage of outstanding loans to SMEs in the total amount of outstanding loans increased by 0.7% (Zhu, 2015). However, it cannot cater for the need of SMEs and completely change their financial dilemma.

The third problem is regarding asymmetric information. According to Stiglitz and Weiss (1981), information asymmetry between bank and firms will cause problems such as adverse selection and moral hazard. Adverse selection problems occur when banks devote resources to acquiring information such as future payoffs, while borrowers are not able to gain access to this information (Fishman & Parker, 2015). Moral hazard problems appear "when people have a tendency to increase their exposure to risk when the costs of their actions, should they get unlucky, befall someone else" (Braynen, 2014, p.34). When there are different types of borrowers in the market, some of them may be excluded from the credit market due to the asymmetric information problem. No matter how high the interest they are willing to pay, these borrowers cannot get the loan while the others can. SMEs are always the victims when encountering these kinds of circumstances for the reasons described above. Besides that, as mentioned before, China lacks a credibility system for SMEs. Thus, these firms are facing severe information asymmetry problems. Under these rigorous circumstances, SMEs are not only lacking in reliable market information, but are also fragile against potential financial crisis, thus it is hard for them to survive. The situation forces them to forge financial statements to get bank loans or avoid tax. However, the need to build a credibility system is undeniable, because if not, the situation will worsen. This view is supported by a report from the World Bank Group, a thorough credit system can facilitate financing for SMEs (Zhu, 2015).

2.4.2 Technological capabilities

China has experienced the industry upgrading over recent years. The Chinese government encourages all types of industries to improve their technology innovation and adaptation capabilities. In addition, their efforts have started to make a difference. From the report released by the National Bureau of Statistics (NBS) of People's Republic of China in 2015, the growth rate of added value in high-tech industries increased by 10.2% compared with the previous year. It is worth mentioning that among these industries, aviation, spacecraft, and equipment industry increased by 26.2%, electronic and communication equipment manufacturing increased by 12.7%, information chemicals manufacturing increased 10.6%, and pharmaceutical manufacturing increased 9.9%.

Nevertheless, as mentioned before, most of the Chinese SMEs still operate in traditional industries such as the manufacturing industry or processing industry. These industries used to profit from the price differences between cheap labor cost and relative high selling price. However, this cost advantage gradually decreased because of other developing countries such as Vietnam and Indonesia, which can provide lower labour costs in comparison with China. So for Chinese SMEs, it is imperative to improve their technological capability rather than simply relying on cheaper labour to maintain competitive advantages. However, for SMEs, it is hard to gain superior technology capabilities.

The research in the UK found that small firms are unable to invest in innovative activities because of the shortage of financial resources (Canepa & Stoneman, 2008). Most of the SMEs have to participate in innovative activities in order to maintain their competitiveness. However, these firms cannot afford the high expenditure and long cycle of return (Carpenter & Petersen, 2002). In small businesses it is difficult to compete or grow without sufficient implementation of technology in this technically advanced world(Arinaitwe, 2006). The owners performing as decision makers should obtain the ability to enter a business environment, to analyse and explore opportunities (Meyer & Peng, 2005). Shi (2001) conducts a study to investigate the technological capabilities of SMEs in China. She found that unlike the large enterprises, the owners of small-scale firms prefer to focus on the mundane technology to lower cost inputs, rather

than the advanced technology used to improve firm's competitiveness. In other words, these firms prefer to spend money on out-dated equipment and unskilled labor in the marketplace instead of spending money on technological capability cultivation.

Similarly, Lind(2000) examined the computer adoption for business application in SMEs in Chile. The result shows that the process of adopting computer usage in business within developing countries is relatively slow. He claims that the owners are either not aware of the differences between business performance and financial performance, or they are experiencing difficulties in the process of collecting useful input data.

2.5 Government attitudes towards SMEs

The Chinese government started to pay more attention to enhancing the overall competitiveness of the SMEs since 1992 (Chen, 2006). Indeed, one of the purposes of opening-up policies and ongoing reforms is to create and maintain a stable environment which may encourage the development of the SME sector in China (Li, 2004).

Both the central and local governments initiated various policies to improve the financial environment for SMEs. For instance, in the late 1980s, the introduction of new types of financial organisations include state-owned banks, rural credit cooperatives, commercial banks, trust and investment companies, insurance companies, security companies and urban credit cooperative provided various channels for SMEs to deal with their fund-raising problems (Garnaut & Song, 2004; Li, 2004). The Chinese government implemented Provisional Regulation of SME Credit Guarantee System and the Management Methods of Credit Guarantees for SMEs in 1999 (Hussain et.al, 2006). In 2009, the State Council issued 'Opinions on Further Promotion of SMEs' Development'. This document effectively proposed to alleviate the difficulties that small businesses faced. It pointed out that the primary missions for the government, including fully implementing the financial policies to support the development of SMEs; improving the credit assessment system for SMEs; accelerating the research on how to encourage private capital to participate in the establishment of rural banks, loan companies, and other joint-stock financial institutions. However, in practice, the amount of qualified private capital that set up by small loan companies was still limited.

Therefore, they cannot become the main force behind solving the financing difficulties of SMEs yet (Chen, 2011). In February 2010, the China Banking Regulatory Commission (CBRC) announced that loans for national small businesses should comply with the stipulation of "two no less than", which means the growth rate of loans to SMEs should be no less than the total loan growth rate, and the volume of the loan should be no less than last year. At the end of 2011, within financial institutions small business loans (including notes) reached 9.45 trillion yuan, accounting for 28.8% of all corporate loans (CBRC, 2010). Compared with the beginning of the year, the total loans to SMEs increased by 7.1%, which was 0.6% higher than of all other loans. In May 2011, the Chinese Ministry of Industry issued a document titled ‘opinions on the how to strengthen the construction of SME credit guarantee system’. It proposed to combine the central and local finance with social capital, in order to promote the establishment and development of provincial SME credit re-guarantee institutions (re-guarantee funds). In 2011, the CBRC issued a ‘Circular on Supporting Commercial Banks to Further Improve Small Business Financial Services Notice’ to all commercial banks, to solve the financing difficulties of SMEs (Chen, 2011).

There are 30 provinces, municipalities, and autonomous regions which all introduced some pilot schemes for SME credit guarantee systems on a local level. Over 200 credit guarantee institutions were established in 2000. These institutions created 10 billion Yuan, guaranteeing funds to sustain an expanded and enhanced credit environment for the SME sector (Ministry of Industry and Information Technology of the People’s Republic of China, 2016).

In addition, both the central and local governments provided a series of policies to ease the innovation and technology dilemma that SMEs encountered. At the central government level, the Ministry of Industry and Information Technology issued the ‘Promoting SME Development Plan (2016-2020)’ in 2016. This plan aimed to promote the development of SMEs from five aspects, including promoting entrepreneurship, enhancing innovation, transforming and upgrading, and exploring the internal and external markets. It also planned six special projects to improve SMEs’ technological capability, which are “internet plus SME”, “SME cultivation project”, “service construction project”, “industry cluster development upgrade project”, “SME

management upgrade project", and "SME Internationalisation promotion special project" (Ministry of Industry and Information Technology of the People's Republic of China, 2016). At the local government level, a series of projects and policies were set up and carried out to help SMEs improve their technological capability. For instance, the Hebei province introduced a "development plan for high-tech SMEs (2016-2020)". The Shandong province financially supports SMEs' innovation and development activities, once they authorised as high-tech SMEs, they can obtain 10 million RMB subsidies (Ministry of Industry and Information Technology of the People's Republic of China, 2016).

However, there is a gap between the intentions behind launching of the project or policies, and reality. First, although numerous policies had been promulgated, not all of the SMEs are familiar with these policies. Most of them don't even believe these policies are relevant to themselves (Atherton, 2008). Second, the policy implementation is not in place. SMEs still found it hard to enjoy the benefits of these preferential policies in reality. The survey conducted by Lin (2003) suggests that most of the SMEs in the sample relying on state-owed commercial banks, a minority of them used bank loans and only a few of them attempted to use rural credit cooperatives. In addition, only 3% of the firms borrowed from financial institutions during the inception period (Lin, 2003). Surveys conducted by the China Industrial and Commercial Union (CICU) and the Research Commission of Chinese Private Business (RCCPB) in 1993, 1995, 1997, 2000 and 2002 all generated a similar result.

In general, "China lacks a long-term, systematic, unified and relatively independent SME development strategy and policy system" (Hussain et al., 2006, p. 588). Insufficient funds cannot sustain fund-raising activities and can even slow down, or cease the current SME development boom in the long run. Although the government has put some efforts into this, it still has not made any significant difference for the development of SMEs. In the domestic market, state-owned enterprises still maintain the absolute control of the economy. These enterprises almost monopolised the whole market, thus SMEs could only rely on the low cost to get slender profits (Li &Chen, 2006).

2.6 Why are SMEs going international?

Challenges and opportunities coexist for Chinese SMEs. In recent years, the number of SMEs which engaged with international business has kept rising. According to the statistics released by the Chinese Customs in 2016, the turnover of foreign trade of SMEs occupied over 60% of the China's total volume of imports and exports. Internationalisation becomes a necessity for firms that aimed to maintain competitive advantages (Sekliuckiene & Maciulskait, 2013; Zeng et al., 2012; Grundey, 2007). However, what is internationalisation, and why do more and more SMEs start to look for markets overseas? Internationalisation is a term used to describe the "geographical expansion of economic activities over a national country's border" (Ruzzier, Hisrich & Antoncic, 2006, p.477). According to Ruzzier et al. (2006), this term was used since the 1920s when the phenomenon of cross-border business between market economies gradually arose. Later in the early 1970s, the economic internationalisation process was accelerated, and a new phenomenon called globalisation started to rise (Gjellerup, 2000).

SMEs in China stay in a vulnerable spot. They are forced to seek new opportunities in the global market, due to the changing global environment and competitive domestic market. In general, the reasons why SMEs pursue international ventures can be categorised into three perspectives, which are the global economy perspective, domestic market perspective and entrepreneurship perspective (Olejnik & Swoboda, 2012).

From the global economy perspective, globalisation becomes an inevitable tendency, especially since China joined the WTO in 2001. Globalisation has brought about the explosive growth of technology, better information processing technology, and communication technology, gradually dismantling trade barriers, financial regulations, and so on (Ruzzier, Hisrich & Antoncic, 2006). Under these circumstances, factors such as information, knowledge, entrepreneurship, research and development capacity, see the quality of human resources gradually displacing the importance of traditional factors such as size, geographical position, and so on. Due to the economic globalisation, internationalisation becomes one of the most important strategies for firms that are eager to achieve further development (Zeng et al., 2009). It was argued that firms should be able to adapt to the rapidly changing environment, to comply with the new trends and to

operate in the global market, regardless of size, available resources, and the nature of activities (Gonzalez & Sieglinde, 2012). For firms that seek to survive and further develop, it is necessary to determine the internationalisation strategy as early as possible (Kontinen & Ojala, 2012). In addition, the global market can provide new opportunities and a new market for export firms, especially for SMEs (Michael, Saban & Abdurahman, 2016). It can also help firms, especially SMEs, to gain new experiences while operating in overseas markets, and eventually improve their competitiveness over their competitors from the outside markets (Lages & Montgomery, 2004). Moreover, in Ruzzier et al. (2006)'s study, they claimed to compare the impact of globalisation on already highly internationalised multinationals with the impact of globalisation on SMEs, which is more profound. So from the global economy perspective, for SMEs, establishing a business in the global market is not only necessary, but also beneficial for their development.

From the domestic market perspective, these problems are exaggerated by the slowing down of China's economy in recent years. From the above discussion, it can be seen that Chinese SMEs have faced various obstacles and dilemmas in the home market. Since 2012, China's economy started to face the downward pressure on economy development. According to the report released from the National People's Congress Meeting in March 2016, China's GDP in 2015 was 6.9%, which was lower than the anticipated target of 7%, and was also the lowest growth rate in 25 years. Moreover, in the meantime, according to Premier Li, speaking after the annual session of the National People's Congress, the Chinese SMEs may face the threat of a wave of bankruptcy in 2014 (Inman, 2014). It was reported that most of the SMEs cannot survive more than three years in China (China Enterprise News, 2015). At the end of 2014, there were dozens of firms in Dongguan, Suzhou and Wenzhou which went bankrupt (Sina News, 2015). Facing the slowing economy and the second wave of SMEs' bankruptcy, the government introduced a series of policies to benefit the international business market. For instance, the Chinese government actively promoted the "Go Global" strategy. In 2015, there was a new strategy promoted named "one belt, one road", which encouraged Chinese enterprises including SMEs, to go abroad and collaborate with foreign business partners. It is therefore expected that more and more Chinese SMEs may attempt to

engage in international business located alone on the old 'silk road[4]'. In addition, Chinese SMEs used to be passive victims rather than active players in the Chinese economy (Ruzzier, Hisrich & Antoncic, 2006). Overall, due to the excessive supply, the competitiveness of SMEs is still weaker than that of the large firms. Meanwhile, the domestic market is almost saturated. Thus, the domestic market cannot provide SMEs with enough room and opportunities to develop. However, the global market is filled with challenges and opportunities, which may be better for the development of SMEs.

From the entrepreneurship perspective, SMEs have some comparative advantages in quick decision-making and risk taking (Zhang, et al., 2009). They are not only flexible but also controlled entirely by the entrepreneurs. These firms have low initial investment, fast yield, flexibility, and the ability to adapt rapidly to changes in the marketplace. In a relaxed and liberal market, the ability to adapt is one of the most important capabilities for SMEs. It enables them to adapt to the changing environment by adjusting their development strategy and internal structure. Conversely, this is impossible for big enterprises (Carson, Cromie, McGowan & Hill, 1995). Also, the decision-making mechanism in SMEs can improve efficiency. Unlike big enterprises, the redundant decision-making process does not exist in SMEs. Therefore the period of the decision-making process in SMEs is shortened, and the efficiency is improved accordingly. Meanwhile, SMEs are more likely to have a high proportion of capacity utilisation and strong adaptive ability in production whenever the market conditions and external environment alters (Zhang et al., 2012). Undoubtedly, the most critical limitation of being a small or medium enterprise is its size. It presents restrictions from different aspects, for instance, the scale of production, the access to the resources, the acquisition of knowledge, experiences, and so on (Moreira, Maia, Sousa, & Meneses, 2013). Because of these factors, internationalisation is not only an approach that is worth developing, but also an essential demand for these firms because it enables them to find a niche market and overcome the disadvantages accompanying their size (Michailova & Wilson, 2008).

[4] 'silk road': An ancient network of trade routes that were for centuries central to cultural interaction through regions of the Asian continent connecting the East and West from China to the Mediterranean Sea.

However, the internationalisation of SMEs is not as easy as it seems. With rising trade protectionism in the developed countries, especially U.S. and European Union, Chinese SMEs tend to suffer from new sorts of trade barriers. According to Bown (2011), the cases against China increased dramatically in recent years. Various forms of trade barriers such as antidumping duties, countervailing duties and safeguards etc. are adopted to against exports from other countries. China exports has been targeted by a unique safeguard which designed specifically for China, knowned as China specific safeguards. The results of Chandra (2016)'s study suggest that if a country (such as the US) imposes a temporary trade barrier on China, Chinese exports to the policy-imposing country would decrease by about 20–25%. However, although he found evidence of trade deflection, there is no evidence of trade depression. Chandra (2016) explained that the indirect effect of decrease in exports to the policy-imposing contry may increase exports to other coutries.

2.7 Chapter Summary

In general, this chapter paved the way for further analysis by outlining the historical background of Chinese SMEs in detail. It introduced how SMEs are defined in China, and then compares this definition with the definitions of other countries, especially those in developed countries. In addition, it has highlighted the current situation of Chinese SMEs, including the significant contribution they made towards China's economy, the dilemmas they encountered, and the government attitude towards SMEs. Also discussed was a series of policies aiming to help the development of SMEs. Finally, the author discussed the reasons for the internationalisation of Chinese SMEs and the current export environment for SMEs in China.

Chapter 3: Theories relating to internationalisation

3.1 Introduction

Internationalisation is the process through which a firm expands its business outside the national (domestic) market. It can help firms to gain access to the new market, reduce costs and enhance competitiveness, and to exploit their own core competences in new markets and so on (Buckley & Casson, 1976). This phenomenon has been captured by the researchers in strategic management, international business and entrepreneurship (Lu & Beamish, 2001). The domain for studies in strategy and international business areas is international diversification, and they are mostly focused on large and well established firms (McDougall & Oviatt, 1996). However, for the entrepreneurship studies, SMEs are the primary interest because the behaviour of entering a new market is considered as an entrepreneurial act (Lumpkin & Dess, 1996; Burgelman, 1983). Thus, internationalisation is a complex phenomenon that can be explained from different perspectives (Bjorkman, 1990; Andersson, 2000).

To gain a more comprehensive understanding of the internationalisation of SMEs in China, this study will focus on the two internationalisation theories, which are Uppsala model and Born global model. These models are mostly employed by the enterprises that are eager to participate in the international market. Previous studies show that most Chinese private firms are "significantly influenced by traditional values" (Chatterjee, 2001, p. 23). They see the "Uppsala Model" as their first choice when involved in international activities (Johanson & Vahlne, 1977; Johanson, 1975). The Uppsala model predicts that their internationalisation is a gradual process starting from export. The gradual process sees firms initially having no regular export, then start to export through agents, followed by the founding of an overseas sales subsidiary and finalising their internationalisation with overseas production (Sylvie & Colin, 2004). However, firms that adopted born global views are binding themselves to the global market since their inception. Such firms are more optimistic and innovative about internationalisation in comparison with others (Sylvie & Colin, 2004).

This chapter will also take a range of influential internationalisation theories into consideration, many of these theories have a great impact upon the Uppsala model and Born Global model. In addition, this chapter includes discussion of the driving force of two models, comparing the consistency and differences among them.

3.2 Uppsala model

The Uppsala model is the most famous and well-accepted approach for global expansion, was devised by Johanson and Vahlne in 1970s at the University of Uppsala in Sweden. It explains the features of a firm's internationalisation process, by suggesting internationalisation is a self-reinforced and incremental learning process (Johanson & Vahlne, 1977). The underlying assumption in this model is that a firm's commitment to a specific market comes from the increasing resource investment (Sylvie & Colin, 2004). Inother words, the gradual internationalisation process follows a routine of startingwith no regular export, then export through agents, followed by the founding of an overseas sales subsidiary and finalising with the oversea production (Olejnik & Swoboda, 2012). As Rennie (1993) suggests, a typical traditional internationalised firm adopting the Uppsala model usually possesses a strong domestic base. Its core business is well established with strong skills, solid financial capabilities, and a sound product portfolio. It would not start to focus on the international market via export unless it obtained a sustainable base in the home market (Rennie, 1993). Moreover, it will always pay more attention to improving domestic competitiveness rather than international competitiveness, which means the domestic base is the priority of the firms following the Uppsala model. After the reinforcement of domestic base, these firms will follow a standard procedure of the behaviour mode which is to pick a specific market that is within their psychic distance. The first outside market they choose should be within a close distance, and then expand the distance gradually after they are accustomed with the previous one (Sylvie & Colin, 2004). From previous literature, it is apparent that there are two versions of Uppsala model: the 1977 Uppsala model, and the revised version. The following section will deliberate these two models in detail.

3.2.1 The 1977 Uppsala model

The original Uppsala model is built on the research of Penrose (1966), Cyert and March

(1963), and Aharoni (1966). As mentioned before, a series of research regarding international business has been conducted at Uppsala University in the mid-1970s. These literature shares thecommon view that the optimal entry model for firms to choose should not only fully considerthe market's potential costs and risks, but also take account of firms' resources (Hood & Young, 1979). However, the results of an empirical study of Swedish firm's exporting behaviour is different. Swedish firms mostly begin their internationalisation process by ad hoc exporting (Carlson, 1975; Forsgren & Kinch, 1970). Ad hoc exporting means firms have to deal with intermediaries (i.e. usually agents who represent focal companies in foreign markets) at first. Once the sales become formative, these firms will replace the immediacies with their own sales group. Then firms start to manufacture in the foreign markets to avoid trade barriers, if sales continue to grow. This exporting behaviour gradually becomes an internationalisation pattern and is labelled by Johanson (1975) as an establishment chain. Besides the intermediaries, another feature that needs to be mentioned in establishment chain is psychic distance. It is a broad definition encompassing all sorts of factors that could cause difficulties in foreign environment understanding. Firms need to enter other markets with greater psychic distance gradually, in order to accumulate foreign-specific advantages and reduce the liability of foreignness. Simply put, the liability of foreignness will increase as the psychic distance increases (Hymer, 1976; Zaheer, 1995). According to Johanson (1975), the assumption underlined in the Uppsala model is that firms will change, via learning and commitments. To be more specific, firms will upgrade or transform not only by learning from the experiences they generated in foreign operations or current activities, but also by increasing helpful commitments which can strengthen their position in foreign markets. Experiences build up firm's knowledge foundation towards a foreign market, and this foundation determines a firm's commitment decisions in that market. It works as a circulation, the more the firms learned, they are more committed to the market. And once the commitment increased to another level, they still need to learn enough to support this new level. Thus this model is a dynamic model. And moreover, the model is not deterministic either because the commitments may reduce or even stop when the condition is not favourable for the firm's internationalisation activities. The Uppsala model assumes that firms will not stop

their internationalisation process unless the performance and prospects are not promising any more. Besides that, it also assumes the internationalisation process takes time, as the necessary learning and commitment are time consuming. That is why firms have to move incrementally into a market with more psychic distance but this is potentially rewarding.

3.2.2 Revised Uppsala model

Johanson and Valhne revised the model in 2009 because there are some shortages in the original one. First of all, it addresses the role of trust and commitment played in a firm's internationalisation process. As many researchers claimed, trust is important both for the exploration of new knowledge and successful learning (Arenius, 2005; Granovetter, 1992). More importantly, it also can substitute knowledge on some occasions. The use of intermediary is the perfect example to explain how this works. Firms can choose a trustworthy intermediary to continue their business, even in a market that they are not familiar with (Arenius, 2005; Granovetter, 1992; Madhok, 1995; Nahapiet & Ghoshal, 1998). Trust is especially important when firms face uncertainties, because trustworthy business partners can not only share information with each other, but also hold the common expectation of building mutual interests. Trust is built on the assumption that human behaviours are based on the high moral standards. Based on such assumptions, trust could not only make it possible to predict other's behavior if they hold the same sense of trust, but also enables firms to achieve commitment, if willingnessand positive intentions are present (Madhok, 1995). According to Morgan and Hunt (1994), the trust between business partners is mainly reflected by the efforts they exerted to maintain the relationship, and relationship commitment is built while the trust builds. They also suggested "when both commitment and trust –not just one or the other-are present, they produce outcomes that promote efficiency, productivity and effectiveness" (Morgan and Hunt, 1994, p.22). Besides that, the most crucial problem in the original Uppsala model is that it did not consider the importance of the network in firm's internationalisation process. The revised version developed a more general business network model for firms which eager to expand internationally. The questions of how networks are created, and which network structures correspond in the foreign market.

3.3 Other internationalisation theories

3.3.1 Eclectic paradigm

Eclectic paradigm and location advantages provide the theoretical framework for the research on multinational's internationalisation motivations. Johanson and Vahlne (1990) suggested that eclectic paradigm is the best explanation for firm's internationalisation intention, and it is applicable for many regions of the world. It is built on the premise that firm's specific ownership advantages in foreign product productions, the tendency to entering foreign markets and the attractiveness of foreign markets are in paratactic places when firms are eager to make internationalisation decisions (Dunning, 1988). Moreover, this paradigm tends to explain the extent, form and pattern in international production (Dunning, 1993). For instance, multinationals are intrigued to operate and produce in the foreign market mostly because of the attraction of resources and opportunities, not to mention the increased efficiencies and strategic assets in the new market (Whitelock, 2002). According to Dunning (2001), this paradigm assumes that the international production is determined by three sets of forces: "(1) the (net) competitive advantages which firms of one nationality possess over those of another nationality in supplying any particular market or set of markets. These advantages may arise either from the firm's privileged ownership of, or access to, a set of income-generating assets, or from their ability to co-ordinate these assets with other assets across national boundaries in a way that benefits them relative to their competitors, or potential competitors. (2) The extent to which firms perceive it to be in their best interests to internalize the markets for the generation and/or the use of these assets; and by so doing add value to them. (3) The extent to which firms choose to locate these value-adding activities outside their national boundaries" (p.176). Stated otherwise, he asserts that the international production is determined by ownership, location and institutional determinants (OLI). Dunning (2001) also believed that this paradigm is a good framework for analysing the determinants of international production. The study conducted by Carman and Fragkiskos in 2008 agreed with Dunning's opinion by examining the impact of ownership and location advantages when making internalisation decisions. The result proves that Dunning's eclectic paradigm

(OLI) is holistic and effective in investigating international motivations (Stoian & Filippaios, 2008).

3.3.2 Transaction cost theory

Lots of research suggested that internationalisation decisions are made in rational manner. It can be said that Dunning's eclectic paradigm is based on the analysis of transaction cost. The transaction cost theory is mainly focused on the multinational corporation's vertical integration decisions, that are to help these firms to evaluate the benefits of establishing an oversea manufacturing subsidiary (Erramilli & Rao, 1993). Vertical integration is a strategy where a company expands its business operations into different steps on the same production path, such as when a manufacturer owns its supplier and/or distributor (Argyres, 1996). The embedded assumption in this theory is that markets are highly competitive which include many suppliers, distributors, agents and so on. Thus, it is essential for firms to adopt a low cost mechanism to minimise the risk of replacement, and force suppliers to increase their efficiency under such circumstances (Anderson & Coughlan, 1987; Anderson & Gatignon, 1986). In addition, supplier replacement is a risky choice for firms if the number of suppliers is restricted in the market. Correspondingly, the transaction cost used to maintain the low control mechanism will increase because it is essential for firms to negotiate and supervise their contractual partners (Dwyer & Oh, 1988). The transaction cost theory predicts that under the circumstance of high asset specification, firms are eager to complete integrations to maintain the comparative advantages in the market (Whitelock, 2002).

3.3.3 Resource based view

The resource based view (RBV) is also acknowledged as the theoretical framework for the firm's internationalisation decisions. It enables firms to identify their internal strengths and weaknesses, and then concentrate on their competitive advantages which influence their strategy and performance. Firms can attain competitive advantage from the strategy which creates value and is not currently implemented by other competitors (Barney, 1991). However, it is not easy to sustain firm's comparative advantage. A competitor can enter the market with a resource which may invalidate the prior firm's

competitive advantage (Barney, 1986). In the RBV, it is believed that to transform their short-run competitive advantages into sustainable competitive advantages, firms need to obtain naturally heterogeneous but not perfectly mobile resources (Barney, 1991). Specifically, the valuable resource enables firms to gain competitive advantages (Barney, 1991; Peteraf, 1993).

According to Amit and Schoemaker (1993), "resources" comprises resources and capabilities. The distinction between resources and capabilities is that resources are tradable and not specific to the firm, whereas capabilities are unique and non-transferable, such as knowledge or innovation. Makadok (2001, p.389) defined capabilities as "a special type of resource, specifically an organisationally embedded non-transferable firm-specific resource whose purpose is to improve the productivity of the other resources possessed by the firm". Nevertheless, once firms accumulated sufficient valuable resources, they would sustain firms' above average return. If the imitation actions taken by competitors could not destroy a firm's competitive advantage, the firm's competitive advantage strategy can be seen as sustainable.

The origins of RBV can be found in the work of Coase (1937), Penrose (1959), Stigler (1961), Chandler (1962) and Williamson (1975), and this theory is named by Birger Wernerfelt in his work as "A resource based view of the firm" in 1984. According to Barney (2001), the RBV is an approach that not only can help firms to analyse the existed resources for strategic purposes, but is also usable as reference for the firm's future decisions. However, some researchers criticise this theory. For instance, Priem and Butler (2001) suggest that the role of product markets is underestimated in the theory. Lippman and Rumelt (1982) claim that the prominent source of sustainable competitive advantage is casual ambiguity. Nevertheless, RBV is important for firm's internationalisation decision because it can help firms to distinguish competitive advantages from the aspects such as inertia, knowledge base, path dependence and management (Dosi, 1992). The use of RBV is actually a process of knowledge accumulation, because the capabilities are constituted by non-transferrable knowledge (Schoemaker, 1993). For the firms choosing Uppsala model, the accumulation of knowledge is an inevitable step in their internationalisation process, because it is necessary for firms to recognise their competitive advantages before they enter into a

foreign market.

3.3.4 Institutional theory

The Institutional theory assumes that the institutional environment has strong impact on the development of formal structures in an organisation, often more profoundly than market pressures. It also provides a non-economic explanation for firm's organisational behaviours and strategies in business markets. According to Peters (2011), the institutional theory can also explain the influence of "psychic distance" and "market settings" on the firms because it takes the systems around the firms, which shape the firm's behaviour into consideration (DiMaggio, 1988; Scott, 1995).

In order to understand and explore firm's strategic choice, it is necessary to investigate firm's institutional framework. The institutional framework expects the firms and individuals to follow the rules that derived from regulatory structures, governmental agencies, laws, courts, professions and scripts and other societal and cultural practices. And firms could decide which is appropriate under different circumstances and which is unacceptable or not worthy of consideration (DiMaggio, 1988). According to previous studies, both the security and legitimacy position can be improved by following the rules and norms in the institutional environment (Meyer, Rowan, & DiMaggio, 1991; Scott, 1995).

This theory has been widely adopted in the fields of political science and economics. These areas are focused on the governance structures or sets of rules. Scott (1995) suggested that the operation and development of firms is influenced by both of the social and institutional behaviours. In that study, he proposed there are three factors which affects firm's strategic decision making with and within firms. They are the regulative factor (push and pull effects), the normative factor (the quest for legitimacy by conforming) and the cognitive factor (the right thing to do, based on beliefs and values) respectively. The regulative factor is based on legislation, regulations, agreements and standards. It provides 'rules of the game' to guide firm's behaviour. The normative factor is based on both the organisational and individual behaviour. It is usually determined by what is appropriate or expected within the institutional framework. The last factor -the cognitive factor, only focuses on the individual behaviour that are based

on subjectivity and constructed rules, and then decides on the appropriate beliefs and actions. It is useful at the individual level because it focus on the culture and language aspects.

In addition, the institutional theory is also useful for researchers to find the most appropriate way for firms to expand the business into new markets based on their social environments (Wright et al., 2005). There are many previous studies that take this theory into consideration when analysing firm's international strategy. For instance, the study conducted by Walsh, Wang and Xin in 1999, considered the different perceptions of local and foreign managers (Walsh, Wang & Xin, 1999). Cardoza and Fornes (2012) highlighted the importance of cultural and institutional settings within a Chinese context. Some studies adopted social identity theory in studying the performance of local management (Zhang, George & Chan, 2006), while others included the work on restructuring and corporate governance (Thompson & Wright, 1995). However, the institutional approach is not useful if the institutional and cultural background are similar. The reason for this is this approach lacks consistency when measuring institutional influences. It will limit the generalisability of findings and makes the study of individual emerging markets more complex (Hoskisson et al., 2000).

3.3.5 Network approach

Johanson and Mattson develop the network model of internationalisation in 1988 within the framework of the revised Uppsala model. This model described not only a firm's own network relationships, but also the relevant network structure in foreign markets. As Johanson and Mattson (1988) emphasised business network is all about firm's relationships that include the relationship with its customers, distributors, suppliers, competitors, government and so on. It builds on the assumption that firms can acquire other firm's resources via reliable network relationships. It is believed that the strength of a firm's relationship with clients or business partners will increase as the internationalisation goes further. Firms need to create and maintain business relationships in the markets they operate during the internationalisation process (Johanson & Mattson, 1988). More specifically, they are not only needed to form new relationships in the foreign markets, but also should increase commitment with the

existing relationships. And it is also important for them to constantly be integrating the network to complete the international integration. The network approach emphasises how important the outside network structure and specific business relationships are in a firm's internationalisation process.

There is a number of research that focuses on the role of networking played in firm's internationalisation process. Because business network relationships can not only help firms to integrate into the local business, but also enables them to learn from experience and transfer knowledge between businesses (Chetty & Holm, 2000; Nordman & Melén, 2008; Sharma & Blomstermo, 2003). For instance, the model that Coviello and Munro (1997; 1995) developed combining the stage model and the network approach, explained the impact brought by network relationships on firm's foreign market selection and first entry mode choice. Besides that, Martin, Swaminathan and Mitchell (1998) conducted a study to discuss the international expansion process of automotive components suppliers in Japan. They found that these firms' internationalisation pattern is affected by the inter-organisation relationships, especially the relationship with customers. Firms with sufficient inter-organisation relationships can be seen as an "insider", this phrase was first introduced by Johanson and Valhne (2009) in their research. Which refers to "a firm is well established in a relevant network or networks" (Johanson & Valhne, 2009, p.1415). To achieve success in international business, it is necessary for firms to develop insiderships. On the contrary, "outsider" means a firm does not hold a position in the relevant network. As an outsider, it is impossible to gain success in international business because they will suffer from the liability of outsidership and foreignness, which is an obstruction to firm's learning and trust-commitment building process. Moreover, there are lots of other researchers investigating network from different perspectives. Such as international strategy (Welch & Welch, 1996), firm's first step abroad (Ellis, 2000), SME internationalisation (Chetty & Holm, 2000), and internationalisation of firms from emerging markets (Elango & Pattnaik, 2007), rapid internationalisation (Loane & Bell, 2006) and so on. Besides that, there is increasing evidence to address the fact that relationship-oriented motivations are gradually replacing the market-oriented motivations when firms are making internationalisation decisions. For example, some firms decide to operate in a foreign

market because their customers are mostly abroad. And some other firms choose a specific foreign location to operate because the staff hold a good business relationship with customers in that market, from his previous employment (Coviello & Munro, 1997; Erramilli, 1991; Johanson & Vahlne, 2003). According to Johanson and Valhne (2009), the research project in Uppsala in the mid-1970s found that firms value the lasting relationship with their important customers. And in addition, relationship specificity is much more important than the market or country specificity in firm's internationalisation process.

However, why do networking relationships become so important for firm's internationalisation process? Because it is highly correlated with the two major problems that are mentioned before: psychic distance and knowledge transfer. There is some research investigating whether business network relationships can overcome the distance problems between different markets. The results showed that business network relationships can help SMEs to reduce or "bridge" psychic distance, and the difficulty of building up new network relationships will increase as the psychic distance increases (Johanson & Vahlne, 2009). Furthermore, some studies indicated network enables firms to access markets that are far from the domestic market (Ojala, 2009), although the long distance will increase the time and resources to formulate network relationships (Kontinen & Ojala, 2010; Lu & Beamish, 2001).

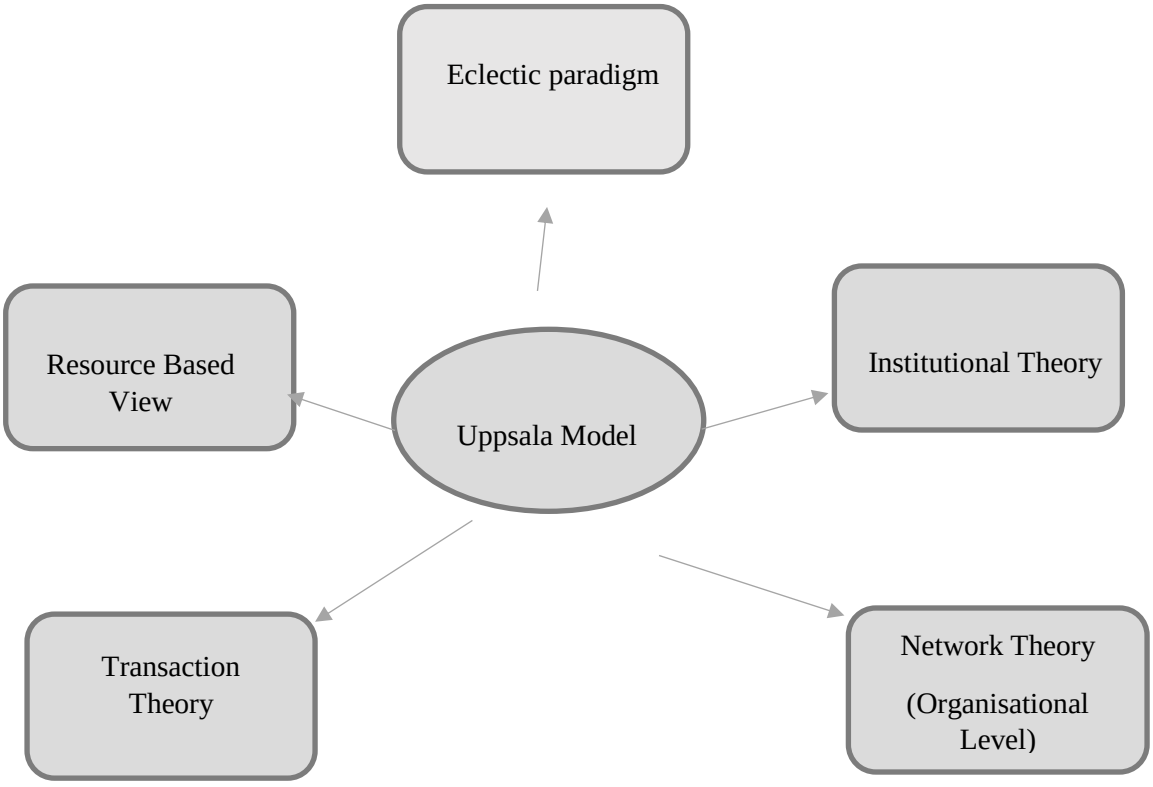
Apart from that, knowledge is one of the most valuable resources that firms own, though knowledge can also be obtained via network relationships. In the original Uppsala model, experiential knowledge or tacit knowledge is crucial in firm's internationalisation process. As mentioned before, firms can only acquire experiential knowledge via their operations. According to Andersen and Buvik (2002), firms can gain experiential knowledge from the interactions with foreign business relationships, thus the most efficient way to generate "experiential knowledge" is relationship exchange. Firms can obtain external knowledge from the relationship exchange with customers or suppliers, and utilize this knowledge to broaden their existing knowledge outlook and develop it further (Eriksson & Chetty, 2003; Turnbull, Ford, & Cunningham, 1996). Moreover, Kogut (2000) believes that the indirect knowledge creation process can develop firm's knowledge base too. The term "indirect knowledge"

refers to the knowledge that is created from the activities of a firm's partner or its partner's partner, and all these coordinated partners build up a firm's network relationships.

Lots of studies investigated the issue of how to build up business network relationships in firm's internationalisation process. For instance, some managers gain relationships via coordinating with other firm's activities, while other managers build up their network relationships by creating interrelated routines for different firms. Although these relationships are simply gained via social exchange process, they can help firms to accumulate knowledge and build trust, and finalise with increasing commitment (Anderson & Weitz, 1992; Morgan & Hunt, 1994). Because as Hallen (1986) claimed, the weak tie and unilateral dependence will be strengthened in firm's internationalisation process, transformed into strong connections and bilateral interdependence, and eventually increase firm's joint productivity (Zajac & Olsen, 1993).

A summary of the main theories influential to the Uppsala model is shown in the figure below.

Figure 3.1: Summary of the main theoretical influences within the Uppsala Model



3.4 Why do Chinese firms choose the Uppsala model?

According to Zeng (2012), many Chinese enterprises prefer to adopt this traditional model, but why are these firms so eager to choose this model? There are many potential answers to this question.

First of all, the decision to internationalise means risk taking. China experienced a long period of planned economies. As discussed in the previous chapter, the market in China is not mature enough to compare with the market in Western countries (Xue, 2011). The decision to start internationalisation is undoubtedly an adventure for SMEs. A gradual process not only helps these firms to keep their progress at a steady pace but also provides precious time for them to obtain knowledge from the new market. Entrepreneurs who chose this path are more inclined to conservatism, as they require a solid backup in both experience and financial support (Sylvie & Colin, 2004). Another reason that could address this choice is that firms are lacking experiential information. They can collect experiences either from other firms which are already internationalised, or conduct market research by themselves. However the first kind of experiences is hardly to acquire because of the confidentiality problem. The second channel can only help firms to gain access to the basic information such as laws, regulations and so on. Hence it is a rational strategy to emerge from the domestic market and then gradually accumulate assets and experience (Forsgren, 2002). Other than that, the timing of internationalisation is also a considerable factor that induces firms to choose this path. Firms adapting the Uppsala model will not start their internationalisation process unless they've attained a strong domestic base (Knight & Cavusgil, 2004). Thus, this approach offers adequate time for these SMEs to strengthen their groundwork for the internationalisation. In addition, most of the SMEs consider the home market as the fundament where they should start. Firms compete in the domestic market, and attempt to earn profits and gather experiences in the meantime.

In general, the Uppsala model is a traditional way for SMEs to achieve internationalisation, and it may not only overcome most of the problems facing SMEs, such as lack of finance and inadequate knowledge of foreign markets, but also lower the risk due to a gradual internationalisation process. However, firms adopting the Uppsala model usually take years to internationalise, which is not good for SMEs to gain

competitive advantage in the international market, due to the rapid changing market conditions.

3.5 The driving factors in the Uppsala model

3.5.1 Risk management

The Uppsala model considers risk as a dependent variable that affects commitment and uncertainty in the process of realising firm's internationalisation. Due to the contingent nature of firm's growth and the consistent changes in firm's operating environment, the risk could determine the pace and pattern of the internationalisation process (Figueira-de-Lemos, Johanson, & Vahlne, 2011). According to the transaction cost theory, the Uppsala model also suggests that external uncertainty is the main factor that decides a firm's market entry mode choice. However, it is easy to confuse the concept of risk and uncertainty although they have a ubiquitous link. Knight (2012) conducted research to illustrate the differences in risk and uncertainty. He claims that uncertainty contains two parts: "contingent uncertainty" which can be reduced, and "pure uncertainty" which is unchangeable. Moreover, the risk is the result of the combination of contingent uncertainty and pure uncertainty rather than the substitution of them. Cyert and March (1963) explained the differences between the pure uncertainty and contingent uncertainty explicitly by assuming there is no limit on the acquisition and use of knowledge. Thus it is possible for firms to learn everything, if the problem of lack of knowledge will not exist. However even under such circumstances, firms are still unable to know the future outcomes, meaning uncertainty is not avoidable. This kind of inevitable uncertainty will create an unpredictable future and can be defined as pure uncertainty. On the other hand, contingent uncertainty is an event that might happen but can be planned and dealt with using contingent plans (Jones, 2007). And it is knowledge dependent that firms can manage the contingent uncertainty by knowledge, skills and risk management strategies (March & Shapira, 1987). As a firm acquires more knowledge about the market, the capability to distinguish different contingent plans will increase as well. Thus, it is rational to conclude that risk exists because of the combination of uncertainty, and these two concepts cannot substitute each other (Knight, 2012).This conclusion is consistent with the Uppsala model's original framework

regarding uncertainty.

Despite the risk and uncertainty caused by firm's operations, there is another risk that plays an important role as external uncertainty in firm's internationalisation process, which is "country risk". Country risk includes political risk, economic risk and social risk. These risks are volatility in a foreign country's political environment, economic environment, and social environment. For instance, political risk is the unfavourable change in a foreign country's governmental regime or the unfavourable policies issued (Henisz, 2000). And moreover, these three kinds of risk are highly correlated and caused volatility in the market. According to Delios and Henisz (2003), the difficulties such as interpret and organise information is increasing as the volatility increase in the market. As lots of research suggested, in the internationalisation process, the risk is mostly due to the lack of market knowledge and the impact of psychic distance (Johanson, 1975; Sylvie & Colin, 2004). Thus, it is necessary to deliberate the importance of knowledge and distance in the Uppsala model explicitly.

3.5.2 Experiential Knowledge

According to Carlson (1966) who claimed that knowledge plays the most important role in the Uppsala model, he started from the fact that the internationalisation is a challenge for firms because of the insufficient knowledge concerning theforeign market. Then he raised the question of how firms are handling uncertainty, caused by lack of knowledge in their investment activities. His research hypothesis is that firms are attempting to handle the uncertainty problems incrementally and acquire knowledge about the foreign market through trial and error. Incremental behaviour ensures firms keep their foreign investment activities in control and gatherinformation about how to expand their business into a foreign market gradually. The information collected in one phase, can be used in the next phase in the future.

Based on Carlson's research, Forsgren (2002) also proposed three assumptions for the Uppsala model. The most basic one is that the major difficulty in firm's internationalisation process is a lack of knowledge about foreign markets. However, firms can obtain such knowledge via their operations and this knowledge is unique, and therefore cannot be acquired by other firms (Johanson & Vahlne, 1990). There is an

interesting phenomenon that firms are not only collecting information about the market, but also gradually connecting themselves to the market via their operations. Hadjikhani (1997) referred to this phenomenon as “intangible commitments” in his research. Thus, the need for both tangible and intangible knowledge forces firms to spend more time on the knowledge collection phase. The second assumption Forsgren (2002) made in his research is that firms choose the gradual path in the internationalisation process because of market uncertainty. These firms are making decisions and implementations incrementally to minimise the market risk. The ‘learn by doing’ logic suggests that as the more the firms learned about the market, the lower the market risk will be. And firms will more willing to internationalise (Johnson, 1988; Quinn, 1980). The third assumption Forsgren (2002) made is that knowledge cannot be transferred to others because it is highly dependent on individuals. According to Penrose (1966), Johanson and Vahlne (1977, p. 30) stated clearly in the Uppsala model that “experience itself can never be transmitted, it produces a change-frequently a subtle change-in individuals and cannot be separated from them”. Firms are supposed to discover opportunities and problems in the experience accumulation process. However for the firms that choose the Uppsala model, experiences can only be generated by those who are working in the market, it immensely limits the pace of firm’s internationalisation process (Forsgren, 2002). However, Johanson and Valhne (2009) revised the Uppsala model, and made assumptions based on the business network view. It assumes that regardless of market conditions, resources are heterogeneous and unique, and a bundle of resources can create value for firms. Most importantly, it also assumes firms can acquire knowledge about resources, needs, capabilities, strategies and other relationships with their business partners from the network relationship exchange. This kind of knowledge requires a great amount of time to accumulate, and different kinds of knowledge deficitwill cause different effects on the perceived cost of firm’s internationalisation. Thus the revised Uppsala model stresses the idea that knowledge reflects firm’s capability in international business and its resources can be transferred between different firms (Eriksson, Johanson, Majkgard, & Sharma, 1997; Welch & Luostarinen, 1988). This transferrable knowledge is referred to as general knowledge in many studies, and it comprises many sorts of experiences. To be more specific, it includes foreign market entry experiences

(Sapienza, Autio, George, & Zahra, 2006), mode specific experience (Padmanabhan & Cho, 1999), core business experiences (Chang, 1995), alliance and acquisition experiences (Hoang & Rothaermel, 2005; Nadolska & Barkema, 2007), and some specific internationalisation experiences etc.

Although the revised version claims that business partners can share knowledge with each other, it still insists that experiential learning is the most frequently used mechanism for firms to accumulate knowledge. However, there are lots of dissenting opinions. For instance, Anderson (1993) noted that the Uppsala mode is not fully described in all the situations of a firm's internationalisation process. Furthermore, he also believes that there are ways of learning other than experiential learning, which can help firms to accelerate their knowledge gathering process. Forsgren (2002) argues that non-experiential learning like acquisition, imitation and search can help firms as well.

3.5.3 Organisational learning

Organisation learning as a part of behavioural theory mainly highlights experiential learning via continuing activities. Johanson and Vahlne (1977) claims that experiential learning is significant in the Uppsala model because it builds up experiential knowledge that can reduce the uncertainty in the internationalisation process, and accumulates foreign market commitment. Later on in their revised version of the Uppsala model, they stick to the standpoint that experiential learning "provides the framework for perceiving and formulating opportunities" (Johanson & Vahlne, 2009, p. 28). From the organisation learning perspective, it can be seen that there are many channels for firms to retrieve knowledge about the foreign market. For instance, firms can gain access to other firms for relative experiences through business or personal relationships. It's not necessary for them to go through the same process as these firms (Eriksson, Johanson, Majkgard, & Sharma, 1997; Hansen, 1999; Kraatz, 1998; Kumar & Nti, 1998). Besides that, a common learning mechanism is well accepted by most of the firms. It works by copying other highly legitimatised firm's behavior first and then performing in a similar way (Haunschild & Miner, 1997; Haveman, 1993; Huber, 1991). In addition, there are some 'short cuts' that can help firms to obtain relative experience such as directly buying other firms, or hiring someone who has the required knowledge and so on

(Barkema & Vermeulen, 1998; Huber, 1991). China is a typical example from this viewpoint. The Chinese government encourages firms in China to buy instead of renting, because acquisition is the fastest way to obtain both knowledge and talent. In other words, firms may take years to learn all the required knowledge from others, if they only rent the estate rather than buying (Abrami, Kirby, & McFarlan, 2014). Finally, firms can buy information from specialised organisations or conduct searches for new information to accelerate their knowledge accumulation process (Huber, 1991).

However, the Uppsala model follows the basic pattern that firms start to operate in one or few neighbouring countries, investing cautiously based on the experience of people who are working in the market (Johanson & Vahlne, 1990). The model builder has explicitly stated that market knowledge should only be generated either from firm's current activities or from 'personal experience' (Johanson & Vahlne, 1977). Thus, the solutions mentioned before, such as learning through copying other firm's behaviour, corporateing with other firms or special talents, or searching for new information from the specialised organisations are not very effective in the Uppsala model (Forsgren, 2002).

3.5.4 Distance

Distance is a frequently used phrase in international business literature. There are three types of distance: geographic distance, culture distance and psychic distance. For instance, Shenkar (2001) posed a series of questions about "culture distance" in his research on international business. However, some of the researchers believe that psychic distance is an outdated concept,unsuitable for today's international business (Stottinger & Schlegelmilch, 2000). Other researchers suggest that psychic distance is not applicable to small and new ventures (Autio, 2005; Bell, McNaughton, & Young, 2001). In the meantime, most of the researchers are still using these concepts in their research to address the question of how distance affects firm's internationalisation model choice (Ambos & Håkanson, 2014; Dow, 2000; Håkanson & Ambos, 2010).All the researchers in this area agree with the idea that the uncertainty of doing business will increase, as the distance between home country and target country increases (Arto, 2015). Because of this, it is important to keep the uncertainty as low as possible,

especially for SMEs, because they are always in the inferior position not only in their industries, but also in the domestic andforeign markets. Under such circumstances, these firms should seriously consider distance as an influential factor in their international expansion. This conclusion is consistent with the setting of the Uppsala model towards the psychic distance. However, compared to the large multinational corporations, SMEs only received limited research attention (Arto, 2015).

3.5.4.1 Geographic distance

As mentioned before, there are three terms frequently used in the international business research: geographic, culture and psychic distance (Brewer, 2007; Child, Rodrigues, & Frynas, 2009; Dow, 2000; Dow & Karunaratna, 2006; Ellis, 2008; Ragozzino, 2009). Arto (2015) conducted a contextualisation, discussing these three concepts and analysing their possible implications for SMEs. In this research, geographic distance is defined as the physical space between the home country and the foreign country that firms intend to enter. It is usually measured in kilometers or miles to show the distance between firms and their target markets. In the past, closer geographic distance could lower the economic and managerial cost, facilitate information exchange and familiarise firms with the similar operating environment. To operate in nearby markets, firms could not only gain quicker access to the funding opportunities, but also be able to build networks for further development (Freeman, Giroud, Kalfadellis, & Ghauri, 2012). However, it is interesting that after the firm's first entry, the impact of geographic distance on foreign market choice decreased sharply (Clark & Pugh, 2001; Ojala & Tyrväinen, 2007). And furthermore, with the development of transportation and communication technologies, the effects of geographic distance on firm's international entry mode choice was greatly eliminated also (Arto, 2015).

3.5.4.2 Culture distance

Another phrase commonly used in international business literature is culture distance. Johnason and Vahlne (1977) found that ventures are inclined to maintain "culture distance" when they engage with a business that crosses borders. The logic for ventures seeking "culture distance" or "psychic distance" is that operating in countries with a similar culture could lead to a faster learning process. "Culture" is defined as the values, beliefs or normative behaviours that are agreed upon by a group of people (Leung,

Bhagat, Buchan, Erez, & Gibson, 2005). And “culture distance” refers to “the differences between groups of people regarding values, communication styles, and stereotypes” (Arto, 2015, p. 3). Lots of researchers claimed that cultural distance affects firm’s foreign market entry negatively in many ways,such as people’s differences in values (Hofstede & Hofstede, 2001; Schwartz, 1994), in communication style or culture stereotypes (Gannon, 1994) and so on. Especially for SMEs, culture difference is an obstacle in the way of internationalisation. Unlike the multinationals or state owned corporations, these firms either cannot afford to hire talents with relevant cultural knowledge, or don’t have sufficient financial resources and network to support them. Therfore it is hard for them to overcome these differences (Child et al., 2009;Kontinen, 2011; Ojala, 2009). Fortunately, culture differences decreased a lot due to the wide use of advanced communications technology and transportation. People can not only familiarise themselves with another country’s culture via screens, but are also able to travel to other countries and experiencetheir culture and implement it in their life. Thus, the increasing similarities among markets give firms more insights towards the foreign markets and helps them to standardise their international activities effectively (Magnusson,Wilson, Zdravkovic, Xin, & Westjohn, 2008). And furthermore, some research specifies that there is no explicit evidence proving culture distance is a strong indicator for the internationalisation of SMEs (Brock, Johnson, & Zhou, 2011;Dow, 2000; Ojala & Tyrväinen, 2007).

3.5.4.3 Psychic distance

Last but not least, the psychic distance is frequently mentioned in the Uppsala model as well. It is defined as differences between home country and foreign countries in dimensions of language, culture, political systems, business practice, industrial development, and educational systems (Johanson & Vahlne, 1977). However, besides Johanson and Vahlne, there are a lot of other researchers defining psychic distance as well. For instance, although it can be simply interpreted as the distance between domestic market and a foreign market, it is actually a mixture of factors that prevent or disturb a firm’s learning process towards the foreign market (Vahlne & Nordström, 1992). As suggested by Lee (1998), insights about culture and business differences, especially differences in language, education, trade practices, political, legal systems,

economic environment, religious, and industry structure and so on are the causes of psychic distance. In other words, it means that psychic distance can be affected by these differences and mostly in a negative way (Nebus & Chai, 2014). However, Freeman (2012) claims psychic distance is also highly correlated with uncertainty in the host market. The uncertainty arises from the differences in culture or other business activities, which is mainly caused by individuals, such as a manager's international experiences or attitude towards risk and so on. In the Uppsala model, Johanson (1975) states that firms need to gain sufficient international experiences in one market, and then gradually move to another with more psychic distance. Until 2009, Johanson and Vahlne (2009) revised the last version of the Uppsala model, and specifically pointed out that uncertainty is mostly caused by firm's network being defective, rather than the psychic distance and country market. They describe the relationship between psychic distance and the process of firms' internalisation in their research as "internationalisation frequently started in foreign markets that were close to the domestic market in terms of psychic distance, defined as factors that make it difficult to understand foreign environments" (Johanson & Vahlne, 2009, p. 1412). Brewer (2007) developed an index to confirm this point. He claims that the "more familiar the firm's managers are with a market, the more likely they are to consider entering it" (p.47-48). In theory, psychic distance has a negative relationship with firm's performance, i.e. firms are supposed to achieve success if they chose psychically close or nearby countries as their first entry market. It increases the cost and risk by obstructing knowledge transfer and acquisition (Ellis, 2008; O' Grady & Lane, 1996). However, O'Grady (1996) and Lane found an opposite result in their research, and refer to it as "psychic distance paradox". In their study, they found the Canadian firms experienced a lot of failures when they entered the United States market. They specifically noted that this is the evidence to prove firms may suffer from poor performance, or even failure in their internationalisation process if they choose a psychically close market as the first market entry.

3.6. The Born Global model

As mentioned before, the most commonly adopted internationalisation strategy by firms is the Uppsala model. This strategy is affected mainly by factors such as firm's size, age, and learning experiences and so on (Andersen, 1993). Thus, those firms prefer to gain a

solid domestic base at first, and then gradually expand into international markets due to the risk and uncertainty embedded in the process of internationalisation (Johanson & Vahlne, 2009; Johanson, 1975). However, there is numerous literature proving that not all the firms are adapting the Uppsala model to start their internationalisation. Madsen and Servais (1997)believe that unlike the stage model suggested, international markets provide opportunities in reality, rather than risk and uncertainty, because in the last two decades, there are an increasing number of firms starting to aim at international markets since their inception. This phenomenon is a serious challenge for the stage model and attracted a lot of scholars' attention (Jones, Coviello, & Tang, 2011; Keupp & Gassmann, 2009; Kiss, Danis, & Cavusgil, 2012). For instance, Welch and Luostarinen (1988) found that the small firms in the UK, Australia and Sweden skipped several different steps and started foreign direct investment unexpectedly fast. Moreover, a nationwide study for the small manufacturing firms in the US also found that 13% of firms in this particular sample started export activities in the first year soon after their inception (Brush, 1992). Therefore, some researchers argued that the Uppsala model may not be applicable to all the SMEs going for internationalisation (Moen, 2002).

The Born global mode of internationalisation is viewed as an alternative to the Uppsala stage model. According to the studies concerning this phenomenon, they found that some firms skip some stages in the traditional mode, and experience a rapid but dedicated internationalisation process by the continuous exploration of the foreign markets (Knight & Cavusgil, 1996). With the rise of this phenomenon, scholars identified this kind of firm as "born globals" (Madsen & Servais, 1997; Rennie, 1993), "global start-ups" (Oviatt & McDougall, 1994), "high technology start-ups" (Jolly, Alahuhta, & Jeannet, 1992), and "international new ventures" (McDougall, Phillips, Shane, & Oviatt, 1994). To be more specific, "born globals" appear until the late twentieth century (Sylvie & Colin, 2004). As Knight and Cavusgil (1996) suggested, born global firms start their international business from the inception, or at least within three years after the inception. Moreover, they can obtain at least 25% of turnover from the international business within three years (Knight & Cavusgil, 1996). More specifically, born global firms are "small, technology-oriented companies that operate in international markets from the earliest days of their establishment" (Knight & Cavusgil,

1996, p.12). It is suggested that born global is a firm that not only seeks significant competitive advantages since its inception, but also operates and use resources in multiple countries within three years from its establishment (Oviatt & McDougall, 1994). Born global firms are holding a positive attitude towards the internationalisation and they also believe that foreign markets are less risky and less costly (Autio, Sapienza, & Almeida, 2000; Eriksson, Johanson, Majkgard, & Sharma, 1997).

Table 3.1 presents the different definitions of born global firms.

Table 3.1: Definition of born global firms applied in selected research

Publication	Coverage	Maximum time before starting international activities	Minimum share of foreign sales as a percentage of total sales	Other characteristics
Rennie (1993)	*Australia*	2 years	75%(at the age of 14 years)	Global mindset of management from the outset
Knight and Cavusgil (1996)	*N.A*	2 years	25%	Global mindset of management from the outset
Autio and Sapienza (2000)	*UK*	3 years	N.A.	Competitive advantage from the international use of resources or international sales
Madsen et al (2000)	*Denmark*	3 years	Over 25%	N.A.
McDougall et al (2003)	*USA*	6 years	N.A.	Young enterprises(not older than 6 years at the time of research) Independent firms(no holding spin-offs, no purely investment

				funds)
Chetty and Campbell-Hunt (2004)	*New Zealand*	2 years	80%	N.A.
Loustarinen and Gabrielsson (2006)	*N.A.*	N.A.	Over 50%	Global vision and/or global growth path
Zhou et al (2007)	*China*	3 years	10%	N.A.
Harris and Li (2007)	*UK*	5 years	Export activity	N.A.
Servais et al (2007)	*Finland*	3 years	25%	N.A.
Sundqvist et al (2010)	*N.A*	3 years	25%	N.A.
Halldin (2012)	*Sweden*	4 years	25%	N.A.

Source: Gabrielsson, Kirpalani, Dimtratos, Solberg & Zucchella (2008)

The common features generated from these definitions are that firms choosing to be a "born global" have to internationalise within 3 years from their inception, and should achieve the major parts of their total sales via exports. Moreover, Knight and Cavusgil (1996) specified these firms are mostly high-tech companies with fewer than 500 employees, but can achieve 100 million dollars as annual turnover. The products they produce are highly specialised and customised, aimed for the international niche markets. These products can not only help firms to open up the international markets, but also help them to gain access to the international networks and financial markets. Gabrielasson and Kirpalani (2008) enhanced the definition, by stating that born global firms mostly possess products with a promising global market prospect and excellent entrepreneurial capability. The combination of these two elements can help firms to accelerate their internationalisation process. Rennie (1993) conducted empirical research in Australia to investigate the reason for the global market success of SMEs. The example he presents as a born global firm is a company that is specialising in the production of implants for profoundly deaf people. This company obtained 95% of total revenue by exportation and this goal was achieved within five years. As a typical born global firm, it supposed to maintain high technological advantages, and in the meantime, possesses strong links with hospitals, research centres and institution's research networks around the world.

According to the research carried by Eurofound (2012), there are other studies investigating other aspects of "born global" firms (Eurofound, 2012). Such as the firm's type, the reason for their emergence, and the challenge they face in the internationalisation process. For instance, there are some studies examining the efficiency of the internationalisation model the firm used in the process (Lejko & Bojnec, 2011), while some explored the differences in firm's internationalisation pathways (Cavusgil & Knight, 2009; Halldin, 2012; Harris & Li, 2007; Mettler & Williams, 2011). Furthermore, most of the researchers are adopting quantitative methods or simple questionnaires to investigate this topic.

3.7. Research on born global firms in Western Countries

It is worth mentioning that the "born global" phenomenon is well acknowledged around the world. Born global mode is not unique to one firm or one country, it is a worldwide

and well accepted internationalisation mode (Oviatt & McDougall, 1997). The prior research towards born global has already been conducted in Europe, North and South America, the Middle East, and Asia. As Lehmann and Schlange (2004) found in their study, firms in Norway founded in the 1970s on average took 27 years to start their exporting, firms founded in 1980s generally took 2 years to start exporting, whereas firms founded in the 1990s only took one year to start international business. In addition, it is confirmed that more than a half of the SMEs in Finland, Norway, Sweden, and Denmark started to export within two years after their inception. Moen (2002) also found that around 50% of Norwegian SMEs founded in the 1990s, and 11.6% of French SMEs founded in the 1990s are born global firms from his 400 sample size survey. Similarly, there is an empirical study conducted in Canada, regarding 75 early stage high-tech firms. The result shows that 93% of these firms started international business shortly after their inception (Preece, Miles, & Baetz, 1999). Besides that, there are different surveys carried out separately in Australia, Spain, and Denmark. The survey conducted by Gruber-Mucke (2011)in Australia invited 500 start-ups to participate. The result shows around 20% of these firms started to export since their inception and operate in no more than three foreign markets at the same time. And in the meantime, another 2% of these firms operated in four to six foreign markets, and remaining 1% operated in more than six foreign markets. In comparison, the older firms maintained a positive relationship between firm's age and the number of foreign markets they operate in. Furthermore, the McKinsey research in Australia claimed that born global firms contributed 20% of the new trade growth (Rennie, 1993). In Spain, the survey carried out in 2006, which includes 270 firms, shows that 16.6% of them started to export in their first year, and another 26.2% started to export within 6 years (Pla-Barber & Escribá-Esteve, 2006). Additionally, Sanchez and Rodriguez (2008) pointed out that more than 15% of SMEs are younger than seven years, and they contribute over 25% of export share for Spain's economy. In Denmark, a survey included 270 SMEs in 2000, illustrating that there were 17% of SMEs creating 25% of export shares within three years after their inception.

From the above literature review, it can be seen that the emergence and significance of born global firms is well recognised in Western countries. However, as some researchers

noticed, the numbers of born global firms among the internationalised firms are not very optimistic. It means that even in Western countries, born global firms are new comers and still in the minority in comparison with the traditional firms. For instance, the UK Trade and Invest Department (DTI) conducted a survey to calculate the number of born global firms in UK in 2007.This survey includes the data of 80,000 UK firms with 327,000 observations during the period 1996-2004. The result shows that only 2% of firms can be counted as born global firms. One reason for this was the strict definition of born global firms DTI adopted, that is: a firm established less than five years and started to export internationally within the first two years (Harris & Li, 2007). A survey focusing on the internationalisation of European SMEs in 2009 generated a similar conclusion. It found that only 17% of the SMEs fitted the crietirea of born global firm, even though the definition they adopted is that the firm should start to engage in international business within four years after their inception, and achieve 25% of turnover via export (EMI Business & Policy Research, 2010). And these firms are engaged in international activities via different methods. The survey indicates that 2% of born global firms directly invested abroad, and 7% of them cooperated with foreign firms for technological consulting purposes, while another 6% of them are subcontractors to foreign contractors (EMI Business & Policy Research, 2010).

In the above literature, the importance of born global firms in a country's national economy is also acknowledged. For instance, the study conducted by UKTI claimed that born global firms contribute around 6.8% of employment, and 8.1% of national gross output in UK during the period 2002-2004. The investigation carried by Global Entrepreneurship Monitor showed that around 12% of firms hired 10 or more employees in their early development stage, while born global firms hired twice that number. Because the nature of born global firms is to provide expertise on specific products or services, they are normally more profitable than other young firms on average. The tax revenue and value chain effects will directly influence born global firm's level of profitability, and even their sustainability. The results from the French born globals financial investigation showed that 48% of French born global firms gained at least 5% profit margin, whereas only 44% of other types of young firms achieved the same level. Moreover, this investigation also pointed out that born global firms in the "third

industries" are more profitable than firms in the traditional sectors. "Third industries" refers to professional, scientific and technical activities, information and communication industries, while traditional industries refer to transportation, storage, and manufacturing industries (Harris & Li, 2007).

3.8. Commonalities and differences between Born Global and Uppsala model

3.8.1. Some common theoretical underpinnings

There are lots of previous literature attempts to address the relative theories explaining the phenomenon of born globals (Bell, 1995;Burgel & Murray, 2000; McDougall et al., 1994). As Autio (2005) claimed, the Uppsala model and born global model are complementary rather than contradictory. The Uppsala model mainly focuses on the process of internationalisation after it is started, and the born global model is focused on explaining how early and rapid internationalisation of SMEs can happen. According to the review on the Uppsala model and born global model, they have some common theoretical underpinnings. Firstly, both the Uppsala model and the born global model are behavioural models or perspectives, describing the process of internationalisation. As discussed before, the Uppsala theory is influenced by the eclectic paradigm, network theory (at an organisational level), institutional theory, the resource based view, and the transaction cost theory. Similarly, the born global model is influenced by a series of underlying perspectives that include network theory (at an individual level), the resource based view, the information processing theory, the dynamic capabilities theory, and knowledge based theory. They share the similar theoretical underpinnings. In the following section, the author will review the common theoretical underpinnings in greater detail.

3.8.1.1 Resource-based view

There are lots of researchers that believe the resource based view is also the basis of the born global mode of analysis (Cavusgil & Knight, 2009; Kocak & Temi, 2009; Su, 2013; Zhang et al., 2009). It has been frequently adopted by the researchers to explain the

questions of how to develop knowledge and capabilities, and how to use this as leverage within the firms (Grant, 1996; Penrose, 1966; Wernerfelt, 1984). As Peng (2001) claimed, resource based view is a theory that enables firms to identify valuable, unique, hard-to-imitate knowledge and capability in their internationalisation process. It allows small firms such as born global firms to differentiate themselves and gain success in the international markets (Dev, Erramilli, & Agarwal, 2002). There are lots of studies insisting that capability is the main driver of firm's performance (Eisenhardt & Martin, 2000; Makadok, 2001; Teece, Pisano, & Shuen, 1997). As Wu et al. (2007) suggested, for born global firms, their success in the foreign market largely depends on their internal capabilities. The internal capabilities refer to the superior ability that can create new knowledge in their research. This new knowledge could help firms to develop some particular organisational capabilities. Lots of researchers find that the superior ability is crucial for firm's development, because it is the core contributor of firm's competitive advantage (Christensen & Overdorf, 2000; Day, 1994). Competitive advantages are hard to trade and they are usually embedded in firms for a long time. In other words, competitive advantage is unique which is hard to imitate or obtain. Sometimes, it is embedded in firm's culture. Thus, highlighting the importance of capability in a firm's internationalisation process is a rational conclusion. However, there is other research focus on the importance of knowledge. From the resource based view, the resource is the key point when researchers attempt to analyse a phenomenon. According to Wernerfelt (1984), the definition of "resources" is "tangible and intangible assets that are tied semi permanently to the firm" (Wernerfelt, 1984, p.172). Clearly, knowledge is an intangible asset for the firms. For born global firms, they mostly lack substantial financial and human resources. In order to gain success in the international market, they normally take advantage of a collection of intangible resources, to offset their shortcomings. The collection of intangible resources include market orientation, entrepreneurial orientation, and technological orientation (Kocak & Temi, 2009). Although compared with the traditional internationalised firms, born global firms are much smaller, they can provide a perfect illustration of the application of resource based view (Zhang et al., 2009). Hence, the resource based view is an appropriate theory to support this study.

3.8.1.2 Network theory

Both the Uppsala model and born global model emphasise the role of networks in business relationships that the process of internationalising a firm creates. In the early version (Johanson & Wiedersheim-Paul, 1975) of the Uppsala model, researchers suggested that firms are using intermediaries in the initial stage of internationalisation, as that model requires resource commitment and knowledge. The revised version introduced international network into the theory, created network relationships such as distributors, subcontractors, buyers, and sellers for the firms (Knight & Cavusgil 1996).

The underlying assumption of the network view is that the "firm depends on resources that are controlled by other firms in the network, but which can be acquired via its network position" (Freeman, Hutchings, Lazaris, & Zyngier, 2010, p.74). Networks can help firms to generate resources. If they don't use networks, they otherwise must generate resources by themselves (Gulati, 1999). For SMEs, the resources gained from networks can not only improve the growth, but also facilitate their expansion into foreign markets (Chetty & Wilson, 2003). For born global firms, they cannot control assets via ownership, due to lack of sufficient resources (Oviatt & McDougall, 1994). From the knowledge based view, the organisational knowledge resource plays the most important role in, and between, the network relationships (Freeman, Hutchings, Lazaris, & Zyngier, 2010). It is also noted that many smaller born global firms which have limited competencies attempt to form strategic partnerships to enter the foreign markets (Sylvie & Colin, 2004). This kind of strategy has been described as ''interacting in a relationship (where) two partner firms learn some skills, which may be transferred to and used in other relationships ... how to get in touch with new partners ... seen as relationship experience'' (Johanson & Vahlne,2003, p. 93). These born global firms can take advantage of opportunities such as marketing capabilities and local knowledge from their network partners. According to Freeman et al. (2007), "relationship experience through pre-existing networks is seen as a precursor to knowledge, as the relational interactions between partners, over time, lead to knowledge exchange and new knowledge development" (p.74). In addition, born global firms can also benefit from long-term networks. Because rather than accumulating the knowledge by firms themselves, these networks can provide market and experiential knowledge for them. In

the born global model, researchers believe that networks should be adequately sized, in order to enable extensive global reach and rapid support exposure to multiple markets (Sylvie & Colin, 2004).

Besides that, firms also can attain opportunities to acquire knowledge by gaining a membership to a network (Johanson & Mattson, 1988). There are lots of studies proving that networks can not only provide access to international market opportunities for SMEs, but also influence the choice of foreign markets for their initial and subsequent entry (Freeman & Cavusgil, 2007; Nordman & Melen, 2008). In addition, the entrepreneur of born global firms who has links to their own networks in other countries, can facilitate their firm's international business (Welch & Luostarinen, 1993). Welch and Luostarinen (1993) also agree that firms with relationships in foreign markets can obtain more opportunities to expand abroad. So, "inward linkages can lead to outward linkages and further cycles of inward– outward linkages, in smaller born-global firms as they restructure their organisations following periods of rapid expansion" (Freeman, 2007, p.74).

3.8.2. Different theoretical underpinnings

3.8.2.1 Dynamic capabilities theory

Dynamic capabilities refer to the capabilities that may be used as leverage by all the resources within a firm (Teece, 1997). Teece (1997) defined dynamic capabilities as "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments. Dynamic capabilities thus reflect an organisation's ability to achieve new and innovative forms of competitive advantage, given path dependencies and market positions" (p. 516). It is also defined as an organisational or strategic routine that enables firms to gain new resources during the situation of markets emergence, collision, split, evolution or even death (Kocak & Temi, 2009). As Dlugoborskyte and Petraite (2013) suggested, dynamic capabilities characterise "a firm's ability to integrate, reconfigure, gain, and release organisational resources" (p.9). In these definitions, the core elements are organisational and managerial processes, positions, and paths. Organisational and managerial processes refer to the internal routines of firms (Hiroki & Shumpei, 2016). These routines refer to

firm's customs and learning patterns currently in use, and the manner in which things processed. The term "positions" means "particular assets held at the current point in time, such as technologies, intellectual property, complementary assets, a customer base, and external relationships with partners and suppliers" (Teece et al., 1997, p. 518). And the "paths" refer to the strategy adopted by a firm and the increasing returns and path dependencies included in that strategy (Teece et al., 1997). In general, the organisational and managerial processes include both positions and paths. Alternatively, Teece (1997) believed "the essence of a firm's competence and dynamic capabilities is…resident in the firm's organisational processes" (p. 524). These processes can help firms to coordinate and integrate, to learn, and to reconfigure, and transform. From Teece's point of view, "coordination and integration are static concepts, learning is a dynamic concept, and reconfiguration and transformation are transformational concepts" (Teece et al., 1997, p.518). Thus, the dynamic capabilities theory is a combination of static concepts, dynamic concepts, and transformational concepts.

As mentioned before, although these dynamic capabilities are operating in a role directing resources or operational routines, they can affect firm's competence and performance in the market. Alternatively, the ultimate goal for them is to gain superior performance in the market where the firm is strategically orientated. The development of superior dynamic capabilities is always embedded in the process of knowledge creation, knowledge integration, and knowledge configuration (Cavusgil & Knight, 2009). Thus, dynamic capability theory highlights the ability, which enables firms to achieve particular organisational or strategic goals. Additionally, it also suggests that a firm's internal capabilities should include the ability to internationalise with limited company resources. Because the dynamic capabilities could not only help firms to obtain new resources while firms experience eventssuch as market emergence or evolution, but could also support firms to appropriately adapt, integrate, and reconfigure the resources as the market condition varies. As Zhang (2009) believes, to effectively distribute firm's capabilities could help firms to gain competitive advantages in their internationalisation process. Hence, for born global firms, dynamic capabilities can explain their unique strategic choice in their formation process.

3.8.2.2 Knowledge-based view

Polanyi first proposed the concept of tacit knowledge in 1966, suggesting that 'tacit' knowledge refers to the reasonable and critically explicit knowledge held by individuals, but it is not necessarily verbalised in that 'we can know more than we can tell' (Polanyi, 1966, p. 4). Inkpen (2008) argues that if ''knowledge is highly tacit, it is difficult to transfer without moving the people who have the knowledge'' (p. 78). The reason is it not only context bound, but also people-embedded. However, to successfully transfer and adopt the tacit and context-specific knowledge to a new context, born global firms need to establish intensive social interactions among managers and in some cases, employees, at all levels of the firm. In addition, Husted and Michailova (2002) also mentioned that tacit knowledge requires sufficient time to develop because it builds on reliable relationships through individuals that agree to share information.

The knowledge based view was emerged from the resource base view. It concentrates on intangible resources, rather than on physical assets. Scholars claim that the knowledge-based view positions organisations as accumulators of knowledge and competencies (Grant, 1996; Kogut & Zander, 1996; Spender, 1996; Teece, 1998). This view has been examined by many studies and models upon smaller born-global internationalisation (Autio et al., 2000; Johanson & Vahlne, 2003; Knight & Cavusgil, 2004). From this point of view, knowledge is the most important resource. In addition, the main cause for the performance differences across firms is polyphase knowledge bases (DeCarolis & Deeds, 1999). "The development, integration, and transfer of knowledge should be regarded as a critical aspect of strategic management of internationalisation" (Johanson & Vahlne, 2003, p. 90). Via the experience-based learning in non-domestic environments, SMEs can generate "experimental' knowledge and adopt this knowledge across foreign markets (Blomstermo, Eriksson, Lindstrand, & Sharma, 2004). In particular, researchers also pointed out that new international ventures or born global firms can accumulate and transfer knowledge faster than other firms (Knudsen, Madsen, Rasmussen, & Servais, 2002). Miller and Shamsie (1996) believed that in dynamic environments, born global firms that operate knowledge-based resources can gain better firm performance than the ones operating property based resources.

As mentioned before, born global firms are business organisations that pursue superior international business performance in multiple countries, from or near their inception. They can manage this by adopting knowledge-based resources and transferring them into the sale of outputs (Gassmann & Keupp, 2007). According to Knight and Cavusgil (2004), the reason why the transformation can achieve superior international performance is the unique knowledge base of born global firms, which can give rise to their organisational capabilities. Thus, there are studies such as Prashantham (2005) that conclude "among born global firms, competitive advantage is not merely explained by individual resources but by a different type of firm resource, namely, knowledge" (Gassmann & Keupp, 2007, p.353). Alternatively, SMEs are able to internationalise in the same way as large firms do, if they can generate competitive advantage from their knowledge. The study conducted by Gassmann and Keupp (2007) proved the conclusion of Prashantham, and claimed that the knowledge based view is suitable as a conceptual foundation for the analysis of born global firms.

3.8.2.3 Information processing theory

The information processing theory suggests that manager's capabilities to successfully process information related with organisational growth will limit firm's further development (McGaffey & Christy, 1975). Egelhoff (1991) believed that it is critical to increase a firm's capacity to process information especially when the firm encounters complex circumstances. Complex circumstances always arise from the process of integrating and coordinating dispersion activities. Thus, managers need to enhance their information processing capability to cope with the complex circumstances when firms are eager to expand internationally. In other words, the necessary ability to acquire is gathering and processing information efficiently (Tushman & Nadler, 1978).

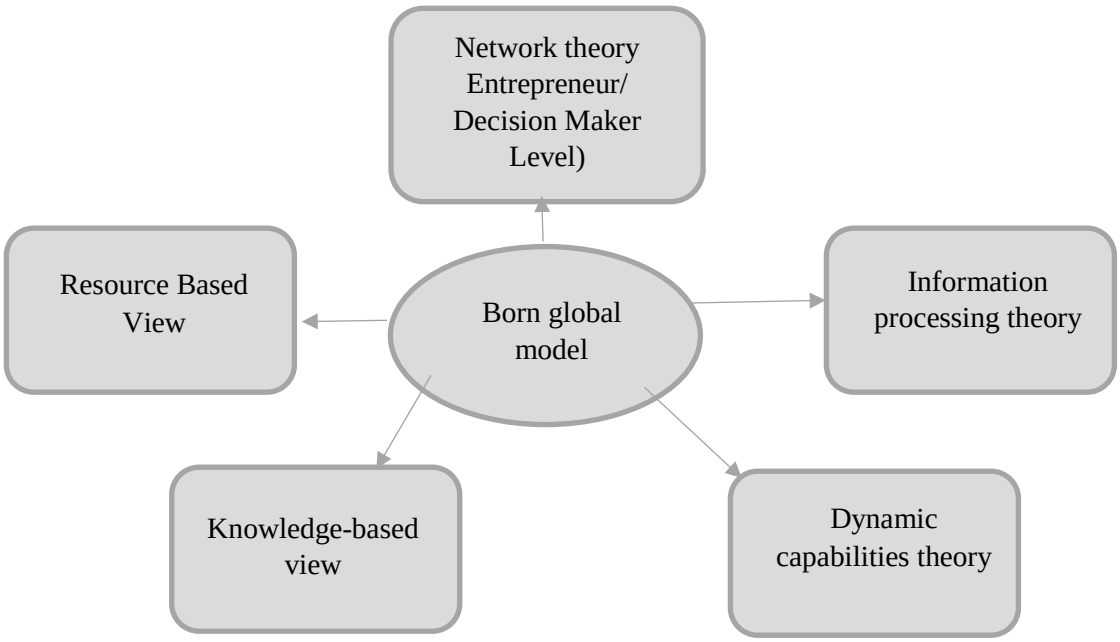
As mentioned before, born global firms are referred to as entrepreneurial firms in lots of research (Coviello & Munro, 1995; Loane & Bell, 2006). It is clear that the entrepreneur plays a core role in born global firms. The information processing theory is applicable for the individual analysis (Egelhoff, 1991;Leonard, Scholl, & Kowalski, 1999; Wang & Chan, 1995). Thus, from the individual standpoint, this theory suggests that the ability to make decisions for the firm, and the ability to enable other members to agree with the

decision reflects the entrepreneur's information processing capability (Wood & Bandura, 1989). As Shaw (1990) suggests, the executives have to face more information than they already understand. Hence, they need to employ efficient schemas to simplify the decision-making process. The schemas they employ reflects their information processing capability. According to Karagozoglu and Lindell (1998), the top two constraints in the SME's internationalisation process are managerial competence and information insufficiency. From the existing literature, it is easy to find evidence that young managers are have open minds and strong willingness toward internationalisation. Younger managers are much quicker to adapt to the new environments compared with their older counterparts. These characteristics largely diminished the negative impact bought by the two constraints, and enables the SMEs to increase their information processing capabilities (Herrmann & Datta, 2005).

3.8.3. A summary of the main theories influential to the born global model

A summary of the main theories influential to the born global model is shown in Figure 2 below.

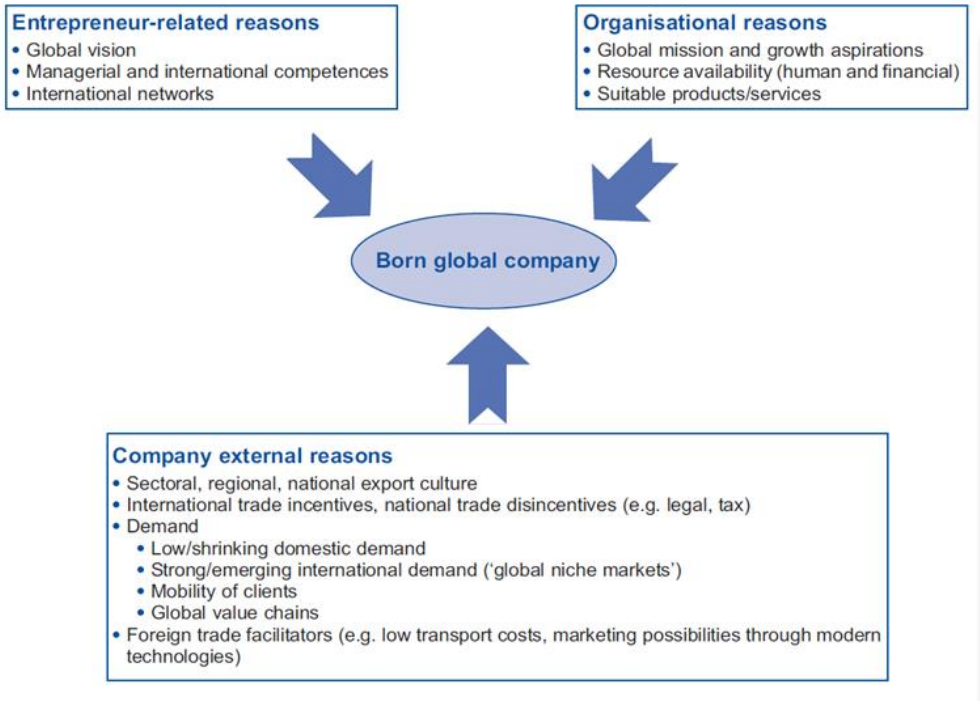
Figure 3.2: The main theoretical influences within the born global model



3.9 Factors explaining the emergence of born global firms

According to the existing literature, factors that induce firms to follow the born global path comprise of both external and internal aspects (Lehmann & Schlange, 2004). Madsen and Servais (1997) believed there are at least three factors contributing to the rise of the born global phenomenon. These three interrelated factors are new market conditions, technology innovations in production, transport, communication, and entrepreneurial capability. Among these factors, the first two can be seen as external factors and the last is entrepreneur related factors, because it is related to the capability of people. Zahra and George (2002) also concluded that there are three reasons causing the emergence of born global firms that are company external based reasons, organisational reasons and entrepreneur-related reasons. Zahra and George (2002) clearly presented how these reasons influenced a firm becoming a "born global". From Figure 2.3 below, it can be seen that the sector export culture of sectors at all levels, international trade incentives, demand and foreign trade facilitation are the company external reasons. In contrast, entrepreneur-related reasons include global vision, managerial and international competences and international networks. Whereas organisational reasons comprise of global mission and growth aspirations, resource availability and suitable products. In addition, both the entrepreneur-related reasons and organisational reasons are related to entrepreneurship. Overall, different explanations have been provided in the literature regarding the emergence of born global firms. Thus, it is necessary to deliberate the previous related literature and discuss these factors in detail, as seen in the next section.

Figure 3.3: Influential factors for born global firms



Source: Eurofound, based on Zahra and George, 2002.

3.9.1 Company External factors

3.9.1.1 New market condition

Changing market conditions is the most obvious reason that explains the rise of born global firms, as it can quicky pull firms into many markets. For instance, with the growing demands for specialised products, the number of niche markets is rapidly increasing as well. Hence it is important for firms to produce very specific parts, or components and sell them in the global marketplace, while the domestic market is limited, even in large countries (Madsen & Servais, 1997). In addition, many firms need to collaborate with worldwide sources and cross-border networks nowadays. Unlike in the Uppsala model, born global firm subcontractors are started from a global standpoint in the first place (Andersen, 1993). However, the change of market condition has not emerged by itself, but mostly by the basic changes in technology and consumer behaviour (Lu & Beamish, 2001). The application of new technology in the production process reduces the production cost down to an economical level, even for small-scale

firms. Hence there are more alternatives such as specialised products, customised products, and niche products available in the market (Hill & Jain, 2000). And moreover, with the development of transportation nowadays, it is much easier and cheaper for firms to export goods to other countries. Firms can lower their consideration towards transportation cost while they start international business. In other words, it is rational to say that the cost barriers for international business are removed. And more importantly, global markets are more accessible as the result of developments in communication. People can communicate with each other via emails, mobile phones, fax and so on. These developments enable the sale and service process to become a "day to day business". Firms not only can provide more customised service to the customers wherever they can find, but also can collect, analyse and interpret information about international markets before they start their internationalisation process (Madsen & Servais, 1997). Another change in market condition is that the increasing capability of human resources to explore technology improvement from the global markets. The increase of this ability is due to the dramatically increased number of people who gained prior international experiences during the last few decades (Zhang, Tansuhaj, & McCullough, 2009). For instance, there are over 50,000 exchange students from various programs in the European Union every year. These students need to go to other countries for 6-12 months to complete their study. Once they have completed their study, they become valuable potential employees, who possess the skills to communicate, understand and operate in a foreign environment. It can be said with the increased mobility of people, overseas education, and relocation of workers, that the market becomes more homogenous, which means the behaviour and preferences in the marketplace become less local than before. In this case, abundant human resource brought by globalisation is the core driver for the emergence of the born global firm (Eurofound, 2012).

3.9.1.2 Sectoral distribution

It is interesting to note that most of the previous research on the born global mode are focused on the high-tech firms such as biotechnology, high-service or high-design companies (BrÄNnback, Carsrud, & Renko, 2007; Li & Qian, 2012; Murray & Robert, 2012). This is because high-tech firms are more likely to become internationally

engaged compared with firms in other sectors. Thus, these firms are the most qualified candidates to adopt the born global model because born global model requires firms to enter international market as early as possible (Cancino, Bonilla, & Sánchez, 2009). In addition, due to the constantly changing conditions in international markets, it is important for firms to test and improve their products quickly, to fulfil customer's requirements. The high-tech firm is exactly the type of firm that possess this ability (Pock & Hinterhuber, 2011). However, there is some evidence showing that not all the firms operating in the high-tech industry can grow as born global firms. For instance, Brannbrack et al. (2007) found that some of Finnish biotechnology exporters are still following a traditional route to start their internationalisation process. In addition, some studies discovered the fact that born global firms exist in the traditional industries as well (Falay, Salimäki, Ainamo, & Gabrielsson, 2007;Spowart & Wickramasekera, 2012; Murray & Robert, 2012). Unlike the high-tech industries, traditional manufacturing and service sectors are much less innovative and mobile.

3.9.1.3 Technology and innovation capability

As aforementioned, firms that tend to apply a global market mindset from the start are usually small in size and technology-oriented. Some heavily rely upon internet services such as Google apps, Skype, Amazon, and Fedex Delivery to communicate, distribute, market, and manage the existing knowledge (Bonaglia, Goldstein, & Mathews, 2007). These technologies enable born global firms to accomplish international business with limited resources and a limited number of employees. Renda (2011) also stresses compared with multinationals, born global firms are more inclined to use social media, networking and online collaboration tools. Because for born glboal firms, these tools can not only provide new opportunities, but also enables them to accumulate social capitals via the network setup process. With the wide use of high-tech facilities, especially internet service nowadays, the export performance of born global firms is reflected by usage of the internet. By using the internet, firms can operate in various countries without sending employees to those countries. An empirical study in the UK even found evidence that there is a positive relationship between the use of internet and superior export performance led by the premise of proper strategy and experience (Eurofound, 2012).

The existing literature also suggests that entering into a new market is an innovative act for firms. It has been proved that there is a positive relationship between the tendency of innovation and early internationalisation because innovation can significantly improve firm's competitive advantage in the foreign markets (Eurofound, 2012; Zhang et al., 2009). In some studies, born global firms are always considered as global innovators. They are either following an innovative way to expand their business into the global markets since the early stage, or marketing a new or significantly improved product. These firms usually possess high innovative capabilities and are able to provide innovative and customised service to the customers wherever they can found (Sylvie & Colin, 2004; Zhang et al., 2009). There are plenty of examples illustrating the contribution of innovation in born global firms (Knight & Cavusgil, 1996;Knight & Cavusgil, 2004; McDougall et al., 1994; Oviatt & McDougall, 2005). For example, Knight and Cavusgil (2004) found a significant relationship between the specific product development and the performance in international markets among 82 small exporting firms in the US. The study conducted by UK Trade and Investment in 2007 was also interested in examining the role innovation played among the born global firms, other exporting firms, and non-exporters. The result shows that compared to other exporters and non-exporters, born global firms are spending much more resources on research and development, and they are far more innovative as well. The study also stated that born global firms are keener to increase their ability to enter new markets through the innovation activities. The sale of new or significantly improved products helped them to gain almost 31% of turnover in 2014, which is much higher than other exporters and non-exporters (Harris & Li, 2007). Thus it is rational to conclude that born global firms are more heavily reliant on the sale of innovative products compare with other types of firms (Harris & Li, 2007). In addition, an econometric model has been performed to test the relationship between innovation and the degree of firm's internationalisation. It was found that firms engaged in innovation activities obtained more than 15% of export, compared with their counterparts. The positive link between innovation and the degree of firm's internationalisation is still valid even if the test introduced various control variables, such as the usage of external financing, tax incentives, and receiving public financial incentives afterwards. These results indicate

that innovation allows firms to obtain access to customers in various foreign countries (Berthou & Hugot, 2011). In general, born global firms tend to use cutting edge technologies to produce highly innovative, highly differentiated, and exclusively designed products for customers.

As born global firms place more emphasis on innovative products and services, rather than on low cost products to remain competitive, the products or services offered are of high quality, resulting in the creation of added value. Being involved in international activities and networks, in turn, fosters the companies' opportunities for exchange and learning from others, which again can be transformed into innovation. Data from Spain, for example, shows that more born globals than other enterprises invest in research and development (32% compared with 19%), and that their research and development expenditure is higher (0.76% of sales compared with 0.46%) (Sanchez & Rodriguez, 2008). It results in more innovative outputs: born globals introduce more than three product innovations yearly, while among other companies the average is 1.6. Furthermore, born global firms provide benchmark orientations and strategies for large, established firms (Vapola et al, 2008). These firms possess the ability to satisfy all sorts of needs required by customers, and provide customised and specialised services for them. Because these abilities and specialised products can not only help born global firms to fill the important gaps in the value chain of other firms, but also help them to explore new niches in the market (Rialp, Rialp, & Knight, 2005).

3.9.2 Entrepreneurship related factors

Entrepreneurship related factors are more important than external factors in born global model because as seen by the previous literature, born global firms are sometimes referred to as entrepreneurial firms in lots of research (Coviello & Munro, 1995; Loane & Bell, 2006). The entrepreneur is the core part of the born global model. Entrepreneurs are responsible for all the decisions in born global firms. Many studies find that their market orientation, entrepreneurship capability, the role of the CEO plays, and learning capability are directly determining the future of born global firm. Thus, the following sections will deliberate these aspects in detail.

3.9.2.1 Market orientation

Various studies suggest that market knowledge plays an important role for the internationalisation of new ventures (Acedo & Jones, 2007; Andersson, Gabrielsson, & Wictor, 2004; Autio,2000; Knight & Cavusgil, 2004). Unlike the traditional internationalised firms, born global firms cannot afford the time to sustain a gradual knowledge accumulation process. Thus, for born global firms, the experiential knowledge they can gain prior to the internationalisation process is limited (Burgel & Murray, 2000). They have to gather, interpret and translate market information in another way to maintain their competence in the international market (Knight & Liesch, 2002). As a result, market orientation has become the main determinant for born global firms in the market accumulation process (Monferrer, Blesa, & Ripollés, 2015).

Market orientation is frequently cited in marketing literature. It can provide necessary information and knowledge for firms to help them deal with the complexities in these turbulent environments. Moreover, it can also allow firms to integrate the information into the their daily activities, and providing reference for firms' further decisions (Becherer & Maurer, 1997; Bhuian, Menguc, & Bell, 2005; Cadogan, Cui, & Li, 2003; Cadogan, Cui, Morgan, & Story, 2006; Cadogan, Diamantopoulos, & Siguaw, 2002; Luo, Sivakumar, & Liu, 2005; Qiu, 2008). In the existing literature, studies deliberate the concept of market orientation from three perspectives: behavioural perspective, cultural perspective, and the system-based perspective (Becker & Homburg, 1999). From the behavioural perspective, market orientation is an information related consumer behaviour. Jaworski and Kohli (1993, p.6) defined it as "the organisation-wide generation of market intelligence pertaining to current and future customer needs, dissemination of the intelligence across departments, and organisation-wide responsiveness to it". From the cultural perspective, market orientation refers to a kind of organisational culture that can efficiently create necessary behaviour to maintain superior performance of the business (Jaworski & Kohli, 1993). However these two perspectives are hard to identify because they both believe market orientation is highly correlated with behavioural components, including customer orientation, competitor orientation, and inter-functional coordination (Narver & Slater, 1990). Finally, from the system-based perspective, the definition of market orientation is an emphasis on the

management issues. It is acknowledged that market orientation management is an attempt to build up an orientation that focuses on aspects such as organisation, information, planning, controlling and human resources (Becker & Homburg, 1999).

Although there are differences in the definition of market orientation, the major parts are overlapped. As summarized in Helfert (2002)'s study, a market-oriented information system includes information generation, customer orientation, competitor orientation, and inter-functional corporation. He also redefined market orientation on a relationship level, because of the limitations in the previous definitions. The previous studies overlooked issues such as how to deal with the individual customer if there is no market, and the problems relating to inter-relationships between customers and firms (Helfert, 2002). In Helfert's definition of market orientation, there exists four relationship management tasks: exchange activities, inter-organisational coordination, conflict resolution, and adaptation. Helfert (2002) illustrated how firms may translate market relationships into relationship management. He claims in order to be customer orientated, firms should focus on the needs of customers and be ready to commit themselves to customers. And if firms measure customer satisfaction properly, employees will be motivated to fulfil the relationship management tasks in order to satisfy customer's requirements (Helfert, 2002). Complex exchange and inter-functional coordination are the keys to serving customers and managing relationships. Besides that, conflict resolution and coordination are adopted, based on the firm's competitor orientation. The most important conclusion Helfert (2002) draws in his study is that a market orientated firm should possess sufficient information about its customers and competitors. Due to the high degree of inter-functional cooperation, it should also familiarise its internal procedures, competence, and strategies. Moreover, the firm needs to hold financial, physical, and technical resources to sustain valuable relationships. Overall, from the relationship management perspective, information generation is the key to market orientation (Helfert et al., 2002).

It has been argued that in order to formulate appropriate market orientation for the firm, entrepreneurs need to develop bonds with the members in their network, such as customers, suppliers, distributors, family, or other private contacts and so on. These

bonds will be formed as a network continuously extends (Perks & Hughes, 2008). According to Monferrer, Blesa and Ripollés (2015), market orientation can be measured from two perpectives, which are firm's adaptation capabilities and absorption capabilities. Firms with these abilities are able to create or participate in a market-oriented network could increase the availability of resources. The reasoning is that firm's exchange and coordination activities are mostly involved with firm's ability to adapt and absorb, and these ablities enable firms to gain access to the necessary resources. Monferrer et al. (2015) stressed that market orientation becomes a fundamental factor for born global firms, particularly when they need to develop their skills to deal with the continual changes in the market. It also helps firms to manage and generate all sorts of knowledge, and use this effectively in the market (Monferrer et al., 2015).

However, as a complex and contested construct, the concept of market orientation includes many different dimensions. According to Naver and Slater (1990), the concept includes customer orientation, competitor orientation and inter-functional coordination. They believe that the goal of market orientation is to deliver a superior value proposition to the customer based on the insights from customer and the analysis of competitors. Clearly, different from Monferrer et al. (2015)'s perspective, this proposition is based on the insights from customer and analysis of competitor. In addition, some scholars distinguish proactive and responsive market orientations. Proactive market orientation addresses the latent needs of customers, whereas responsive market orientation addresses the expressed needs of customers (Narver et al., 2004; Baker and Sinkula, 2007).

3.9.2.2 International entrepreneurship capability

Entrepreneurship is a widely cited term in business and management related studies. It is an individual business management behaviour that employs various means to seek or create opportunities and produce various outcomes (De Carolis, Litzky, & Eddleston, 2009). Styles and Seymour (2006) defined entrepreneurship as an individual opportunistic activity that involves a high degree of innovation. It also creates value and endures risk at the same time. The research on entrepreneurship ranges from small start-

up firms and corporate venturing, to well established organisations (Knight & Cavusgil, 1996;Styles & Seymour, 2006; Townsend & Hart, 2008).

Overtime, a phrase of "international entrepreneurship" appeared in the studies of new ventures like born global firms. It is suggested that international entrepreneurs are people who create, discover, and evaluate opportunities worldwide and produce a series of products and services (Oviatt & McDougall, 2005; Zhang et al., 2009). In order to interconnect the international business with entrepreneurial activities, researchers proposed that the definition of international entrepreneurship should comprise three perspectives. The first perspective is originated from strategic management literature (Covin & Slevin, 1989; Miller & Friesen, 1983). It emphasises on the behaviours that are innovative, proactive, risk-seeking, creating value, and exploring opportunities (Covin & Slevin, 1989). It is also pointed out that all the international activities that operate via brokering, leveraging, and risk-taking practices are entrepreneurial (McDougall & Oviatt, 2000). Another perspective is focused on opportunities. International entrepreneurship from this perspective is defined as "the examination of how, by whom, and with what effects opportunities to create future goods and services are discovered, evaluated, and exploited" (Shane & Venkataraman, 2000, p. 218). From this perspective, entrepreneurship contains two parts: opportunities, and people who know how to utilise the opportunities (Zhang et al., 2009). The final perspective is an emphasis on the process of enactment and discovery. It is argued that economic opportunities maybe created by people's actions and the interpretations of these actions. International entrepreneurship is a process to discover, enact, and explore opportunities abroad to create sorts of products and services (Oviatt & McDougall, 2005).

However, in entrepreneurship studies, there is another perspective named "social constructionist perspective" which has also been widely acknowledged (Fletcher, 2004; Steyaert, 1997). Social constructionist ideas highlight "how entrepreneurs are constantly evaluating information, talking through different options or scenarios and bringing to their interactions with clients, stakeholders or suppliers previous understandings, experiences, conversations and history of relationships" (Fletcher, 2004, p. 296). It means that international entrepreneurship enables the firms to forecast their future

because of the available information they get. The forecast of future scenarios, the creation of enactment, and the opportunities for services or products are social constructors. And from the social constructionist perspective, only joint international coordination can realise these social constructors for the firms (Fletcher, 2004).

However, having investigated some small firms' involvement in international activities, Fletcher found that many small entrepreneurial firms are refusing to become international. Hence, he concluded that the only real internationally entrepreneurial firms are born global firms (Fletcher, 2004). Fletcher's (2004) finding is confirmation that born global firms, as entrepreneurial firms, hold some unique entrepreneurial features (Gabrielsson et al., 2008; Hult et al., 2008). The international entrepreneurship of born global firms is related to a series of factors such as international orientation, experiences, risk-taking behaviour, and innovation and so on (Dib, Da Rocha, & Da Silva, 2010). For these firms, the realisation of entrepreneurial activities has to coordinate with the international business, and in the market in which they were created.

Finally, it is necessary to summarise the literature that relates to international entrepreneurship capability. As Zhang et al. (2009) concludes, the three perspectives mentioned earlier in this chapter form the basis of conceptualising international entrepreneurship capability. They explain that international entrepreneurship capability is "a firm-level ability to leverage resources via a combination of innovative, proactive, and risk-seeking activities to discover, enact, evaluate, and exploit business opportunities across borders" (Zhang et al.,2009, p.296). This capability enables firms to take opportunities in the foreign markets and achieve superior business performance. Born global firms are mostly lacking in financial, human, and tangible resources, so it is important for them to acquire the ability to apply leverage to their limited resources. Therefore, the international entrepreneurial capability is essential for them to achieve superior performance in global markets (Zhang et al., 2009).

3.9.2.3 The role the CEO plays

Plenty of prior research investigated the role a CEO plays in firm's internationalisation process (Hennart, 2007). In Vermeulen and Barkema (2002)'s study, they insist that a manager's characteristics can directly affect firm's organisational absorptive capacity, or

compromise firm's performance during the internationalisation process. Sapienza et al. (2006) also suggested that the manager is important during firm's international expansion process. Because they believe that manager's competence and experience could not only facilitate firm's establishment and practice, but also determine firm's strategic distribution in the global markets. Hambrick and Mason (1984) also mentioned that the characteristics of a CEO can affect firm's strategic decision-making situation interpretation to a great extent and eventually affect firm's outcome. In addition, in order to deal with the uncertainty and ambiguous embedded environment, CEOs should be flexible enough to cope with the changes and enduring enough to solve ambiguity problems. A superior information processing ability enables CEOs to effectively manage the complexities of the international activities (Herrmann & Datta, 2005). Generally speaking, from the previous literature, it is not hard to see that CEOs, especially in small firms, are usually the central decision maker and they possess the final decision vote (Hsu, Chen, & Cheng, 2013). Many researchers analysed the related features of a top CEO, such as international experience (Daily, Certo, & Dalton, 2000; Kirca, Hult, Deligonul, Perryy, & Cavusgil, 2012), educational level (Herrmann & Datta, 2005; Tihany, Ellstrand, Daily, & Dalton, 2000), age (Herrmann & Datta, 2005; Tihany et al., 2000), duality (Roth, 1995; Sanders & Carpenter, 1998), and so on. The following sections will deliberate these features in greater detail.

3.9.2.3.1 The age of CEO

It was found that compared with younger managers, older managers are more risk averse, while also less physically and mentally energetic (Child, 1974). Younger managers are more inclined to adopt patents and innovative strategies to achieve growth in the market. In comparison with the strategies that older managers used, strategies that younger managers/CEOs adopted are in favour of seizing perceived opportunities and achieving the goal (Hambrick & Mason, 1984). In addition, there is some evidence showing that the relationship between managerial age and the ability to effectively process information and make decisions is negative (Hsu et al., 2013). For instance, according to Taylor (1975), in comparison with younger managers, older managers were found more difficult to process information effectively, which eventually induces poor firm performance in the market.

As Hsu et al. (2013) pointed out, if SMEs target the international market, their managers should not only learn how to operate in a new environment, but also familiarise themselves with the cultural setting in that market. In order to gain these abilities, managers need to confront with customers, competitors and stakeholders (Barkema, Bell, & Pennings, 1996). Consequently, managers need to adjust the structure, systems, and processes that are embedded in their minds to fit the new international environment (Nohria & Ghoshal, 1994). In addition, as mentioned above, older managers normally find it difficult to process information, due to their limited physical and mental vitality, they are difficult to adapt to the changing environment. Thus a series of disadvantages such as lower degree of information processing efficiency, limited understanding of foreign cultures, consumer behaviour and local regulations may be raised (Herrmann & Datta, 2002). As a consequence, many researchers agreed that older managers may reduce the benefits of internationalisation (Hsu et al., 2013).

3.9.2.3.2 The education level of the CEO

The level of education is another important indicator, showing a person's knowledge, skill base, values, cognitive preferences, and so on (Hambrick & Mason, 1984). A CEO with a higher education level may possess a greater knowledge base and stronger competency. These qualities help the CEO to make a systematic evaluation when they face multiple options (Wiersema & Bantel, 1992). Some studies find that more highly educated CEOs hold better cognitive abilities, in contrast with the less educated ones. Education can provide them with greater ability to absorb new ideas and better capability to process information (Herrmann & Datta, 2002;2005; Hitt & Tyler, 1991). Since in order to go global and survive in a very competitive market, born global firms have to deal with different cultural settings and different institutional characteristics, thus having a well-educated CEO is a comparative advantage for these firms. As Hsu et al. (2013) mentioned, a SME needs to learn more about the specific national setting, if its internationalisation level is high. They also claimed that better educated CEOs possess characteristics that important for an internationalised firm, they can process information more efficiently and accurately. Hence they can undertake more in-depth analysis in the decision-making process. Herrmann and Datta (2005) also pointed out that the education level of a CEO is more related to the dimensions of socio-cognitive

capacities, such as open mindedness, information processing abilities, the flexibility of change, and so on. Hence, it may be concluded that the education level of a CEO is positively related to the degree of firm's internationalisation and firm's performance (Herrmann & Datta, 2005; Hsu et al., 2013).

3.9.2.3.3 The duality of a CEO

There is a debate surrounding the CEO duality affects firm performance in the existing literature. Some scholars suggested that the duality is good for firm's development because it unifies firm's internal commands, elucidates the decision-making authority, and shortens the response time for external events (Daily & Dalton, 1997). However, other research holds an opposing opinion. It was suggested that CEO duality has some serious deficiencies (Boyd, 1995). For instance, CEOs may manage the firm by ignoring other input, if there is a high dependency on their thoughts and actions. It will cause a problem if CEOs can only receive limited types of and reduced quality information about the potential opportunities in their domain industry, or the international market (Boyd, 1995). For SMEs, the long CEO duality is a common scenario because of financial sources and management time constraints. Firms are used to take short-cuts in the decision making process and the information gathering process, in order to reduce the management time (Buckley, 1999). As Barlett and Ghoshal (1989) mentioned, a person acting like a CEO, may not be aware all the factors that may influence the decision. Thus, excessive centralisation may compromise a firm's performance, and impede upon the CEO's ability to efficiently manage the dispersed activities, especially in the international market. However, as the CEO and chairman is often the same person within SMEs, Sanders and Carpenter (1998) argued that firms with a high degree of internationalisation require an authority delegation and a responsibility segmentation. Many studies also insisted that for an internationalised firm, the positions of CEO and chairman of the board should be separated to ensure superior performance (Hsu et al., 2013).

3.9.2.4 International knowledge

International knowledge, or international experience, was undoubtedly one of the most important intangible assets for firms when they engaged in international activities. It

enables firms to gain competitive advantage before they enter the foreign markets (Tsinopoulos, Lages, & Sousa, 2014). The definition of international knowledge is the knowledge or experiences that firm's management acquire from the foreign business, foreign institutions, and internationalisation process (Lages, Jap, & Griffith, 2008; Sousa & Bradley, 2006). Many scholars argued this kind of international knowledge can impact a CEO's cognitive orientation deeply (Hsu et al., 2013; Sambharya, 1996). The reason is that these experiences are especially essential for managers when they need to integrate into the different cultures, and when they have to solve uncertainty problems relating to international operations (Sambharya, 1996). Daily et al. (2000) supported this opinion by stating that international knowledge provides knowledge and professional ties, which enables managers to adopt a unique global view in the international operations. They believe that a CEO who possesses this knowledge can achieve better international performance. Because this international knowledge is not only a reduction in the integration and coordination cost, it also enhances the foreign knowledge access ability. In addition, it also provides various insights into an extended knowledge base for the managers, which offers them a better position to deal with the potential uncertainties embedded in the foreign markets (Madsen and Servais, 1997).

The theorists suggest that entrepreneurial firms which own more international knowledge are much more accustomed to the foreign markets than the others. This is due to the international knowledge of a CEO in born global models bringing a greater impact on born global firms, compared with the firms adopting the traditional internationalisation model (Uppsala model) in the internationalisation process (Madsen & Servais, 1997; McKinsey & Company, 1993). They also claimed that some differences between the old firms and the new ones can be explained by the founder's or employee's living, working, or studying experiences (Madsen & Servais, 1997; McKinsey & Company, 1993). It was also acknowledged that, a CEO with prior international knowledge in the born global firms can greatly accelerate the pace of firm's learning and internationalisation (Oviatt & McDougall, 1997).

To be more specific, the international knowledge can be categorised into two groups, one is the foreign business knowledge, the otheris institutional knowledge (Eriksson et

al., 1997). Foreign business knowledge is mostly accumulated by the firm's founder, or employees who worked or ran a business by themselves in foreign countries before (Erramilli, 1991). According to Shane and Venkataraman (2000), the success of a commercialisation needs knowledge from all sorts of sources, and effective performance in discover, explore, and exploit business ideas and opportunities. Entrepreneurs who obtained practical business experience either from working in a commercial environment or starting a business in the foreign market before, are holding competitive advantages compared with the others who don't have any related knowledge (Saxenian, 2007). For example, the knowledge of working in a multinational enterprise can teach the entrepreneur about the complexity of global operations, foreign market features, and culture preference and so on (Downes & Thomas, 1999). Thus, it was believed that CEOs can utilise business knowledge to set up a global mindset, enhance their information processing capability, and coordinate firm's domestic and global strategic distribution (Hsu et al., 2013). Some studies also mentioned that CEOs may increase their awareness of the complex managerial environment by obtaining more experiences relating to oversea markets. This foreign market related business knowledge is very useful to overcome the problems brought by psychic distance, particuarly when firms are engaging in international activities (Johanson & Vahlne, 1977; Nielsen & Nielsen, 2011). Madsen and Servais (1997) confirmed that the prior knowledge and work experiences can not only diminish the risk and uncertainty when engaging in the international activities, but also reduce the psychic distance to a specific market. They also argued that the managers who practice in the born global firms are better educated than the managers who start their practice early in traditional internationalised firms (Madsen & Servais, 1997).

Institutional knowledge, or academic knowledge, includes several types such as living experience, study experience, and so on (Eriksson et al., 1997). In general, there are many researchers agreeing with the conclusion that developing and cultivating a CEO with institutional knowledge is important for firms to gain success in the competitive global market nowadays (Carpenter, Sanders, & Gregersen, 2001). This knowledge is gained from different countries, mostly regarding different customs and habits in particular countries (Hsu et al., 2013). Other studies suggest that companies with a

manager who lived abroad, or studied abroad, are more likely to engage in international activities (Bilkey, 1978). An empirical study conducted in Finland, Japan, South Africa, South Korea and Germany in 1990 supported the above arguments. That research focuses on SMEs, and attempts to investigate the determinants of firm's export success. The result showed that firms with managers who received foreign education or vacations are better exporters (Dichtl, Koeglmayr, & Mueller, 1990). For born global firms, there is evidence showing their top management team is likely to have a higher level of institutional experience than the managers in gradually internationalised firms (Harveston, Kedia, & Davis, 2000). In addtion, there are other studies showing that managers who attended school in other countries, or lived in other countries for a considerable time, will be more familiar with the foreign market conditions and opportunities compared with the domestic managers (Eriksson et al., 1997).

3.9.3 Different roles that influential factors played in born global firms and traditional internationalised firms

Both the scholars and policy makers have started to realise that born global firms are significant for a country's economy in recent years, because born global firms are representative examples of small and medium sized enterprises that contribute to a nation's export growth (Rennie, 1993). However, as mentioned earlier in this chapter, there are many obstacles to the SME's internationalisation process, such as insufficient resources and management skills, inadequate language ability, cultural differences, psychic distance, and so on (Fletcher, 2004; Miesenbock, 1988; Ofarrell, 1998). Compared with firms adopting the Uppsala model, those following the born global model are implementing more aggressive learning strategies for the internationalisation process of SMEs (Sylvie & Colin, 2004). In McDougall et al. (1994)'s research, it was concluded that the Uppsala model cannot sufficiently explain why firms prefer to operate in international markets rather than only in their domestic markets. In their sample of 24 international new ventures, none of them followed the Uppsala model to start their internationalisation process. Findings from the study conducted by Bell in 1995, focused on the small computer software firms, are consistent with McDougall's conclusion. Bell (1995) claims that the Uppsala model cannot adequately reflect the

underlying factors in firm's internationalisation process. He found that firms' internationalisation process are strongly affected by domestic and foreign client relationships, niche markets, and specific considerations towards the industry. In comparison, the influence of psychic distance on the export markets was rather weak. Bell (1995) also claimed that because of the possession of prior experiences or the initiative foreign suppliers, there are many firms that did not establish domestic sales before they started export activities. These major differences between born global firms and traditional internationalised firms are analysed below.

3.9.3.1 Time for internationalisation

In contrast with the Uppsala model, firms that decide to follow the "born global" approach need to bind themselves with the global market from their inception. These firms perceive foreign markets as places to explore and create new knowledge (Kuemmerle, 2002). The accelerated speed of internationalisation is to respond to the rapidly changing environment, where greater specification and greater competitive advantages are required. There are different opinions towards the criteria of how soon that born global firms need to accomplish their internationalisation. For instance, McKinsey and Co. (1993) believed that born global firms should complete their internationalisation within two years of inception. Conversely, other researchers claimed some born global firms need six years (Zahra et al., 2000), or seven years (Jolly et al., 1992), or even eight years (McDougall et al., 1994). The time that born global firms use for internationalisation is relatively shorter than other traditionally internationalised firms, most of them may only have a small domestic base, or even not have them at all (Moen, 2002; Rennie,1993; Knight & Cavusgil, 1996). It has been found that the founders of born global firms realised that the domestic market is not very significant for their international development, as they believe that the domestic market will confine firms' development if they are clinging to it (Madsen & Servais, 1997). On the contrary, international markets can provide unexpected and better opportunities, rather than the risk and uncertainty described in the Uppsala model (Madsen & Servais, 1997). In general, born global firms hold positive attitudes towards internationalisation, and they believe that international markets are less risky and less costly than the domestic market (Autio et al., 2000; Eriksson et al., 1997; Knight & Cavusgil, 1996). Thus, unlike

the traditional firms, born global firms are saving time from domestic market development and starting their internationalisation as early as possible.

3.9.3.2 Psychic distance

The Uppsala model highlights the importance of psychic distance for firm's internationalisation decisions. The psychic distance is composed of two factors: the volume of resources committed and the degree of commitment (Ruzzier, Hisrich, & Antoncic, 2006). It believes that psychic distance can influence both firm's learning process and degree of risk tolerance to some extent. However, in the born global model, the psychic distance is not as important as it was mentioned in the traditional model (Moen, 2002). Some research even claims that psychic distance is irrelevant to firm's internationalisation process (Dow & Karunaratna, 2006; Granstrand, 1999; Jolly et al., 1992). This is because the only market that the born global aims at as the starting point, is the niche market. Firms following the traditional track such as the Uppsala model need to gain sufficient experiences from a home market and then start their export activities. On the contrary, born global firms are eager to undertake specific investments before they even have any experience operating abroad. However, according to the study conducted by Sylvie (2004) in New Zealand's SMEs, some ideas of psychic distance still apply to the born global firms. Sylvie found that some born global firms choose to enter a market that is psychically close to New Zealand as their first market, such as Australia, Canada, the United Kingdom, or the United States. However, she claimed that the influence of psychic distance is limited and short-lived because these firms are rapidly developed and operate in multiple markets. Once these firms start their international business in a psychically close market, they will quickly move to the next one with much further psychic distance. Thus, after their first entrance, psychic distance becomes less important to their further development (Sylvie, 2004).

3.9.3.3 Entrepreneurial orientation and firm strategy

As mentioned before, in the Uppsala mode, decisions have to be made by all the participants who are engaged in the daily work of the firm, rather than the founder. From the management perspective, founders in traditional internationalised firms cannot make decisions just by themselves. The rationale of the Uppsala model is that decisions have to involve many people (Poole, 2012). With this sort of decision-making

mechanism, minds are hard to unify. It will cause a low efficiency of operations. Hence, it is obvious that this model will compromise both the management and operation efficiency (Poole, 2012). However in born global firms, an entrepreneur could make all the decisions independently (Poole, 2012). In addition to the effectiveness of decision making mechanisms, there is also some clearer criterion concerning how to choose the decision maker within the born global firms. Because of the early access to the global market, the entrepreneur in born global firms usually has an international background, such as experience studying, living, or working abroad. With such experience, it will be much easier for the entrepreneur to accelerate the learning process (Sylvie & Colin, 2004). In addition, Poole (2012) noted it is also necessary for born global firms to possess abilities such as superior market-sensing, customer-linking, and channel-bonding to accomplish their early internationalisation. Besides that, it is undeniable that the entrepreneur with an international background will be capable of holding a global mindset and international social network. It helps entrepreneurs to "define and act on global opportunities at an early stage in their companies' life cycle" (Poole, 2012, p.27).

In the meantime, the firm's strategy is found to have played a crucial role in the born global model (Sylvie & Colin, 2004). Born global firms cannot achieve rapid internationalisation without an integrated firm strategy. The firms' strategies help them to gain advantages and differentiations in the internationalisation process. According to Sylvie and Colin (2004), born global firms are often adopting "focus and grow" strategies to deal with the rapid growth demand. This strategy keeps firms seeking market niches and enables them to dominate their segment in the niche market. However, in the Uppsala model, the importance of firm's strategy was not stressed properly. According to Olejnik & Swoboda (2012), the general strategy for the Uppsala model is to follow the pattern that firms start with no regular export, then export through agents, followed by setting up an overseas sales subsidiary and finalising with oversea production.

Unlike the traditional internationalisation process, the born global mode requires firms to draw up market strategy with a global orientation. Sylvie and Colin (2004) believed in "strategy of innovation is the main driver for rapid internationalisation, and a clear market strategy need contains branding, attending trade shows, monitoring customer

feedback, protecting intellectual property and so on" (p.74). In order to formulate such a comprehensive strategy, born global firms should not only insist on maintaining a global mindset throughout, but also need to keep seeking out employees with international knowledge (Sylvie & Colin, 2004).

3.9.3.4 Network relationships

It is widely accepted that international networks also play an important role in both born global firms' and traditional firms' internationalisation strategy and process. An international network enables born global firms to gain sufficient knowledge base/experiences from the designated market, and accumulate social capitals in the meantime (Autio, 2005; Lehmann & Schlange, 2004; McDougall, Oviatt, & Shrader, 2003). An intensive network distribution could not only effectively accelerate the process of knowledge accumulation, but also stabilise the basis for the firm's establishment (Johanson & Valhne, 2009). Coviello (2006) believes that, firms can use networks to achieve higher sales and to stay active in the target markets. In addition, in some cases, especially in the early phase of firm's establishment, networks can be counted as the source of financial capital. Some empirical evidence also proved that there is a positive relationship between the international network and firm's early internationalisation (Schwens & Kabst, 2009). As mentioned before, network relationships can generate social capital. And social capital is intangible capital which is especially important for born global firms, as it is the motivator of firm's innovation and collaboration activities. Compared with the large multinationals, born global firms are also lacking in tangible capital. Therefore, they need to acquire enormous intangible capital to compensate their shortages in tangible resources (Zhang et al. 2009). In that case, social capital is the most appropriate and easy obtained intangible capital for them. Acquiring social capital through network relations not only stimulates firm's early internationalisation, but also provides opportunities and a platform for firm's further development in the international markets (Chetty & Agndal, 2007; Chetty & Colin, 2003; Oviatt & McDougall, 2005).

Gruber-Mücke (2011) also argued that good relationships can help firms to build up mutual trust with their customers, suppliers and partners (Gruber-Mücke, 2011). Burgel and Murray (2000) pointed out that an impeccable network framework is constituted by

good relationships with buyers, sellers, and subcontractors as a whole (Burgel & Murray, 2000). However, due to the nature of networks, to build up an impeccable network framework is a time and money consuming process. According to Cavusgil and Knight (2009), it is not necessary for born global firms to build up their own networks. They can either choose to use the existing global networks created by large multinationals, or initiatively cooperate with other public private partners in the foreign markets. In addition, in the born global model, the personal contacts and networks of entrepreneurs is very important (Oviatt & McDougall, 2004). According to Oviatt and McDougall (1994), entrepreneurs of born global firms usually use networks at a personal level. They choose and manage their own networks and utilise the networks to facilitate the development of their firms. More specifically, these networks can help to rapidly develop interaction with local firms and customers. It also enables born global firms to accelerate, or even skip the slow gradual accumulation of knowledge. Entrepreneurs can utilise their skills and knowledge to expand the existing networks and establish new contacts. They can also create dynamic relationships with customers, contacts, and networks by leveraging their capabilities and demands (Rogoff, Lee, & Suh, 2004).

In comparison, firms using a traditional internationalisation model always use intermediaries to acquire knowledge and resources, because of the flexible time allowed (Sylvie & Colin, 2004). According to Johanson and Mattson (1988), the network relationships in the Uppsala model are built on the assumption that firms can acquire other firm's resources via reliable network relationships. It was believed that the number and strength of firm's relationships with their counterparts will increase as the internationalisation takes further (Johanson & Mattson, 1988). And unlike in the born global firms, the network relationships in traditional internationalised firms are formed on the organisational level, instead of the entrepreneur or decision maker level (Johanson & Valhne, 2009). Firms need to create and maintain business relationships in the markets they operate in during the internationalisation process. To be more specific, they need to not only form new relationships in the foreign markets, but also should increase commitment with their existing relationships (Mtigwe, 2006).

3.10 Alternative patterns of internationalisation

From the literature, it can be found that besides the born globals and traditional internationalised firms, there exist other types of internationalisation strategy. For instance, as mentioned before, Knight et al. (2004) defined that born global firms are rapidly internationalized firms which start international business within three years since inception and with at least 25% of foreign sales out of the total turnover. However, among born-global firms, there are different kinds of born globals due to differences in the degree of born globalness and markets served. Kuivalainen et al. (2007) identified two different born global strategies, called 'true born global' and 'apparently born global'. They distinguished these two by fim's degree of born globalness. True born-globals that operate in more distant markets, and apparently born-globals, so-called born-internationals firms, which go into culturally closer markets and follow strategies which resemble more the traditional incremental internationalization pathway. This distinction was made regarding the scale, scope of internationalization; however, there was no difference regarding the timing of internationalisation, which means both types of the firms are fulfilled the general definition of born globals. And in Kuivalainen et al. (2007)'s study, they found that the true born globals performed better than the born international ones, specifically in sales, profit and sales efficiency. And they also proved Contractor, Kundu & Hsu (2003)'s conclusion that increased multinationality will be good for a firm's performance.

Other than Kuivalainen et al. (2007), Vanninen et al. (2017) also raised a new concept named 'born micro-multinationals (born mMNEs)'. According to Vannien et al. (2017), there is a literature gap separating studies on born globals (BGs) and international new ventures (INVs) from the research on multinational enterprises (Vannien et al.,2017). They claimed that existing theoretical frameworks did not capture the multi-nationalisation of young and small firms. The definition of 'born mMNEs' is firms which small and resource-constrained, own or control value-adding activities (they have established FDIs) in two or more countries in less than three years after their inception. mMNEs represents the SMEs that started international operations soon after their foundation. And unlike BGs and INVs, which assumed that firms are serve international

markets via lower commitment modes of investment, born mMNEs believed that firms can internationalise thourgh parts of their value chain as well. The emergence of born MNEs implicates that global mindset and experienced founders may still enable young and small firms to establish FDI rapidly. Other than global mindset and experienced founders, lack of experience also can be compensated by employ experienced local employees because they can provide both knowledge of certain market areas and connections with local networks. In Vanninen's study, there are four case studies of Finnish born micromultinationals. The results show that the FDI conducted by born mulitnationals can be explained by OLI approach (organizational, locational and internalization approach) and transaction costs theory, and the multinationalisation process is consisted by three steps, which are: commitment decisions, reconfigurations of the value chain, and learning from, creating and building trust with internal sources.

Bell, McNaughton and Young (2001) found that besides born global firms, there is growing evidence of the emergence of 'born again' global firms. They defined the born again global firms as well established in domestic markets, and not interested in internationalision at first, but suddenly following rapid and dedicated internationalisation afterwards. In their study, over 30% of firms in their sample are born again global firms. Apparently, the number of born again global firms proved that firms can have a domestic focus for many years and then internationalise rapidly. Contrariwise, firms can deinternationalise and then start to focus on the domestic market as well. As Bell et al. (2001) suggest, 'internationalisation is not a linear, incremental, and unidirectional path' (p.186). They believe that firm's strategic direction leading to internationalisation is determined by top manager's international orientation, commitment and experiences etc.

3.11 Hypotheses for firms' performance

Since the literature provides a theoretical framework for the market entry mode by explaining the conceptual definition of born global mode, it is necessary to examine the relationship between firm's performance and born global mode. Moreover, as the foundation of this study, it is also necessary to investigate the relationship between some influential factors and firm's performance. By examining the relationship between these

factors and the performance of the firms, we can understand the complexity of born global phenomenon in China. Thus, a series of hypothese are formulated for this research.

3.11.1 Hypotheses for RQ1: Is there any difference in performance between traditional internationalised firms and born global firms?

Internationalisation describes the degree of firms involved in the international business. Firms decide to internationalise mainly because of the domestic constraints or exploitation of opportunities in the foreign markets (Buckley & Casson, 1976; Rugman, 1981). Lots of studies discussed the relationship between the internationalisation and firm's performance (Kuivalainen et al., 2007; McDougall & Oviatt, 1996; Oviatt & McDougall, 1994; Zahra, Ireland & Hitt, 2000). However, there are some conflict arguments among researchers regarding the relationship between internationalisation and firm's performance. For instance, Tsao and Chen (2012) used data sample which comprises 790 Taiwanese firms over seven years period from 2000 to 2007. The results showed the degree of firm's internationalisation is significantly positive and linearly related to its performance. Kuivalainen (2007) also suggested that the nature of born global firms supported a positive relationship between the born-globalness with performance. However, there is a different conclusion made by Chiao et al. (2006). In their study, the sample concludes 1419 small and medium-sized Taiwanese firms. They use the share of exportation to total sales to represent firm's internationalisation degree and return on sales (ROS) as the indicator of performance. The result showed an inverted U-shape relationship between these two factors (Chiao, Yang, & Yu, 2006).

For the born global firms, internationalisation is a necessary move. Once they successfully internationalised, they can obtain most sustainable comparative advantages due to their niche market focus and specialization for customer needs. In another word, born global mode can bring positive performance implication for firms (Oviatt & McDougall, 1994). But the research on Canadian SMEs by Sui (2011) found a different result. Comparing survivability on the export market of born globals and traditionally internationalised firms. He did not find evidence that being born global affected a firm's survival in the export market. Similarly, other research on developed countries like

Greece (Kanellos, 2013), Tukey (Kocak & Temi, 2009), and Ireland (Bell, 1997) also found that the born global mode is merely a strategic choice, and the performance of SMEs primarily depends on the advantages the firm owns. Based on the existing literature, it is proposed:

H1: Firm's performance is related to born global mode.

3.11.2 Hypotheses for factors that affect the performance of firms

There are plenty of studies concerning the factors that influence firm's performance, some of them focusing on demographic issues such as firm size (Fritsch & Meschede, 2001; Moreno & Casillas, 2007), social capital (Balachandra & Friar, 1997); while others focus on SME behaviour, such as entrepreneurial orientation (Hult, Hurley & Knight, 2004; Lumpkin & Dess, 1996), R&D activities (Becheikh, Landry, & Amara, 2006; Raymond & St-Pierre, 2010). However, based on the knowledge-based view and resource based view, factors related to SMEs' behaviour are keys for the success of born globals (Dai & Liu, 2009). These factors directly affect a firm's social relations, networking capability, the ability to discover exploration and exploitation business ideas and opportunities (Peng & Qi, 2005).

According to the existing literature, firm's size is a widely tested and controversial factor in the analysis related to firm's performance (Baumol, 1967; Hall & Weiss, 1967). Some research finds a positive relationship between these two variables because size is treated as a source of competitive advantage to enable big firms to achieve higher efficiency in compare with the smaller ones (Hawawini, Subramanian & Verdin, 2003).However there are still some studies suggesting the relationship is negative or ambiguous (Amato & Burson, 2007; Pervan & Višić, 2012; Prescott, Kohli & Venkatraman, 1986). For instance, Papadogonas (2006) conducted a research using a sample of 3035 Greek manufacturing firms throughout the period 1995 to 1999. It classified the size of the firms into four categories and then applied a regression analysis. The result showed all the firms regardless of their sizes are profitable (Papadogonas, 2006). Another case examined by Lee in 2009 used a dynamic panel data sample comprising 7000 US publicly-held firms. The researchers adopted a fix effect analysis to

investigate the role of firm's size played in the firm's performance. The result implicated firm size is essential in the analysis of firm performance. But the relationship is not linear between the two factors since the performance of larger firms is not evident (Lee, 2009). In order to establish a better understanding of born global mode, it is necessary to examine the whether the size of the firm will influence the firm's overall performance in this study. To measure firm's size, we use the natural logarithm of the total asset because it presents the variation in firm's size. Hence, it is proposed:

H2: Firm performance is related to firm's size.

Ownership is another important firm-specific factor which influences firm's performance. A firm's ownership type can directly influence its resource endowment and its attitude towards risk. Moreover, it will eventually affect firm's internationalisation strategy choice (Fernández & Nieto, 2006). There are numerous studies examining the relationship between the institutional ownership and firm's performance from various perspectives. For instance, the study conducted in Span in 2006 confirmed the existence of significant relationships between the type of SME's ownership and the SME's performance in international markets (Fernández & Nieto, 2006). The sample is a firm level panel compiled by the Spanish Ministry of Science and Technology from 1991 to 1999. The result showed family ownership is negatively related to the export intensity which implies they achieve worse performance in the international markets than the domestic ones (Fernández & Nieto, 2006). Nikbakht and Rahmani-nia (2010) also found in their study that the relationship between the institutional ownership and firm's performance is significant and positive. Namazi and Kermani (2007) find the relationship between corporate ownership and firm's performance is positive while the relationship between state ownership and firm's performance is negative. In addition, in 2005, the study conducted among Chinese and Taiwanese companies also investigated whether ownership structure can influence firm's performance. The result shows the relationship between state ownership and performance is negative while the private ownership is positively related to the performance (Chiou & Lin, 2005).

In this study, the ownership are classified into five groups, respectively in the dataset they are: private firms, state-owned firms, collective firms, foreign-funded firms and other firms. Private firms are the ones that owned by a private individual or organisation, rather than by the state or a public body. On the contrary, state-owned ownership stands for the firms that fully or partially owned by government. Collective ownership means a firm with industrial assets or land by all members of a group for the benefit of all its members. Foreign-funded firms are the firms that organised by foreign nationals and capitalized with foreign funds. Other firms include limited liability firms, joint stock limited liability firms, Hong Kong-Macao-Taiwan invested firms and so on. Dollar and Wei (2007) found strong evidence that state-owned firms obtain worse performance than either domestic private or foreign firms. Hence, it is proposed:

H3: Private firms achieved best performance among firms with other ownerships.

The R&D investment is used as the final variable examined in this study which highlights the importance of innovation in firm's development. In order to cope with the complexity of technology, firms are highly motivated to strengthen their technological capability and boost their inventiveness (Granstrand, Patel & Pavitt, 1997; Hsu, Lien & Chen, 2015). The investment in research and development activities directly reflect a firm's attitude towards innovation and long-term development strategy. Because innovation not only enables firms to achieve superior performance (Eberhart, Maxwell & Siddique, 2008; Eberhart, Maxwell & Siddique, 2004; Chen, Chen, Liang &Wang, 2013) but also essential for firms to sustain their competitive advantage in the international market (Kafouros, Buckley, Sharp & Wang, 2008). There are plenty of prior studies already investigating the effect of R&D expenditures on firm's performance (Singla & George, 2013; Zhou & Wu, 2014), and most of the research found the positive influence of R&D on firm's performance. For instance, the research conducted by Vithessonthi and Racela in United States in 2016 showed the relationship between internationalisation and R&D activities. They found that in 1991, the mean ratio of R&D expenditure to total asset is about 3.7%. However the figure increased to 7% and maintained until early 2010s. And because of the increasing popularity of internationalisation among US firms, the mean ratio of foreign sales to total sales raised

to 34.8% in 2013 while it was 18.4% in the 1990. Besides that, the study also discovered the relationship between firm's R&D intensity and operating performance is negative, and is positive with firm value. These findings implied R&D activities might deteriorate firm's operating performance in the short run, but in the long run, firms can gain competitive competence and eventually increase their value (Vithessonthi & Racela, 2016). However, some studies did find a different result. For example, a research based on 118 large U.S. multinational firms in 2003 and a research used 220 Italian small and medium sized firms in 2003 both find a negative relationship between R&D expenses and firm performance (Hsu & Boggs, 2003; Majocchi & Zucchella, 2003). Another study explored an S-shaped relationship between the R&D and firm performance among US multinational firms. And it also claimed the relationship is negative at a low level of internationalisation, positive at a mediate level of internationalisation and negative at the high level of internationalisation (Bae, Park & Wang, 2008).

H4: Firm's performance is related to innovation proxied by R&D.

3.11.3 Hypotheses for RQ2: What factors induce Chinese SMEs to follow the born global path?

As mentioned before, in order to examine the Chinese born global phenomenon, the researcher develops some key hypotheses regarding the impact of influential factors on born global firms in the empirical setting of China.

3.11.3.1 Location

All the researchers in this area agree with the idea that the uncertainty of doing business will increase as the distance between home country and target country increase (Arto, 2015). It is important to keep the uncertainty as low as possible especially for small and medium-sized firms. Because they are always in the inferior position not only in their industries but also in the domestic market and foreign market. Under such circumstances, these firms should seriously consider distance as an influential factor in their international expansion. In this regard, psychic distance plays the same important role in both the Uppsala model and born global model. Moreover, shorter distance to the designated markets means lower transport cost in the international business. Thus,

location is an important factor which enables firms to gain comparative advantages in the traditional internationalisation process. However, in born global model, the location is not as important as it is in the traditional approach. Some research even claims that it is irrelevant to firm's internationalisation process (Dow & Karunaratna, 2006; Granstrand, 1999; Jolly et al., 1992). This may be because the only market that born global aimed at as the starting point is the niche market. With the integration of international markets and the development of technology nowadays, firms can not only lower their transportation costs but also easier to communicate with their customers wherever they can find in the world. It means born global firms might be able to offset the "location disadvantage" by advanced technology and other advantages (Berthou & Hugot, 2011). Based on the above discussions, it can be hypothesized that:

H5: born global firms are influenced by their locations.

3.11.3.2 Size

Another key factor for traditional internationalised firms is their sizes. As rennie (1993) suggests, a typical traditional internationalised firm usually possesses a strong domestic base. Its core business is well established with strong skills, solid financial capabilities, and a sound product portfolio. It would not start to focus on the international market via export unless it obtained sustainable base in the home market. Many large enterprises adopted Uppsala model when they decide to involve with international business. However, born global firms are mostly small and medium sized start-ups because they need to bind themselves with the global market since their inception. These firms perceive foreign markets as places to explore and create new knowledge (Kuemmerle, 2002). Comparing with traditional usually larger firms, the size of born global firms are much smaller when they start to participate in the international business. Because there is no sufficient time for them to expand their size in the domestic market. Thus, it can be assumed:

H6: born global firms are influenced by their size.

3.11.3.3 Innovation

The last variable used in this research for testing the relationship between innovation and born global firms is firm's R&D expenditure, which is an indicator for innovation. For born global firms, innovation is their main competitive advantage comparing with other firms. As mentioned in the literature review, most of the born global firms are technology based, and they heavily rely on the internet service such as Baidu Apps, Skype, Amazon, Fedex Delivery to communicate, distribute, marketing and manage the existing knowledge (Bonaglia, Goldstein & Mathews, 2007). These technologies enable born global firms to engage in international business with limited resources and a limited number of employees. Besides that, born global firms aimed at providing niche products or custom services to the customers. Thus born global firms are in high demand of research and development activities. The more firms invested in R&D activities means, the more competitive advantages they can obtain. On the contrary, traditional internationalised firms are not as interested in R&D activities as born globals do (Sylvie & Colin, 2004). The management of these firms are relatively risk averse and prefer to hold on the existed popular products. Thus, for the case in China, we propose:

H7: born global firms are influenced by the R&D expenditure.

3.11.4 Hypotheses for RQ3：how the entrepreneurship influences the performance of born global firms?

As mentioned in the literature review chapter, born global firms also referred as entrepreneurial firms (Gabrielsson et al., 2008; Hult et al., 2008). The biggest difference between traditional internationalised firms and born global firms is the degree of entrepreneur involvement (Olejnik & Swoboda, 2012). Born global firms are small and with limited financial, human and tangible resources. Internationalisation is a new start to connect firms themselves with the global market rather than an extension of what already happened in the domestic market. Internationalisation occurs just because entrepreneurs see opportunities from foreign markets as "open windows" for them. In order to gain success in internationalisation process, entrepreneurs have to strength their entrepreneurial skills, such as taking risks, create new combination of products or services, establish network contacts, and utilize special knowledge gained via different

channels (Fletcher, 2004). International entrepreneurship is a process that integrates the forecast of entrepreneur and the realization of business emergence as a whole international entity (Fletcher, 2004). International entrepreneurial capability which is defined as firm level ability helping firms to leverage resources by combining a series of innovative, risky and proactive activities (Zhang, Tansuhaj & McCullough, 2009). And the international entrepreneurial capability also enables entrepreneurs to explore, enact, evaluate, and exploit opportunities internationally. Oviatt and McDougall (2005) claimed that a successful born global model application depends on the speed of entrepreneurial internationalisation. And the speed is "enabled by technology, motivated by competition, mediated by the entrepreneur's perceptions and moderated by the knowledge intensity of the opportunity and a firm's international networks" (Cannone & Ughetto, 2014, p. 273). Thus the internal factors examined in this study are from three dimensions: international entrepreneurial capability, market orientation and international knowledge. These three dimensions are directly related with the entrepreneur themselves.

In general, the primary data is collect from Chinese SMEs and be used to analyse how these entrepreneurial factors influence the performance of Chinese born global firms. In this research, there are three determinants can be defined as constructs which are: *market orientation*, *entrepreneurial capability* and *international knowledge*. These variables are the latent variables or constructs, which can only be measured by indicators. According to Ferdinand (2000), latent variables are variables that cannot directly observed, but can be inferred by other variables which are observable. Indicators refers to the variables can be directly measured or observed.

3.11.4.1 Construct of "Market orientation"

Unlike the traditional internationalised firms due to the resource constraints, born global firms cannot afford the time to sustain a gradual knowledge accumulation process. For born global firms, there is limited experiential knowledge they can gain prior the internationalisation process (Burgel & Murray, 2000). They have to gather, interpret and translate market information in another way to maintain their competence in the international market (Knight & Liesch, 2002). As a result, market orientation can be

viewed as one of the main determinants of entrepreneurship for born global firms in the market accumulation process. It has been proved that firm's market orientation is related to adaptation capability and absorption capability (Monferrer, Blesa, & Ripollés, 2015). Thus in this study, firm's market orientation will be examined from these dimensions.

3.11.4.1.1 Adaptation capability as a dimension of "market orientation"

A firm's adaptation capability describes the ability to be strategically flexible and be able to adopt emergency plans to deal with any changes when necessary in order to meet the new tendencies emerging in the environment (Gibson & Birkinshaw, 2004). Petroni (1998) also points out adaptation capability is essential because it enables firms to manage the evolution of their knowledge base. It determines the adaptation of current resources based on the knowledge management skills. Firms with the capability to manage their knowledge base might effectively reduce the response time when experimenting or directly implementing new techniques, which means it can facilitate the adaptation process (Lesser & Prusak, 2000; Sher & Lee, 2004). In addition, these firms are able to develop mechanisms to coordinate and resolve the possible discords, disperse and evaluate knowledge efficiently in order to implement the actions to adapt to customers' new interest or changed competition conditions (Helfert, Ritter & Walter, 2002). However, the adaptation capability is the limited by resource. A successful adaptation to the internal and external pressures requires organisational surplus from the firm (Teece, Pisano & Shuen, 1997). For born global firms, their market orientation is to perform an effective management for valuable knowledge, in order to gain essential resource access and necessary adaptation ability to deal with the new conditions in the market more flexible (Tuominen, Rajala & Möller, 2004). On the contrary, traditional internationalised firms prefer to gain a solid domestic market base before they actually enter into the international markets. Thus, their market orientation is more focus on the domestic market, which implies their adaptation capability might much lower than born global firms.

3.11.4.1.2 Absorption capability as a dimension of "market orientation"

The second dimension of market orientation investigated in this study is firm's absorption capability. This capability depends on the knowledge the firm possesses, and

these knowledge should be able to transfer or apply on to firm's products, processes or personnel (Cohen & Levinthal, 1990). Tsai (2001) and Minbaeva et al. (2003) point out the amount of substantial resources generated from the external knowledge access determines firm's absorption capability. It is believed that the mechanism of a higher level of absorption capability works in the routine as enables firms to possess stronger ability to learn from other firms, then assimilate their external knowledge and transfer it into their own internal knowledge base, eventually successfully apply it in their business activities (Lenox & King, 2004; Wang & Ahmed, 2007). It is also noted that in order to develop an absorption capability to facilitate the knowledge integrate and transfer process, firms are required to possess effective management and positive attitude towards this process. As Nahapiet and Ghoshal (1998, p.243) emphasized that the knowledge transfer process includes a communication structure which permits an access to "the sum of actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit". For a market oriented firm, such as a born global firm whose aim is to perform an effective management for valuable knowledge, it will actively enhance their absorption capability not only by their knowledge resources, but also by the knowledge management behavior (Monferrer, Blesa & Ripollés, 2015).

According to the discussion above, hypotheses relating the relationship between market orientation and the performance of born global firms can be formulated below:

Hypothesis 8: The performance of born global firms is significantly influenced by their market orientation.

Hypothesis 8a: The higher the level of adaptation capability, the born global firms will be more market orientated.

Hypothesis 8b: The higher the level of absorption capability, the born global firms will be more market orientated.

3.11.4.2 Construct of "international entrepreneurial capability"

As reviewed in the literature review chapter, international entrepreneurial capability emphasizes on the activities related with brokering, resource leveraging or stretching,

value creation and opportunity seeking. And the success of these activities requires firms to adopt innovative, proactive and risk seeking behaviors (McDougall & Oviatt, 2000). It also implies that all the international activities are entrepreneurial because they only happened in the brokering, leveraging process (Zhang et al., 2009). Comparing with the traditional internationalised firms, the entrepreneurial capability is more important in born global firms. It has been found that the most common denominator in born global studies is the significance of entrepreneurial behavior (Andersson & Evangelista, 2006; Knight & Cavusgil, 1996; Madsen & Servais, 1997). As Zhang (2009) claimed this capability is especially helpful for born global firms because these firms lack financial, human capital and tangible resources. Entrepreneurial capability can not only help them to leverage the limited resources but also achieve superior performance by using these resources. In this study, international entrepreneurial capability is examined from four perspectives: 'International networking capability', 'innovation capability', 'marketing capability' and 'risk taking capability'. These perspectives are key dimensions for a firm to structure international entrepreneurial capability model and they are interrelated because international entrepreneurial capability "reveals the interaction between the elements of firms in the process of discovering, enacting, evaluating, and exploiting opportunities across border" (Zhang et al., 2009, p. 296). In the following sections, these dimensions are examined in more details.

3.11.4.2.1 International networking capability as a dimension of "international entrepreneurial capability"

International networking capability is the first dimension examined in this study. Networking is one of the most important strategy that entrepreneurial firms pursued. Some other scholars describe networks as relationships between organisations or individuals, such as between customers, suppliers, service providers or government agencies (Coviello & Cox, 2006; Kelley, Peters & O'Connor, 2009). International networking capability contributes firm's success in various ways. It not only provides resource access for the firms, but also help them to cope with the changes and uncertainties embed within the foreign markets. Specifically, networks can help firms to

diverse or gain access to special knowledge across the organisational environment which is needed in an innovation project (Gulati, 1998). It can also help firms to finance funding from other organisations or individuals because they share reliance between each other. In this case, researchers developed a more concrete definition for international networking capability which refers to the ability of gaining resources from the environment by create alliance and participate in social activities in the foreign markets (Gulati, 1998). From the born global theory related literatures, it was found that in order to accelerate the internationalisation process, born global firms usually adopt advanced communication technology to acquire knowledge, develop strategies and maintain relationships (Knight & Cavusgil, 2004). Knight and Cavusgil (2004) also noted that for SMEs, information technology and relationship are the two main tools to deal with the uncertainties embedded in the foreign markets. In order to extend their boundaries, firms are using telecommunications and computer to manage the business ties. For instance, they are using emails or social networking services to create or maintain relationships with customers and suppliers (Moyi, 2003; Wakkee, 2006). They can also customize their products for the customers wherever they can find in the world by communicate with them online (Mostafa, Wheeler, & Jones, 2005). Such kind of social interaction could benefits firms in various ways. To be more specifically, firms can gain knowledge from other agent's behavior, other firm's price or technology, and the collective actions. Because once the networking capability generates knowledge about the technology and markets, it can directly influence firm's performance (Etemad & Lee, 2003; Zhou, Wu, & Luo, 2007).

3.11.4.2.2 Innovation capability as a dimension of "international entrepreneurial capability"

The second dimension relating to international entrepreneurial capability is firm's innovation capability. It is defined as an ability to respond to the detected changes in the market via the knowledge which absorbed internally by the firms (Danneels, 2002). In addition, these firms will transform their assimilated knowledge in the form of sorts of innovative outputs such as new products development or its variants (Danneels, 2002; Dougherty, 1992; Escribano, Fosfuri, & Tribó, 2009). Innovative capability describes

firm's ability to create new ideas, new products or new processes to meet the foreign market's demand (Lumpkin & Dess, 1996). With the increasing competition in the market nowadays, innovation capability can facilitate firms to gain, exchange, gathering, integrating and developing valuable knowledge and resources from individual agents by formulating inter-organisational processes and routines (Lin & Chen, 2006).Besides that, it also encourages firms more open to the new ideas and establishes innovation as a part of its organisational culture, which eventually benefits firm's innovation capability development (Hurley & Hult, 1998). For born global firms, this capability is especially important because they need to be innovative to enhance their competitiveness. According to Lin and Chen (2006), born global firms mostly are knowledge-intensive firms, they are operating in an environment with high technology, high risk, high research and development costs, and full of complexity, their market cycles are always shortening due to the frequently changing requirements of the clients. Under such kind of pressure, born global firms need to acquire resources and knowledge from other channels other than themselves to increase the success possibilities of individual innovation development (Chen & Lin, 2004; Millar, Demaid & Quintas, 1997). More importantly, most born global firms are aimed at creating a niche market, thus it is impossible for them to achieve that goal without strong innovation capability.

3.11.4.2.3 Marketing capability as a dimension of "international entrepreneurial capability"

The definition of marketing capability is different from various perspectives. Blesa and Ripolla (2008) claimed that marketing capability is a firm-specific ability which facilitates or forms firm's success in the international market because it provides a superior market sense, customer link, and channel bond for the firms. However Song et al. (2008), suggested that market capability comprises all sorts of knowledge and information, such as competition, customer, and skill in market segmenting, pricing, advertising, market activity integrating and so on. Besides that, Morgan et al. (2009) pointed out market capability is about how the market strategy is developed and executed. In general, it is firm's ability to use competition knowledge to develop and execute market strategy, to achieve superior performance abroad (Knight & Cavusgil,

2004). It enables firms to offer products or services to the buyer who offers the most promising price. Moreover, it also provides the foundation for firms to interact with international markets (Knight & Cavusgil, 2004). Nevertheless, it should be noted that this capability is important both for born global firms and traditional internationalised firms. Nowadays, within the increasing competitive environment, product's life cycles are shortened by the rapid changes in the technology, customers are more organised, have more information, and more demanding. Firms with strong marketing capability can formulate specific marketing strategies to overcome the difficulties and challenges to achieve superior performance in the global markets. Moreover, comparing with others, firms with better marketing capability can analyse and understand customer's demands better, which eventually could facilitate the process of forge new market segments (Najafi-Tavani, Sharifi & Najafi-Tavani, 2016). Overall, firms with strong marketing capability can identify the valuable opportunities from the bad ones in the internationalisation process. And they are also capable of commercializing new products successfully and exploring new opportunities in the market.

3.11.4.2.4 Risk taking capability as a dimension of "international entrepreneurial capability"

The final dimension addressed here is risk-taking capability. According to Zhang (2009)'s study, this capability refers to the firm's innovativeness and reactiveness in the internationalisation process. Risk-taking capability refers to the ability to undertake decisions or resource commitments which contain high risk in the foreign markets (Bruyat & Julien, 2001). Many researchers believe that the internationalisation is as a risk-taking behavior for the entrepreneurial firms. It is because not only the foreign markets are full of uncertainties and risks, but also such behavior may cause serious funding problem (such as debt) in the opportunity exploitation process (Lumpkin & Dess, 1996). Thus, some studies point out that the innovation capability and risk-taking capability are closely related, because, in practice, entrepreneurial firms are attempting to link these capabilities together to achieve superior performance (Zahra, Ireland & Hitt, 2000). Born global firms often act as innovative, proactive, and visionary have to face

limited resources that initiate them to pursue opportunities in the foreign markets (Knight & Cavusgil, 2004), which force them to undertake innovative activities.

According to the discussion above, the following hypothesis can be formulated:

Hypothesis 9: The performance of born global firms is significantly influenced by their international entrepreneurial capability.

Hypothesis 9a: The higher the level of networking capability, the higher the level of international entrepreneurial capability in born global firms.

Hypothesis 9b: The higher the level of innovation capability, the higher the level of international entrepreneurial capability in born global firms.

Hypothesis 9c: The higher the level of marketing capability, the higher the level of international entrepreneurial capability in born global firms.

Hypothesis 9d: The higher the level of risk taking capability, the higher the level of international entrepreneurial capability in born global firms.

3.11.4.3 Construct of "international knowledge"

International knowledge was undoubtedly one of the most important elements for firms when they engaged in international activities. It is an intangible asset and provides a competitive advantage for firms in the foreign markets (Tsinopoulos, Lages & Sousa, 2014). The definition of international knowledge is the degree to which the firm's management has acquired from the foreign business, foreign institutions, and internationalisation process (Lages, Jap & Griffith, 2008; Sousa & Bradley, 2006). In the born global related studies, scholars pointed out that entrepreneurial firms which owned more international knowledge can become accustomed to the foreign markets much earlier than the others. They also suggested that some differences between the old firms and the new one can be explained by the founder's living, working or studying experiences (Madsen & Servais, 1997; McKinsey & Company, 1993). Prior international knowledge can not only reduces the problems brought by the psychic distance to specific foreign market but also minimizes the risk and uncertainties in the new environment (Madsen & Servais, 1997). Besides that, it also provides various of

insights to an extended knowledge base for the managers, which offer them a better position to deal with the potential uncertainties embedded in the foreign markets. In the following sections, the international knowledge will be measured by manifest variables: foreign business experiences and foreign institutional experience.

3.11.4.3.1 Indicators for "international knowledge"

Foreign business experience is mostly accumulated by firm's founder or employees who worked or run a business by themselves in foreign countries before. In order to achieve success, a new firm will not only need capability to exploit valuable opportunities, but also need the ability to manage the firm and commercialize the new ideas and products (Shane, 2004). However, to successfully complete a commercialization process is not a simple task for the firms. It involves knowledges from sorts of sources, and effective performance in discover, explore and exploit business ideas and opportunities (Shane & Venkataraman, 2000). Entrepreneurs who obtained practical business experience either from worked in a commercial environment or started a business in the foreign market before are holding comparative advantages comparing with the others who don't have any related experience (Saxenian, 2007). For example, the experience of working in a multinational enterprise can teach the entrepreneur about the complexity of global operations, foreign market features, and culture preference and so on (Downes & Thomas, 1999). Dai (2009) proved in their study, experiences such as prior business knowledge, management skills and marketing techniques in the developed countries enables the entrepreneurs to hold a global mindset in the firm management.

Foreign institutional experience or academic experience is referred as living experience or study experience and so on (Eriksson et al., 1997). Research showed that managers who attended school in other countries or lived in other countries for a considerable time will be more familiar with the foreign market conditions and opportunities compare with the domestic managers (Eriksson et al., 1997). It was found that companies with a manager who lived abroad or studied abroad are more likely to engage in international activities (Bilkey, 1978). An empirical research conducted by Dichtl et al. in 1990 in Finland, Japan, South Africa, South Korea and Germany supported the above arguments. Dichtl et al.'s research investigate the determinants of SMEs' export success. The result

showed that firms with managers who received foreign education or vacations are better exporters (Dichtl, Koeglmayr & Mueller, 1990). Similarly, there is evidence showing that their top management team for born global firms are more likely to have a higher level of institutional experience than the managers in gradually internationalised firms (Harveston, Kedia & Davis, 2000).

In this study, internationalisation knowledge is considered as the experience of having conducted international business such as foreign direct investment (FDI), prior experience with foreign partners or received education abroad. As Zhang et al.(2012) claimed that both individuals and firms can utilize the existing knowledge resource from the prior experiences in the cross-border business to improve their learning from the foreign market entry experience. For a successful entrepreneur, these experiences are precious and retrievable, which includes how to read culture cues, how to build trust, how to identify business opportunities, how negotiating with international contracts and so on (Blomstermo, Eriksson, Lindstrand & Sharma, 2004; Etemad, Wriaht & Dana, 2001). Thus, for born global firms, international experiences are essential in their market entry process.

According to the discussion above, the following hypothesis is formulated:

Hypothesis10: The performance of born global firms is significantly influenced by the level of international knowledge.

3.12 Chapter Summary

In general, this chapter provides a literature review of the theories and previous empirical studies that form the foundation of this research. Both the theories and empirical studies enable the readers to gain complete knowledge of the origins and theoretical background of the Uppsala model and born global model. This chapter also provides a literature review of the driving factors behind the two models. In the Uppsala model, the driving factors include risk mangement, experiential knowledge, organisational learning, and distance. Whereas in the born global model, the driving factors are more entrepreneurial, such as market orientation, international entrepreneurship capability, and international knowledge. These driving factors will be

adopted in this research to investigate the application of born global mode in the context of China. However, besides these factors, there are lots of other variables that may impact on a firm's internationalisation model choice. For instance, Eurofound (2012) suggests there are several strong external factors affect firm's decision of internationalisation model choice. In their research, the external factors are categorized into four groups, which are: sectorial, regional, national export culture, international trade incentives; national trade disincentives such as legal problems, taxation police in home market, financial and non-financial support of the governance etc.; shrinking domestic demand, strong international demand, mobility of clients and global value chains; low transport costs, advanced marketing technologies etc. The study conducted by Whitelock and Jobber (2004) also examined how external factors may influence firm's market entry mode decision. The first one they investigated is country environment. From the literature, it can be found that factors such as import tariffs and quatas (Behrman, 1968), economic forces and legal-political influences (Etgar and McConnel, 1976) etc. are particularly significant when firms decide their international market entry mode. Buckley et al. (1987) also found that for European companies in Japan, country environment factors can influence their internationalization mode choice. The country environment factors include size and growth of the market, import quotas, tariffs and non-tariff barriers. Another external factor mentioned in Whitelock and Jobber (2004)'s research is the geocultural distance of the country. Erramilli (1991) suggests that firms, especially service firms, are more likely to choose culturally or politically similar foreign markets when they lack international experience. Until they gathered sufficient experience, the unfamiliar markets will be less likely to be chosen. Apart from that, Whitelock and Jobber (2004) also suggest that governmental attitude is also important to key decision makers when they make entry mode decisions. Dlugoborskyte and Petraite (2013) provided a summary of previous literature related with factors influencing formation of internationalization mode choice. From the summary, it can be found 'market' and 'competition' are two major external industry level factors. From the 'market' perspective, previous researchers investigated lots of problems related with the 'market', such as whether domestic market is large enough (Halldin,2012; Cavusgil & Knight, 2009; Kudina et al., 2008), whether the role of niche

market and demand for specialized or customized products are increasing (Travinsky, 2012; Varma, 2010; Cavusgil & Knight, 2009), whether customer needs and tastes are fairly standard across company potential country markets (Kudina et al., 2008), whether most of potential customers have overseas operations and where they will use company products or services (Kudina et al., 2008) and so on. From the 'competition' side, the most prominent ones examined by previous literature are whether major competitors have already internationalized or will do so soon (Kudina et al., 2008), whether there is a monopoly or near monopoly product, which derives from tacitly owned knowledge, proprietary products or processes, has been developed (Cavusgil & Knight, 2009), and whether the firm owns the most technically advanced offering in the world (Halldin,2012; Cavusgil & Knight, 2009; Kudina et al., 2008) etc. In general, as suggested by Cannone & Ughetto (2014), the choice of the international pathway for a firm is the result of a complex mix of firm, environmental and entrepreneurial factors.

In this study, due to the complexity of China's economi and politic environment, none of the external factors has been taken into investigation. As mentioned before, the chosen factors are limited to the firm level, including some firm specific factors and entrepreneurial factors. Apart from the influential factors of firm's internationalisation model choice, this chapter also provides a review of the empirical studies in Western developed countries and a detailed comparison between the born global model and the Uppsala model.

Chapter 4: Methodology

4.1 Introduction

This chapter explains the methodology used in this study. As mentioned in the first chapter (1.4), the aim of this research is to examine the differences between the performance of traditionally internationalised firms and born global firms and to identify the influential factors that firms choosing to be born global. In addition, it also investigates how the entrepreneurship influences the performance of born global firms. To achieve the aim of this study, quantitative methods including secondary data analysis and questionnaire analysis have been adopted. Quantitative methods are focus on "the numerical measurements of specific aspects of phenomena, and abstract from particular instances to seek general description or to test the causal hypothesis" (King, 1994, as cited in Thomas, 2003, p.2). These methods can help the researcher to achieve the research aim by examine the quantifiable relationships between different elements which could affect the Chinese SME's internationalisation process. In addition, from the literature review, we can find from the definitions, the basic distinctions between the firms adopting traditional internationalisation model and born global firms take quantitative forms such as size, number of employees, number of years before a firm begins international trading after inception, and so on. Thus quantitative methodology is the most appropriate one to conduct this study. The following sections will discuss the reasons for making this choice in more detail.

4.2 Research Paradigm

Choose an appropriate paradigm is an important step for the scientific research because it can provide basic notions for the research design (Creswell, 2009; Easterby-Smith, Thorpe, & Jackson, 2008).The term "paradigm" was first introduced by Kuhn's work in 1962, he conceptualized it "as a whole set of beliefs, recognized values and techniques common to the members of a given group" (Kuhn, 1970, quoted in Willett, 1996, p. 2).After Kuhn (1962), many researchers analysed and revised the concept of paradigm. For instances, Hoyningen-Huene (1993, p. 162, quoted in Willett, 1996, p. 2), pointed out that the central role of a paradigm is " to set the network of relations of similitudes

and differences, and the solutions to a pragmatic problem serve as a model for the traditions of research built based on paradigms". According to Guba (1990), paradigm is a basic belief system or set of assumptions which can provide a conceptual guideline to the researcher, but cannot be proved or disproved. In addition, researchers found that all existing paradigms are characterized by their ontological, epistemological and methodological assumptions (Guba, 1990).

Ontology refers to the ways of constructing reality, it is a theory about the nature of being and existence (Mathison, 2005). This term is used in many different senses, but in general, "ontology is a branch of metaphysics that specifies fundamental properties and relations of existence, the very elementary categories of the world". It is also the "background (principles and causes) that informs the formulation, description, and analysis of phenomena in the world" (Mathison, 2005, p381). The general aim of ontology is to provide reasoned, deductive explanations for the existed fundamental things (Given, 2008). In addition, there are two main contrasting positions that mostly discussed by the researchers who interested in ontology. They are the objectivistic (realistic) and subjectivistic respectively (Saunders, et al., 2007). The former one assumes that in a real world which complied with natural rules, each of the social entities exists independently from the individuals who live in it (Guba, 1990; Saunders, et al., 2007). In comparison, the latter one believes that reality is created from the "perceptions and consequent actions of those social actors concerned with their existence" (Saunders, et al., 2007, p. 108).

Epistemology, is the theory or science of the method and ground of knowledge. According to the Oxford English Dictionary, it means knowledge, or explanations. It concerned with the nature of knowledge, limitations and justification of human knowledge. If "ontology explores the nature of social reality such as what kinds of things can be said to exist, and in what ways, then epistemology explores how we know that we know something" (Miller,2003, p.33). The aim of adopt epistemology is to determine the origin, value and objective domain of interest of a research by critically study the subjects such as principles, hypotheses and results of diverse sciences (Bateson, 1972). There are three epistemological positions embedded within theoretical

frameworks and methodologies which are objectivism, constructionism and subjectivism (Coghlan, 2014). Objectivism argues that the objects or phenomena under examination are not relevant with human input. Under this view, there is a sharp distinction between the subject and the object. And it also implies that the aim of observers is to discover the truth and theory. Because the truth and theory can not only generates knowledge, but also develop the understanding of the pre-existent structures of the world (Coghlan, 2014). According to Coghlan (2014), there is a weaker version of objectivism, although it still insists on the distinction between the subject and the object division, it also realizes that objectivity is an ideal situation. Thus under this weaker version, "researchers strive to eliminate bias, though inferences drawn from research can at best approximate the intrinsic structure within a particular phenomenon" (Coghlan, 2014, p.304). However, constructionism describes "truth is inherent within an object of investigation, and constructionists argue that truth is instead constructed through engagement with an object of investigation" (Coghlan, 2014, p.304). Although this position does not deny the existence of objects, it insists the emergence of objects comes from interaction. In contrast, subjectivism considers truth as subjective and it is completely depends on human subjects. This position "reflects the most drastic departure from realism by contending that the meaning of a phenomenon is a sole act of human creation" (Coghlan, 2014, p.304).

Methodology is a term usually employed to indicate the sets of conceptual and philosophical assumptions that justify the use of particular methods (Payne, 2004). According to Payne (2004), methodology "deals with the characteristics of methods, the principles on which methods operate, and the standards governing their selection and application" (p.151). There are two general methodological approaches in the social sciences: quantitative and qualitative.

According to Miller and Brewer (2003), quantitative methodology is a numerical measurement of specific aspects of phenomena. It is a structured approach and formulate explanations by examine the relationships between variables. This methodology usually takes three steps. The first step is to identify the key attributes or dimensions in the study. In another word, the first step is to identify the indicators or

variables that needed in the study. Measurement is the key of this step which means it is important to choose appropriate indicators in quantitative research. These variables are the basics to build up the analysis. In the second step, the researcher propose a set of hypotheses and propositions, regarding differences between or relationships among variables. The last step is to perform statistical analysis to examine whether these differences or relationships are supported or not. In general, the goal of the quantitative methodology is to find "as small a set of variables as possible which explain as much as possible" (Miller & Brewer, 2003, p.194). And the main reason of adopting this methodology is to prove that the founded relationships are general features of social life. Ragin (1987) claims that quantitative methodology is good for theory testing, general patterns identification and making predictions.

Unlike the qualitative approach, qualitative methodology is "based on intensive study of as many features as possible of one or a small number of phenomena" (Miller & Brewer, 2003, p.194). It aims to build in-depth understandings rather than condense the information only. "Qualitative research seeks meaning (rather than generality as with its quantitative counterpart) and contributes to theory development by proceeding inductively. Meaning is achieved not by looking at particular features of many instances of a phenomenon but rather by looking at all aspects of the same phenomenon to see their inter-relationships and establish how they come together to form a whole" (Miller & Brewer, 2003, p.194). The aim of qualitative methodology is exploratory and descriptive, which attempting to understand and describe a phenomenon and focus on the perceptions of the "lived experience" from the perspective of the research respondent (Boslaugh, 2008).

In general, two main paradigms mostly are adopted in business research, whether it is strategic or marketing research. These two paradigms are the positivist paradigm and the phenomenological/interpretivist paradigm (Barker, Nancarrow, & Spackman, 2001). Table 4.1 presents an overview of these two paradigms.

Table 4.1: Contrasts of key paradigms

Paradigm	Ontology	Epistemology	Methodology
Positivist	Critical Realist: Reality exists and is ruled by natural laws - but reality cannot truly be perceived. Knowledge of the rules allows a time- and context free generalization.	Modified Objectivist: It is necessary to have a neutral position. Objectivity is not absolutely possible. Results are shaped by interaction between inquirers and inquired. This problem is redressed by using the critical theory and community. Findings are probably true.	Modified Experimental: Critical multiplism (triangulation) Falsification of hypothesis
Interpretivist	Relativist: Reality is individually constructed and dependent on mental framework.	Subjectivist: Findings are the creation of interaction between inquirers and inquired.	Hermeneutic/ Dialectic: Depicting individual construction accurately and comparing or contrasting these existing constructions. The aim is to reconstruct one or more constructions.

Source: Adapted from Guba (1990, p. 20)

4.2.1 Positivism

Positivism is defined as "a family of philosophies characterized by an extremely positive evaluation of science and scientific method" (Lincoln & Guba, 1985, p. 19). The core of the positivist paradigm is the interrelationship of cause and effect. Coomer (1984) proposed the empirical analytical view in 1984 which is consistent with positivist paradigm. Because similar to positivist paradigm, his view is aimed to provide solutions to technical problems by addressing cause-effect.

According to Schwandt (2007), positivism is based on strict experimentalism. Experimentalism proposed that experience is the only source for generating knowledge. In accordance with Schwandt's opinion, Merriam (2002) claims that knowledge is not only observable, but also logically bounded by general laws. He also emphasize that positivism stresses on the role of general laws and assumptions. In order to form an integral positivist research, researchers should propose the causal factors for a phenomenon at first, and then examining the effects of those factors.

As mentioned before, ontology is "concerned with understanding the kind of things that constitute the world" (Schwandt, 2007, p. 190). The ontology of positivist paradigm is "Stable external reality; Law-like" (Gough, 2002, p. 5). As a part of the "materialism" and "realism", the positivists are keep seeking the interrelationship between the factors (Habermas, 2015; Lather, 1991).

The term epistemology refers to "the study of the nature of knowledge and justification" (Schwandt, 2007, p. 87). And the epistemology of the positivism paradigm is: "objective; detached observer" (Gough, 2002, p. 5). It is also defined as "Single truth" (Lather, 1991). According to King and Horrock (2010), the epistemological tradition of positivist paradigm is objectivism, which means that "objects in the world have meaning that exists independently from any subjective consciousness of them" (p.12). Besides that, objectivism also useful to discover the objective truth by keep people's understandings and values objective (Crotty,1998) In positivism paradigm, the objective reality also called "truth", which is a perspective believes knowledge can be proven to exist (King & Horrock, 2010). Researchers in positivism paradigm seek to establish a relationship such as cause and effect, association, correlation and so on.

As a paradigm approach, positivism appears in the practices in the natural sciences. It assumes that certain degrees of veracity is ensured when the research subject are investigated objectively (Brand, 2009). And this approach has been widely adopted in natural science because it provides a naive form of realism that believes all the human beings and their behaviors can be categorized as variables and measured by statistics (Deshpande, 1983; King & Horrock, 2010).

From the methodology point of view, methodology is defined as "the theory of how inquiry should procced. It involves analysis of the assumptions, principles, and procedures in a particular approach to inquiry" (Schwandt, 2007, p.193). The methodology of positivism paradigm approach is scientific method such as experiment and hypotheses verification of causal determinant relationships (Caldwel, 1980; Deshpande, 1983; Perry et al., 1999; Brand, 2009). In addition, it also includes primary data collection, restrained experiments, output oriented sample surveys and theory testing and so on (Perry et al., 1999).

4.2.2 Interpretivism

Unlike positivism, interpretivism is the basis for the qualitative research, it is often associated with a humanistic approach. According to Schwandt (2007), "interpretivism denotes those approaches to studying social life that accord a central place to Verstehen as a method of the human sciences, that assume that the meaning of human action is inherent in that action, and that the task of the inquirer is to unearth that meaning" (p. 160). It means that interpretivism relies on exploration and analyses to seek meanings. According to Merriam (2002), the findings of interpretivist research provides both the scope and interpretations for the multitudes of representations. The interpretivists are seeking not only the multitude of explanations, but also various ways to analyse responses in order to uncover the meaning.

The ontology and epistemology of interpretivism paradigm is that interpretivists believe reality is multiple and relative (Hudson & Ozanne, 1988). In another word, the ontology is it perceives reality as inter subjectively that is based on meanings and understandings on social and experiential levels. The epistemology of this paradigm is people cannot be separated from their knowledge; therefore there is a clear link between the researcher

and research subject (Hudson & Ozanne, 1988). In this discipline, the required knowledge is socially constructed rather than objectively determined and perceived (Hirschman, 1985). Thus, the interpretivists always start with their research with some sort of prior insight, but assumes due to the complexity and unpredictable nature of the reality, these prior insight are not sufficient to develop a complete research design (Hudson & Ozanne, 1988). The researcher keeps open mind towards new knowledge and utilize them in the research develop process. Such kind of emergent and collaborative approach is accordance with the belief of interpretivist. They believe that humans have the ability to adapt because they cannot gain prior knowledge due to time and social realities restrictions (Hudson & Ozanne, 1988). Thus, the aim of interpretivist research is to understand and interpret the meanings in human behaviour rather than to generalize and predict causes and effects (Neuman, 2002; Hudson & Ozanne, 1988). For an interpretivist researcher it is important to understand motives, meanings, reasons and other subjective experiences which are time and context bound (Hudson & Ozanne, 1988; Neuman, 2002).

The interpretivism has advantage and disadvantage. Its main disadvantages are associated with the subjective nature and easily generate bias in the research due to the researcher. Primary data generated in interpretivist studies is heavily influenced by the researcher's viewpoint and values. Therefore, reliability and representativeness of data is compromised to a certain extent. For the advantage, the adaption of interpretivism enables researchers to gain an insight into the qualitative research areas such as cross-cultural differences in organisations, issues of ethics, leadership and analysis of factors impacting leadership and so on. In addition, primary data generated via Interpretivism studies relies on a high level of validity because it assumes both the researcher and respondents are trustworthy and honest (Dudovisky, 2013).

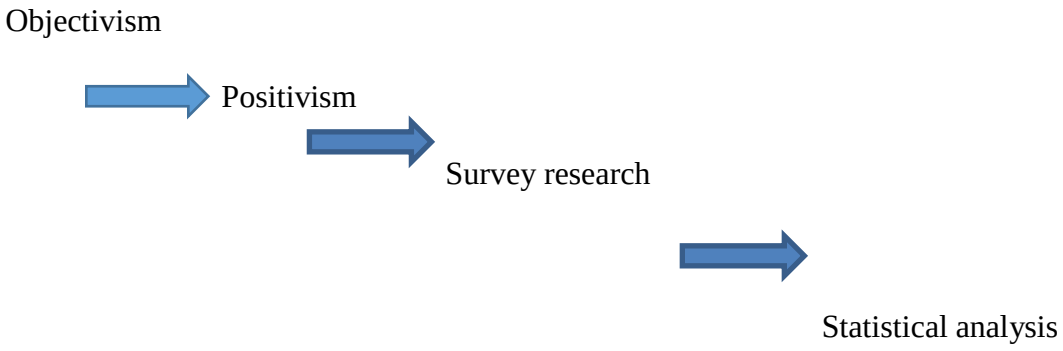
4.3 Research paradigm adopted for this study

"Paradigmatic commitment will influence the way in which one utilizes methods of data collection and analysis… because there is often no one-to-one correspondence between method and paradigm, there is flexibility in the purposes to which many qualitative methods can be put and the particular paradigmatic framework they can serve"

(Saxenian, 2007, p. 259). As mentioned before, there are two main paradigms mostly employed in the business research, interpretive paradigm, and positivist paradigm.

Collins (2010) has noted that "as a philosophy, positivism is in accordance with the empiricist view that knowledge stems from human experience. It has an atomistic, ontological view of the world as comprising discrete, observable elements and events that interact in an observable, determined and regular manner" (p.38). Studies that are conducted in the positivist paradigm choose to establish a survey research and engage the quantitative method of statistical analysis (Despandhe, 1983). From the methodology point of view, this positivism paradigm approach applies experiment and hypotheses verification of causal determinant relationships (Caldwel, 1980; Despandhe, 1983; Perry et al., 1999; Brand, 2009). Furthermore, it also includes primary data collection, restrained experiments, output oriented sample surveys and theory testing (Perry et al., 1999). This study adopts a positivist paradigm because it attempts to examine determinant relationships based on theory and empirical arguments that can be combined into models. And according to Yu (2003), the factors or determinant relationships in the model can be analysed using specific software.

Figure 4.2 Positivism paradigm



Source: Adopted from Crotty (1998, p. 6)

As seen in Figure 4.2, in positivism studies, the role of the researcher is limited to data collection and interpretation through the objective approach and the research findings are usually observable and quantifiable. According to Ling et al. (2016, p.27), the positivist researcher is interested in "seeking truth or reality thus they are most likely to employ and empirical approach where a hypothesis is tested, where there is some

control of variables, where there is an attempt at objectivity, and which allows a hypothesis about the true situation to either be predominately for the design and for the conduct of the study". Bryman (1984) also mentioned the link between the positivist paradigm and quantitative method is evident in the literature as researchers routinely depict quantitative methodology as the primary approach to conducting social research. Quantitative methods are "based on numerical measurements of specific aspects of phenomena, and abstract from particular instances to seek general description or to test the causal hypothesis; seek measurements and analyses that are easily replicable by other researchers" (King, 1994, as cited in Thomas, 2003, p.2). "Quantitative methods are focus attention on measurements and amounts (more and less, larger and smaller, often and seldom, similar and different) of the Characteristics displayed by the people and events that researcher studies" (Thomas, 2003, p. 1).

In this research, the main purpose is to examine the quantifiable relationships between the major driving forces which could affect the Chinese SME's internationalisation process. In applying the positivist paradigm, the researcher constructs theoretical models that are based on theoretical and empirical arguments found in the literature review. The theoretical models are the performance models and the entrepreneurship model (Figure 3.3, p.76). These theoretical research models act as a base for more sophisticated secondary data analysis and Structural Equation Modelling (SEM) analysis. From the literature review, it can be found that the driving forces mostly fall into two categories: firm specific factors and entrepreneurial related factors. "While most of the existing studies acknowledge the importance of external environmental factors, only a few have looked inside the firm to explain what drives the SME internationalisation" (Zhang, Ma, & Wang, 2012, p. 196). From the definitions of two modes of internationalisation, it can be noted that the difference between the Uppsala model and Born Global Model centres on both the firm specific factors and entrepreneurial factors such as market orientation, international entrepreneurial capability, international knowledge and so on. To achieve the aim mentioned before, this research will carry out a secondary data analysis and a questionnaire analysis.

4.4 Quantitative approach in this research

Quantitative research commonly is related to measurement, specifically to apprehend aspects of the social world which are then expressed in the form of numbers such as probability values, variance ratios, percentages, etc. (King & Horrock, 2010). Quantitative methodology is also a specialised field, and with any specialised field, working through idiosyncratic language can be challenging, especially when concepts are couched in the language of mathematics and statistics (Kaplan, 2004). Moreover, the quantitative approach describes and solves problems and cases using numbers (Curwin & Slater, 2002). Therefore, in this study emphasis will be given to the set of numerical data such as the summary of the data and then, conclusions will be drawn from the data.

Based on the researcher's positivist philosophical position, this research conducts a quantitative study and hypotheses testing. The hypothesis-testing process is a logical sequence of stages to conduct the statistical analysis in a quantitative research study (Martin & Bridgmon, 2012). Several hypotheses will be tested. The hypotheses that will be developed in this research are based on theoretical and empirical findings from previous studies.

In order to test the proposed hypotheses, this research adopts a set of quantitative techniques (panel data analysis and structure equation modelling SEM). There are three reasons for choosing quantitative methods in this study. The first one is that one of the purpose of this study is to draw a conclusion on whether born global model is applicable to Chinese SMEs. Compare to qualitative research, the conclusion made by quantitative research can be more generalized due to the larger sample size. Secondly, the capability of quantitative methods is to make a clear distinction between unobserved theoretical constructs and erroneous empirical measures (Steenkamp & Baumgartner, 2000), and provides quantifiable results which provide answers for what are the influential factors for born global firms. Besides that, quantitative methods are appropriate for situations where systematic, and in need of standars comparisons. This research is aimed to find out is there any difference in performance between traditional internationalised firms and born global firms, which is achievable by quantitative approaches.

However, although this research chose to adopt a quantitative approach, it is undeniable that there still exist some limitations. Unilke qualitative methods, quantitative approaches cannot always shed light on the full complexity of human experience or perceptions. And qualitative research not only can provide rich and in-depth details because participants can elaborate on their answers, but also enables the researchers to consider the perceptions of participants, which is to take the human factor into consideration.

In the following sections, the hypotheses proposed in the secondary data analysis and SEM analysis are explained in more detail.

4.5 Model building and variable selection

As mentioned before, two sets of data will be used in this study: secondary dataset and questionnaire data. The aim of using secondary data is to examine the impact of born global model on firm's performance and examine the relationship between influential factors and born global firms. The purpose for questionnaire data is to investigate the how the entrepreneurship influences the performance of Chinese born global firms.

4.5.1 Variable selection for modelling the difference in performance between traditional internationalised firms and born global firms

In order to examine the RQ1 proposed in the first chapter: whether there is a performance between firms followed traditional internationalisation model and firms choose born global model, the firm's total turnover is used as the dependent variable. For independent variables, a dummy variable "*born global*" is created to represent the qualified born global firms and a nominal variable "*ownership*" is also created to classify the type of firm's ownership. Moreover, the total asset of firms is used to represent firm's size, the R&D expenditure to indicate firm's innovation ability. Some control variables, such as sale cost, financial cost; capital intensity, measured by the ratio of fixed assets to total assets; and inventory intensity, measured by the ratio of inventory to total assets are used. The choice of control variables depends on the available data, and these variables are factors which directly influence firm's total turnover. In the analysis, natural logarithm on all the variables is performed because this

form can better reflect the percentage change for data and facilitate the researcher to interpret results. In some cases, we use *lag* on the independent variables to avoid endogeneity in the analysis. A detailed variable selection for modelling the difference in performance between traditional internationalised firms and born global firms is provided below.

4.5.1.1 Dependent variable

Firm performance is a relevant variable in strategic management research and frequently used as a dependent variable. The definition of firm performance adopted in this study is proposed by Venkatraman and Ramanujan in 1986. They claimed that "business performance, or firm performance is a subset of organisational effectiveness that covers operational and financial outcomes" (Venkatraman & Ramanujan, 1986 as cited in Santos & Brito, 2012, p.98). This definition has been widely accepted by scholars in strategic management area (Carton & Hofer, 2006). However, how to measure firm performance? From previous studies, it is easy to find that there are many different measurements available to measure the performance in different areas such as accounting, human resource management and financial. In the secondary data analysis, this study adopted one of the accounting measurements – total turnover – to measure a firm's performance. In the Cambridge Dictionary, total turnover refers to the amount of business that a company does in a period of time. It indicates the amount a firm uses its resources to generate sales and it influenced by many factors such as inventory intensity, sale cost and so on (Brigham & Ehrhardt, 2013). In addition, total turnover not only have an impact on profitability, but also gives information about company's asset productivity. As Pervan and Visic (2012) suggested, higher asset turnover indicates better business efficiency. However, the drawback of adopting 'total turnover' is a static indicator, which cannot fully capture firm's growth and development progess. The most common measurements for firm performance are return on assets (ROA), return on equity (ROE) and so on. For instance, Lu and Beamish (2004)， Bae et al. (2008), Vithessonthi and Racela (2016) adopted ROA as performance measurement in their studies. The reason for adopting indicators like ROA is its ability to capture both the income statement performance and the assets required to run a business. But, due to the

availability of data, this study has employed 'total turnover' in the secondary data analysis.

4.5.1.2 Independent variables

This part of study employed four independent variables, which are born global, size, R&D investment and ownership. The first research question proposed in this study is whether there is any difference in performance between the firms following the born global path and firms adopting the traditional stage mode. The researcher created this variable by define 1 is the firm that fits the born global criteria, and 0 is the firm that doesn't. And in this dataset, the ones that not fit the born global criteria are traditional internationalised firms. Thus, the use of this dummy variable is able to compare their difference in performance. The criteria of born global adopted in this study are that firms must have at least 10% share of foreign sales and started their international business within 3 years since inception (Zahral, 2000; Zhou, 2007). These criteria are broader than the ones proposed by Knight and Cavusgil (1996), which require firms to achieve more than 25% export intensity within three years since inception. There are two reasons for adopting relatively broader criteria. The first one is due to the rising trade protectionism in the developed countries, especially the U.S. and European Union. Chinese SMEs always suffer from these sorts of trade barriers, thus it is hard to achieve a higher proportion of export within a short amount of time. And notably, according to the Chinese statistics, the average survival period of SMEs is 2.5 years, where 68% of SMEs cannot survive their first 5 years and only 13% exceed 10 (Zhu, Wittmann & Peng, 2012). Consequently, the number of SMEs which fit the criteria is quite low. Nevertheless, as mentioned in Chapter 3, the definition (both the standard one and the one adopted in this study) does not included firms who concentrate on foreign direct investment (FDI), or are 'born again globals', etc. These limitations need to be addressed in future studies.

The second independent variable represents the size of the SMEs. The researcher adopted the natural logarithm of total asset to reflect firm's size (Pervan & Visic, 2012). Studies on the influence of firm size to its performance provide conflicting results. Some studies find a positive relationship (Hawawini, Subramanian & Verdin, 2003), other

studies suggest the relationship is negative or ambiguous (Amato & Burson, 2007). The third independent variable represents the innovation performance. This study adopted the natural logarithm of R&D investment to measure firm's innovation performance. Research and development (R&D) describes activities or expenses related with the research and development of a company's goods or services (Hall, Lotti &Mairesse, 2012). This type of investment only incurred in the process of exploring and creating new products or services. Thus it is directly associated with firm's innovation performance. The last independent variable is ownership. There are many research examined the impact of different ownerships on firm's performance. This study employed five groups of ownerships, which are private, state-owned, collective, foreign-funded and other.

4.5.1.3 Control variables

The researcher adopted four firm level-specific variables to control for their potential impact on firm performance. Firstly, this study included the natural logarithm of sale cost in the model which is consistent with previous studies investigating the determinant factors affecting firm performance (Brigham & Ehrhardt, 2013). Besides that, the natural logarithm of the financial cost also adopted to control the potential impact (Brigham & Ehrhardt, 2013). Followed by previous studies on firm performance, we also choose the natural logarithm form of capital intensity, which is the ratio of fixed assets to total assets, and the natural logarithm form of inventory intensity, which is the ratio of inventory to total assets as control variables in this study.

4.5.2 Modelling the difference in performance between traditional internationalised firms and born global firms

The relationship between dependent variable and independent variables can be summarized using the equation below:

Ln_total turnover = f (born global, i.ownership, L.ln_R&D, L.ln_total asset, L.ln_sale cost, L.ln_financial cost, L.ln_capital intensity, L.ln_inventory intensity)

Where:

Born global = 0/1(depends on whether the firm qualified as a born global) Ownership includes private, state-owned, collective, foreign-funded, and other firms R&D = R&D expenditure, in ten-thousands yuan

Capital intensity = the ratio of fixed assets to total assets (% of total assets)

Inventory intensity = the ratio of inventory to total assets (% of total assets)

The hypothesis proposed in the fourth section of this chapter (4.4) will be tested, it using the conceptual framework depicted in figure 4.1 to explain the relationship between firm performance and independent variables and control variables. In Figure 4.1, the expected signs of the relationship between independent variables are based on the hypotheses and noted on the solid or continuous line. Three panel data models are used to investigate the performance change after the transformation. In addition, it enables us to assess the question in a controlled environment. In other words, one can test the performance by controlling or excluding other possible effects on it, such as time variant macroeconomic conditions, firm's own specific effects like industry, location and technology etc. To be more specifically, the three models are:

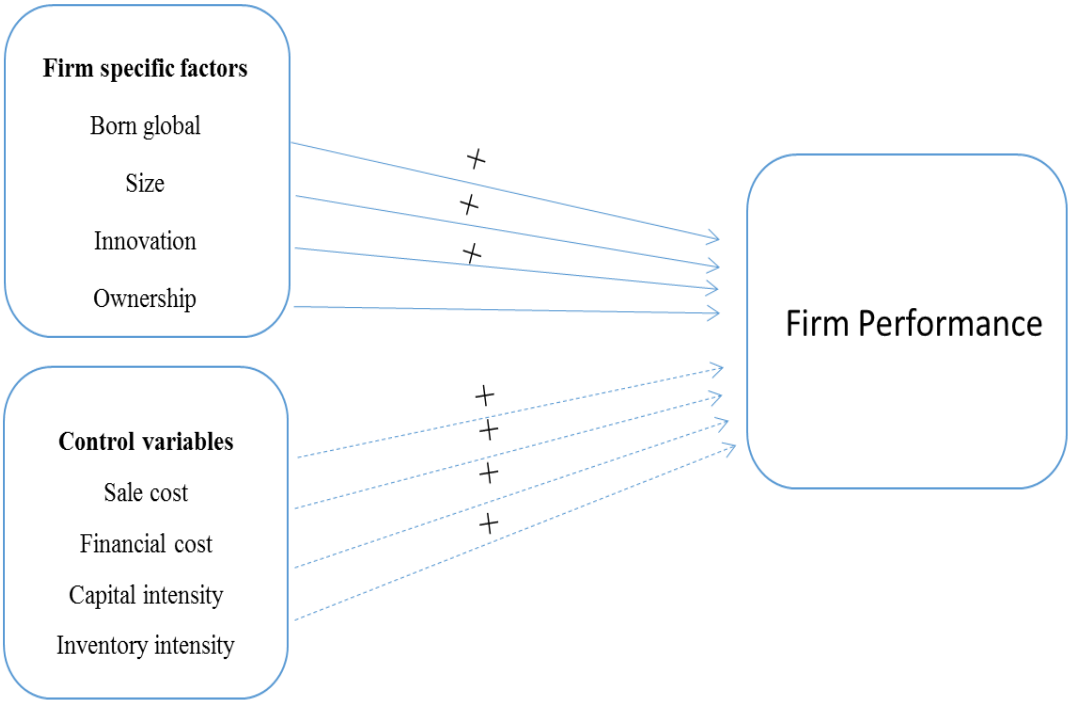
Pooled regression model: $y_{it} = x'_{it}\beta + \alpha + \varepsilon_{it}$

Fixed effects model: $y_{it} = x'_{it}\beta + \alpha_i + \varepsilon_{it}$

Random effects model: $y_{it} = x'_{it}\beta + \alpha + \mu_i + \varepsilon_{it}$

In these equations, y denotes the dependent variable, i stands for each individual firm under investigation, β is the intercept which also called as regression coefficient, ε_{it} is the error term, and t denotes the time or year. The coefficients may be biased and inconsistent so called as omitted variables bias if we do not control the unobservable effects also called as omitted variables. Pooled regression model is appropriate to provide unbiased, consistent and efficient estimates if there are no unobserved effects. Fixed effects model captures the fixed individual effects which represent by α_i. And in random effects model, μ_i represents a group of specific random elements, which allow the unobservable effects to be randomly distributed in the cross-sectional unit (Cameron & Trivedi, 2010).

Figure 4.1: Conceptual framework



Source: the author

The use of three panel regression models can provide the reader an explanation for the first research question that mentioned in the first chapter. That is "whether there is any difference in performance between the firms following the born global path and firms adopting the traditional stage model."

4.5.3 Variable choice for modelling firms' choice becoming born global

The second research question proposed in this study is what factors influencing firms' choice to follow born global mode when they attempt to enter the international market. To serve this purpose, the second part of the secondary data analysis employed a dummy variable called "born global" as dependent variable, it equals to 1 if the firm is a born global firm and equals to 0 otherwise. And for independent variables, the researcher chose total asset, R&D expenditure, and location. For control variables, this part of study employed sale cost, financial cost, capital intensity and leverage. Similar to the first part of analysis, this set of analysis also adopt natural logarithm on all the

variables because this form can better reflect the percentage change in the relationship between the variables. Moreover, the researcher uses lags on the independent variables to avoid endogeneity in the analysis.

4.5.4 Modelling firms' choice becoming born global

The relationship between dependent variable and independent variables can be summarized as the equation below:

Born global= P (i.location, L.ln_R&D, L.ln_total asset, L.ln_sale cost, L.ln_financial cost, L.ln_capital intensity, L.ln_leverage)

Where:

Born global=0/1(depends on whether the firm qualified as a born global)

Location includes 23 Provinces, 4 Municipalities and 5 Autonomous Regions

R&D=R&D expenditure, in ten-thousands yuan

Capital intensity=the ratio of fixed assets to total assets (% of total assets)

Leverage=the sum of short and long term debts over total asset (% of total assets)

Then, the panel logistic regression model will be adopted to test the hypotheses which are: born global firms are influenced by their locations, size and R&D expenditure. To ensure the consistency and efficiency of the model, the researcher will compare the differences in results between the pooled logit regression, fixed effects logit, and random effect logit. The basic model is:

Pooled logit regression: $\Pr(y_{it} = 1|x_{it}) = \Lambda(x'_{it}\beta)$

Fixed effects logit: $\Pr(y_{it} = 1|x_{it}, \alpha_i) = F(x_{it}\beta + \alpha_i)$

Random effects logit: $\Pr(y_{it}1|x_{it}, \mu_i) = F(x_{it}\beta + \mu_i)$

In the above equations, let z denotes $x'_{it}\beta$, $\Lambda(\mathrm{z}) = \frac{e^z}{1+e^z}$, which is a cluster-robust estimator for the VCE (Variance Component Estimation) used to correct the error

correlation over time for a given individual. VCE is program to estimate covariance matrices. α_i denotes the fixed individual effects, which only considered in fixed effects logit model. μ_i Denotes the specific random elements and allow the unobserved effects to be randomly distributed in the sample (Cameron & Trivedi, 2010). In order to obtain the correct specification of born global specific terms, which can be fixed or random, a Hausman test is performed to ensure the correct specification.

4.5.5 Variable choice for modelling the how the entrepreneurship influences the performance of born global firms

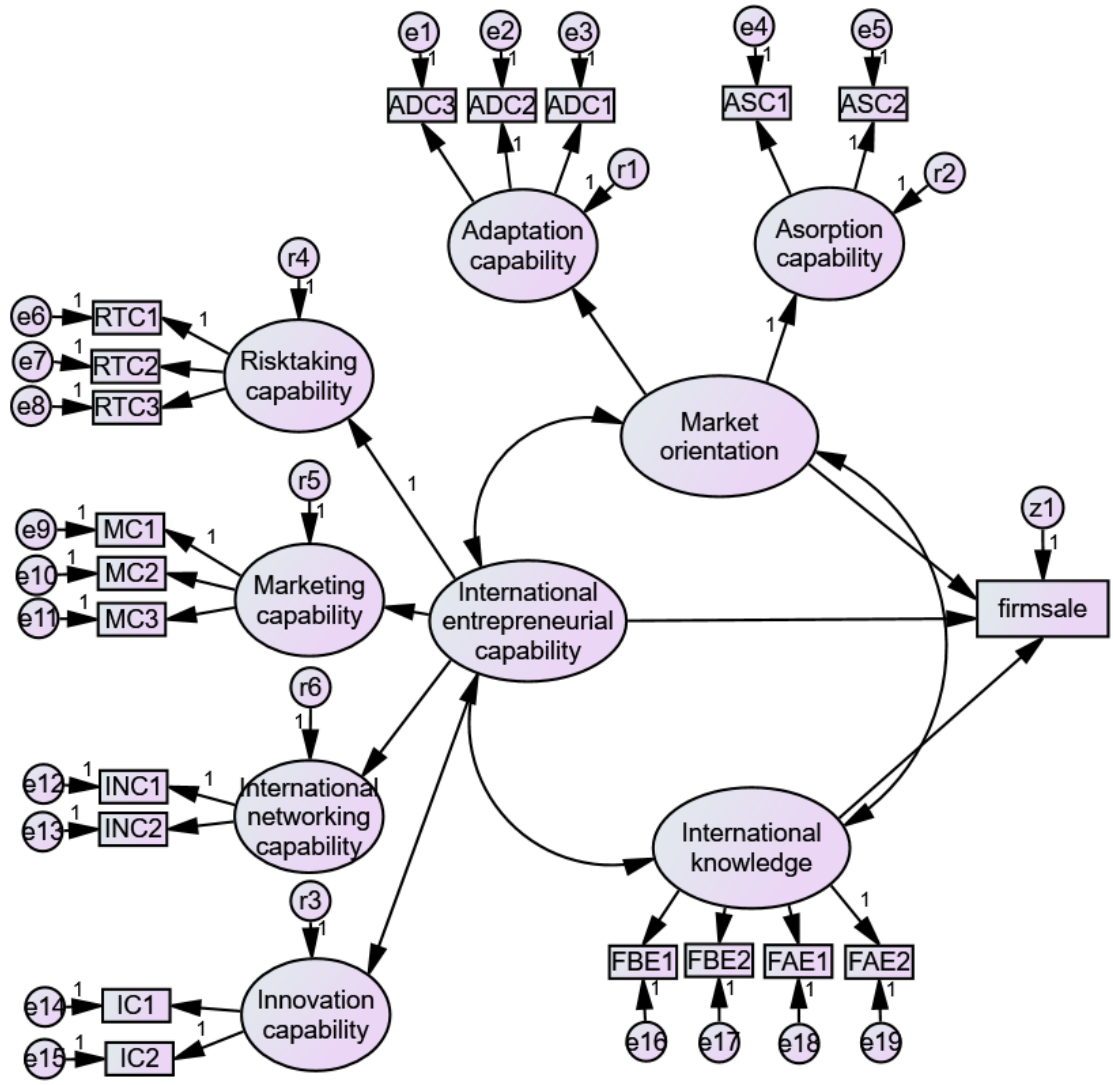
The third research question (RQ3) in this study is "how the entrepreneurship influences the performance of born global firms". Based on the theories and previous empirical studies, the researcher used primary data and developed a structural model. Structure modeling equation, or SEM, is a general statistical modeling technique. It can be seen as a combination of factor analysis and regression or path analysis. It is also a theoretical proposition test which examines the theoretical link between variables or constructs and how those constructs are directed in the significant relationships (Schreiber et al., 2006). In the primary data analysis section, the research conducted a proposed structural theoretical model, which is an explanatory factor analysis (EFA). According to Schreiber (2006), there are two components in SEM analysis, one is the measurement model and another one is the structural model.

In Figure 4.2, the researcher presents the proposed structural equation model. As exogenous variable, firm sale is affected by two second order constructs and one first order construct. The second order constructs include '*market orientation*' and '*international entrepreneurial capability*'. The first order construct is '*international knowledge*'. These there constructs are endogenous variables. As endogenous variables, all of three constructs are assumed to have positive impact on firm's performance (Monferrer, Blesa, & Ripollés, 2015; Zhang et al., 2009; Madsen & Servais, 1997).

All the second order constructs are measured by several first order constructs (Ferdinand, 2006; Byrne, 2013). The second order construct '*Market Orientation*' is measured by two first order constructs, which are: '*Adaptation Capability*' and '*Absorption*

Capability'. The second order construct '*International Entrepreneurial Capability*' is measured by four first order latent variables which are: *'International Networking Capability*', '*Innovation Capability*', *'Marketing Capability*', and '*Risk Taking Capability*'. This model is analysed using AMOS 23 software.

Figure 4.2: Structure model for entrepreneurship



Source: AMOS 23 file

4.5.6 Modelling how the entrepreneurship influences the performance of born global firms

Based on Structural Model showed in Figure 4.2 above, the structural and measurement equations of this study are:

Structure equations:

Firm sale = $\beta_1 MO + \beta_2 IEC + \beta_3 IK + \delta$

Where, MO: Market orientation

IEC: International entrepreneurial capability

IK: International knowledge

β：Regression weight

δ： Disturbance

Measurement equations:

1. MO = $\gamma_1 ADC + \gamma_2 ASC + \varepsilon_1$
2. IEC = $\gamma_3 RTC + \gamma_4 MC + \gamma_5 INC + \gamma_6 IC + \varepsilon_2$
3. IK = $\gamma_7 FBE1 + \gamma_8 FBE2 + \gamma_9 FAE1 + \gamma_{10} FAE2 + \varepsilon_3$
4. ADC = $\lambda_1 ADC1 + \lambda_2 ADC2 + \lambda_3 ADC3 + \mu_1$
5. ASC = $\lambda_4 ASC1 + \lambda_5 ASC2 + \mu_2$
6. RTC = $\lambda_6 RTC1 + \lambda_7 RTC2 + \lambda_8 RTC3 + \mu_3$
7. MC = $\lambda_9 MC1 + \lambda_{10} MC2 + \lambda_{11} MC3 + \mu_4$
8. INC = $\lambda_{12} INC1 + \lambda_{13} INC2 + \mu_5$
9. IC = $\lambda_{14} IC1 + \lambda_{15} IC2 + \mu_6$

Where, ADC: Adaptation capability

ASC: Absorption capability

RTC: Risk-taking capability

MC: Marketing capability

INC: International networking capability

IC: Innovation capability

FBE: Foreign business experience

FAE: Foreign academic experience

γ ： Loading factor

λ ： Loading factor

ε ： Error term

μ ： Error term

Furthermore, the researcher will discuss the details of the structural equation analysis in next chapter, which includes procedures, the explanation for indices, evaluation criterions and so on.

4.6 Data collection and data sample

4.6.1 Secondary data collection

The secondary data sample adopted in this study is an eleven-year panel dataset from 2003 to 2014. It contains information on the firms listed on the SME board and second board of Chinese Stock Market which are public available. The selection criteria of SME followes the Law of the People's Republic of China on Promotion of Small and Medium-sized Enterprises in 2003. It defines SMEs as companies with sales between RMB30 million and RMB400 million with a workforce ranging from 400 to 3,000 employees (Hilgers, 2009). Because the emergence of born global firms is quite recently in China, the basic criteria proposed by Zahra et al. (2000) and Zhou (2007) is used to identify the born global from the available sample. The criteria to select born global firms are: (1) the maximum time before starting international activities should no more than three years; (2) the minimum share of foreign sales as a percentage of total sales should more than 10%. These criteria are used in many international new venture studies

such as Zahra (2000), Zhou (2007). The detailed secondary data description will be provided in Chapter six (Empirical Data Analysis: Secondary Data Analysis).

4.6.2 Primary data collection

4.6.2.1 Research population

A research population is a large collection of individuals or objects with the main focus of a scientific query (Ritchie, Lewis, Nicholls & Ormston, 2013). In this study, population refers to the entire Chinese born global firms. The definition of born global firms adopted here is consistent with the definition adopted in the secondary analysis (Chapter4.6.1), which is firms start international activities within three years since inception and achieve minimum 10% of export as a percentage of total sales (Zahra et al., 2000; Zhou et al., 2007).

4.6.2.2 Sampling and sampling methods

There are several constraints in business research such as cost and time. Due to the large sizes of populations, researchers often cannot test every individual in the population because it is too expensive and time-consuming. A small, but carefully chosen sample can be used to represent the population (Curwin & Slater, 2002). The sample data can reflect the characteristics of the population from which it is drawn (Curwin & Slater, 2002).

In general, sampling methods are classified as either probability or nonprobability(Curwin & Slater, 2007). In probability samples, each member of the population has a known non-zero probability of being selected. Probability methods include random sampling, systematic sampling, and stratified sampling (Curwin & Slater, 2007). In nonprobability sampling, members are selected from the population in some non-random manner. These include convenience sampling, judgment sampling, quota sampling, and snowball sampling. The advantage of probability sampling is that sampling error can be calculated (Curwin & Slater, 2007). Sampling error is the degree to which a sample might differ from the population. When inferring to the population, results are reported plus or minus the sampling error. In nonprobability sampling, the

degree to which the sample differs from the population remains unknown (Curwin & Slater, 2007).

In this study, a random sampling method is used. Random sampling is the purest form of probability sampling. Each member of the population had an equal and known chance of being selected. When there are very large population, it is often difficult or impossible to identify every member of the population, a sampling frame is used that is SMEs firms with foreign sales in Hubei province. The qualified SMEs in Hubei province will be randomly selected from the list of export firms compiled by the Custom Bureau of China. The researcher will then identify the born global firms from the sample according to the born global criteria. Random numbers are generated by a computer that will be used to make up to select a sample.

It should be acknowledged that due to the diversity and immensity of China, it is impossible to identify a representative sample. The previous studies on born global firms collected data from one or two regions in China (Zhang, et al., 2009; Cardoza & Fornes, 2011), so as in this study. The location of our primary data collection is focused on firms located in Hubei province in central China. Nevertheless, it may be acknowledged that the limitation of choosing specific region to collect data sample compromise the generalizability of the study, but it is believed the region that the data is collected for this study is similarly to the most of other parts in the country. In 2015, Hubei's total GDP ranked 8th in China with a total GDP of 2995 billion RMB (National Bureau of Statistics of China, 2015). The annual GDP growth rate in 2015 was 8.9% well above the national average 6.9%. Wuhan (the capital of Hubei Province), the biggest city in central China, is the focal point of the "Rising of Central Regions Strategy". This strategy is initiated and undertaken by the Chinese government to develop the central regions of China economically, which has already experienced a significant industrialization and economic growth in recent years. According to the view of culture researchers (Ralston et al. 1995), the transformation of a region from under-developed area to developed area will change people's values and cultures, and propels their convergence with the values and cultures in developed regions. Therefore, peoples in Hubei province are increasingly similar in values and cultures to the Eastern Coast

regions. And while the prior research studies on China are mostly focusd on economically advanced citie such as Shanghai, a study on a relatively less developed region like Hubei may be valuable in itself. However, there are still some shortcomings from the fact that this study is limited to Hubei Province only. First of all, it has been noticed that most of the SMEs which engaged with export activities are located in the East Coast area, such as Guangdong Province, Zhejiang Province as mentioned before. The sample will be more comprehensive if the study could include born global firms from different regions. Secondly, within the transformation process, the firm owner's attitudes toward questionnaire-based research in Hubei province, especially in repect of private information, are not as positive as those of owners in developed areas. The precautions that owners took to preserve their privacy also limited the researcher's ability to obtain a larger sample size.

According to the previous researchers, the target sample size for SEM analysis can be calculated by a specific formula r=p/k, where r is the sample size, p stands for the number of indicators and k stands for the amount of latent variables (Boomsma,1982 as cited in Westland, 2010, p. 478). Westland (2010) also suggested a formula for researchers to find out the ideal size requirement in SEM studies which is:

$$n \geq 50r^2 - 450r + 1100$$

Where r is the ratio of indicators to latent variables.

In this study, the total number of indicators is 19, the total number of latent variables is 10. Thus, the ideal sample size can be derived as follows:

$$n \geq 50\left(\frac{p}{k}\right)^2 - 450\left(\frac{p}{k}\right) + 1100$$

$$n \geq 50\left(\frac{19}{10}\right)^2 - 450\left(\frac{19}{10}\right) + 1100$$

$$n \geq 425.5$$

Based on the calculation, the ideal sample size required for this study should be 426. In order to achieve this, 1000 questionnaires were send out and 345 valid responses were received which is lower than the ideal sample size. The respond rate is 34.5%. In

addition, only 172 of these results fit the criteria as born global firms. The rest of the firms are traditional exporters.

The limted sample size has become one of the limitations of this study. There may be several reasons causing this problem. Firstly, China is still experiencing rapid industry upgrades, and the growth in China's economy has been slowed down in recent years as well. The gradually worsening economic environment makes it more difficult for some SMEs to survive in their early years. Secondly, as mentioned before, unlike in developed countries, "born global" is still a new concept in China. Only a limited number of SMEs have both of the ability and courage to choose this strategy to seek development overseas. However, due to the data accessibility and time limitations, this study continued with the relatively small sample size obtained.

4.6.2.3 Questionnaire

Generally speaking, there are four main methods to collect primary data, which are a postal survey, interview survey, telephone survey, and internet survey (Bancroft & O'Sullivan, 2000; Oakshott, 2012). Each method has its advantages and drawbacks. For instance, the cost of postal questionnaire is low. However, the speed and response rate may be relatively low. More importantly, the quantity of information received through postal questionnaire is limited, and quality of the questionnaire only depends on how well the questionnaire has been designed (Oakshott, 2012). In comparison, face to face interviews can achieve more response with high quality. However, the cost of interviews can be very high, since the traveling time should be included as well (Bancroft & O'Sullivan, 2000). This research conducts the primary data collection by using a questionnaire.

In this study, the questionnaire used consists of two pages. The first page includes the title of this research, information about the researcher such as identification, institution, and so on. An introduction section can also be found on this page which includes the description of the research objectives, the role of respondents play in this research. Furthermore, there is an ethical section to assure respondents that their information will be kept confidential. The second page is the actual questionnaire including all the questions for respondents. It consists of four sections. The first section includes eight

classification questions, and the following three sections include respondents' attitudes toward the role of entrepreneurship played in firms adopting born global model. Thus, they will form the constructs and their indicators for the empirical analysis.

There are two types of questions can be used in the questionnaire, which is open questions and closed questions. Open questions are designed to encourage a full, meaningful answer using the subject's knowledge and/or feelings. On the contrary, closed questions are designed to encourage short and single word answer (Howard & Stanley, 1979). To explore people's attitude towards internationalisation, it is believed that it is more appropriate to use closed questions to collect data. In this research, a seven-point Likert scale is used to obtain respondents' answers. Each question is an attitudinal statement which are measured by strongly disagree to strongly agree scale.

4.6.2.4 Cultural issues of researching in China

From the existing literature, it can be found that problems may occur when conducting a cross-cultural research (Pym, 2004; Wierzbicka, 2003; Cavusgil & Das, 1997; Rugimbana, 2003). It is suggested there are many challenges involved in the research in China to the economic, political context (Watkins & Biggs, 1996; Morris, 1994; Adler & Graham, 1989).

According to Wang (2007), there are four aspects of culture issues may occur when conducting a study in China, which are: "conceptual equivalence issue, development of research instrument, data collection issues and data interpretation issues" (Wang, 2007, p. 118). However, it is believed that "the concern of Chinese scholars can significantly reduce the likelihood that basic errors are committed at all stages of the research due to their better understanding of Chinese culture" (Stening & Zhang, 2007, cited in Wang, 2007, p.123). In this study, the questionnaire is designed in English and then translated into Mandarin and finally back to English again to test the reliability and consistency of the questionnaire.

4.6.2.5 Piloting the questionnaire

This study conducted a pilot survey on a small sample to test the internal validity of the questionnaire. The definition of pilot study is referred as "small scale version, or trial

run, done in preparation for the major study"(Polit-O'Hara & Beck, 2001, p. 467). It is also argued that the main purpose of conducting a pilot study is to examine the feasibility of the intended approach. It gives a warning about where the main research project could fail, where research protocols may not be followed, or whether proposed methods or instruments are inappropriate or too complicated (Leon et al., 2011). Normally, there are three phases of pilot testing. The first phase might involve using in-depth interviews or focus groups to establish the issues need to be addressed in a large-scale questionnaire survey. The second phase involves question adjustment such as revising wording or changing order of the questions. The final phase might be researching process test. For instance, it can be used to test the ways of distributing and collecting questionnaires. In this study, due to the accessibility of the CEOs, the researcher conducted a pilot study with ten respondents, who are managers of the born global firms in Wuhan. And the result of pilot study shows there is no obvious problem, so the questionnaire remained as it is.

4.6.2.6 Ethical consideration

According to the handbook of research ethics from the University of Gloucestershire, all the respondents' identity and answers should be strictly protected. The information generated from the questionnaires should remain confidential and only be used in the future publications of findings in a thesis, journal and conference presentation. Moreover, all the information comprises confidential, and personal data cannot be identified in any report and publication. Moreover, they should be properly labeled and stored in a secure, safe and restricted place such as a locked cabinet which is only accessible by the researcher. For the electronic data, it is necessary to save them in a secure computer with a personalized password. The password should be known only by the researcher and shared with the Ph.D. Supervisor via a password protected email. All the files contain confidential information will be destroyed when they are no longer necessary. Moreover, to prevent the participants from any harm, it is important to implement the ethical procedures by the legal requirements such as the UK Data Protection Act 1998.

4.7 Chapter Summary

This chapter discussed the philosophical position and chosen methodology of this research. It also provides the explanations for the choice of regression models and variables in the secondary data analysis. It also discusses the Structural Modelling Equation (SEM) used for the primary data and introduces the choices of first-order latent variables, second-order latent variables, and their indicators. Furthermore, the researcher presented the readers with an explicit and visualized description of the conceptual framework of this study, which lays the foundation for the hypotheses development. This chapter also provides descriptive information for the secondary dataset used in the first part of analysis, along with the discussion of population and the sampling method used in the primary data analysis. Finally, the researcher also explained the data collection process, ethical considerations, and the procedure for data analysis. The details of the employed research techniques will be discussed in next chapter.

Chapter 5: Research techniques

5.1 Introduction

This chapter deliberates the empirical analysis that provides a foundation for the next chapter, the research results, and discussion. It will introduce the data analysis approaches and techniques that are most appropriate to this research and identifies the techniques that will be adopted to estimate the regression models introduced in the proceeding chapter.

For the secondary data set, the researcher will provide detailed explanations on estimation techniques or parametric techniques such as correlation, pooled regression, fixed effects, random effects and logit regression. For the questionnaire data analysis, the researcher will provide the descriptive data analysis first, and then followed by measurement model reliability and validity, to test whether the data collected meets the research requirements or not. The final section introduces the Structure Modelling Equation analysis including basic concepts, estimation procedures, and so on.

5.2 Secondary data description

The secondary dataset employed in this study is a panel dataset. Panel data, "refers to data for *n* different entities observed at T different time periods"(Stock & Watson, 2012, p. 390). In this study, the data includes 837 entities (firms), each entity is observed in T=12 time periods (each of the years 2003 to 2014), leading to a total observation 10044 (837*12). There are two additional terminologies associating with panel data: balanced panel and unbalanced panel. A balanced panel requires each variable be observed for each entity and each time period. An unbalanced panel means there are some missing values for at least one time period for at least one entity(Stock & Watson, 2012). In this study, our dataset is a balanced panel dataset.

In the following section, the data analysis techniques employed in this study is explained. As mentioned in Chapter 4, three tests will be performed to investigate the difference in performance between born global firms and traditional internationalised firms. The three estimated equations used are pooled OLS models, fixed effects model, and random effects model. Specifically, Breusch-Pegan Lagrangian multiplier test is undertaken

after the pooled OLS test to examine the pooled OLS model versus the random effects model is more appropriate for the data. For the last step, it is necessary to use the Hausman specification test to test the fixed effects model versus the random effects model.

Another research question also will be addressed by this dataset which mentioned before is what influential factors induce Chinese SMEs to follow the born global path? To tackle that question, the researcher has to use logit regression models with binary dependent variables. As a result, pooled logit regression model, fixed effects logit regression, and random effects logit regression model are used. And for the last step, it is necessary to use the Hausman specification test to check if fixed effects logit model or the random effects model is more appropriate for the data. Finally, robust and clustered standard errors are included in the pooled logit model.

5.3 Data analysis techniques employed

5.3.1 Correlation analysis

Correlation is a term that refers to any departure of two or more random variables from independence (Brooks, 2014). Technically it refers to any of several more specialized types of relationship between mean values of the variables.

Two types of correlation coefficients have been widely accepted by the scholars. The first one is the Pearson correlation coefficient (Benesty, Chen, Huang & Cohen, 2009). It is often used for measuring interval level and ratio scale variables. Another one is called the Spearman rho or Kendall's tau correlation coefficient. This is an appropriate measurement for ordinal scales variables. However, according to Collins and Hussey (2003), the Pearson's coefficient is more appropriate in parametric data analysis, while the Spearman's rho or Kendall's tau is better for non-parametric analysis because it can measure the relationships between two ranked variables(the data must be bivariate and in ordinal form at least) (Brace, 2008). Xu et al. (2013) also argued that if minimal MSE (mean square error) is the critical feature and the sample size n is small, then the Spearman rho should be employed when the population correlation ρ is weak. On the contrary, if the sample size n is large, then Kendall's tau should be employed when the

population correlation ρ is strong. In this study, both Pearson correlation coefficient and Kendall's tau correlation coefficient are suitable and used. The first dataset we use is a panel dataset. Thus the Pearson correlation coefficient is the appropriate one to utilize. The second set of data contains 172 complete records for analysis. So the Spearman rho correlation coefficient test is used.

5.3.2 Multicollinearity analysis

The next analysis that researcher undertakes is the multicollinearity test. In statistics, multicollinearity refers to the phenomenon in which independent variables in a multiple regression model are highly correlated (Alin, 2010). Multicollinearity also implies that one variable can be substantially and linearly predicted by the others. When there are more than two variables involved, it is often called multicollinearity, although the two terms are often used interchangeably (Alin, 2010). Multicollinearity is a common problem when estimating linear or generalized linear models, including logistic regression and probit regression. In this situation, a small change in the model may cause unpredictable change in the coefficient estimates. However, within the sample data set, multicollinearity does not affect the predictive power or reliability of the model as a whole. It only affects estimations regarding individual variables. Thus if a multiple regression model contains correlated variables, then this model still be able to predict the outcome variable, but it may not be able to provide solid results regarding any individual variable, or providing answers for which variables can be redundant with respect to others (Mansfield & Helms, 1982).

In order to detect the potential multicollinearity problems in the analysis, the researcher adopted the most widely used diagnostic for multicollinearity, which is the variance inflation factor (VIF). The variance inflation factors (VIF) measure how much the variance of the estimated regression coefficients are inflated (Fox & Monette 1992). In another word, it describes how much multicollinearity (correlation between independent variables) exists in a regression analysis. The VIF for each independent variable can be calculated by conducting a linear regression of that predictor on all the other predictors, and then obtaining the R-squared (R^2) from that regression. R-squared is a statistical measure of how close the data are to the fitted regression line. It is also known as the

coefficient of determination, or the coefficient of multiple determination for multiple regression (Cameron & Windmeijer, 1997). The VIF is equals to 1/ (1- R^2). As a rule of thumb, a variable whose VIF values are greater than 10 may merit further investigation. Tolerance, defined as 1/VIF, is used by many researchers to check on the degree of multicollinearity. A tolerance value lower than 0.1 is comparable to a VIF of 10. Table 5.1 shows the basic guidelines for the VIF interpretation. There are different views towards the question on how high the VIF should be to create a problem, the general rule of thumb is that VIFs exceeding 5 signals further investigation on multicollinearity problem, while VIFs exceeding 10 are signs of serious multicollinearity requiring correction (Fox & Monette, 1992).

Table 5.1: Guidelines to interpret the VIF

VIF	Status of predictors
VIF = 1	Not correlated
1 < VIF < 5	Moderately correlated
VIF > 5 to 10	Highly correlated

Source: Minitab 17 Menu

In this study, in order to avoid the multicollinearity problem, researcher only adopts variables that with a VIF lower than 5 to constitute the regression model.

5.3.3 Panel regression models

This study has employed various regression techniques such as panel and logistic regression. These techniques will be used to analyse the first set of data: the panel dataset. According to Brace et al. (2008), there are several conditions that linear regression needs to meet. The first one is the relationship between independent variables and dependent variables should be linear. The second one is the dependent variables should be measured on a continuous scale, and dependent variable for logistic regression should be dummy variables. Besides that, independent variables have to be measured by the ratio, interval or ordinal scale. The last one is about the requirement of observations. It is assumed the number of observations should exceed the number of independent

variables used in the regression. This is termed as "degree of freedom" (Pandey & Bright, 2008).

5.3.3.1 Pooled OLS model

For the panel data analysis, the most common test is pooled OLS model. Its basic framework is a regression model:

$$y_{it} = x'_{it}\beta + \alpha_i + \varepsilon_{it}$$

Where y denotes the dependent variable, i stands for each individual firm under investigation, β is the intercept which also called as regression coefficient, α_i represents heterogeneity or individual effects, ε_{it} is the error term, and t denotes the time or year. If α_i is observed for all individuals and contains only a constant term, this model can be treated as an ordinary least square model. It provides consistent and efficient estimate of the common α and the slope vectorβ. Thus, the pooled OLS model can examine the existence of individual effects at first to ensure the consistency and accuracy of the estimation (Cameron & Trivedi, 2010). In this study, a Pooled OLS model is used to examine the RQ1, which is whether there is any difference in performance between traditional internationalised firms and born global firms.

5.3.3.2 Fixed effects model vs Random effects model

However, if there is a group of specific random elements remained unobserved and assumed they are uncorrelated with included variables, the random effects approach should be used to test the hypotheses. Random effects model can be seen as a regression model with a constant random term. It assumed that α_i is purely random, and it is uncorrelated with the regressors. The distinction between pooled OLS model and random effects model is that, heteroscedasticity is allowed to exist in random effects model while pooled OLS model does not (Moulton, 1986).

Another regression model called fixed effects model is also able to deal with heteroscedasticity problem. It is argued that if α_i is unobserved but correlated with independent variables, the existence of omitted variable can be the reason for biased and inconsistent least squares estimator β. Thus, a fixed effects model should be used under the circumstance. Fixed effects model is a method for controlling for omitted variables

in panel data when the omitted variables vary across entities but do not change over time. This model not only allows the un-observed individual-specific effects α_i to correlate with the regressors x_i, but also allows a limited form of endogeneity (Cameron & Trivedi, 2010, p. 237). However, there is one significant limitation of fixed effects models. It cannot assess the effect of variables that have little within-group variation.

Both fixed effects and random effects models are expressed mathematically below:

Fixed effects model: $y_{it} = x'_{it}\beta + \alpha_i + \varepsilon_{it}$

Random effects model: $y_{it} = x'_{it}\beta + \alpha + \mu_i + \varepsilon_{it}$

In these equations, y denotes the dependent variable, i stands for each individual firm under investigation, β is the intercept, which also called as regression coefficient, ε_{it} is the error term, and t denotes the time or year. As afore mentioned before, fixed effects model captures the fixed individual effects which represent by α_i. In addition, in random effects model, μ_i represents a group of specific random elements, which allow the unobservable effects to be randomly distributed in the cross-sectional unit.

As Laird and Ware (1982) described, the biggest distinction between fixed effects model and random effects model is whether the unobserved individual effects including elements that correlate with the regressors in the model or not. Moreover, if the fixed effects model is more appropriated, the estimates conducted by random effects model can be seen as inconsistent (Laird & Ware, 1982).

The estimation of this study starts with a pooled OLS regression, and is regression results is verified by the Breusch and Pagan's Lagrange Multiplier (LM) test. If the test result shows there is heteroscedasticity exist, then pooled OLS model is not an appropriate model for the data. Consequently, it is necessary to perform the random effects test and fixed effects model. A Hausman specification test is needed to determine which is the most appropriate model for this study. Hausman test is based on the null hypothesis that individual effects are random. Under such kind of hypothesis, fixed effects estimator and random effects estimator should be the similar because both of them are consistent. If the null hypothesis is not accepted, these estimators dissimilar (Cameron & Trivedi, 2009). Once the whole process completed, the answer to the last

research question we raised in the first chapter which is whether born global model affects firm's performance or not is attained.

5.3.3.3 The Logit regression models

The second research question which is examine the factors inducing Chinese SMEs to follow the born global path has to be addressed by a logistic regression model. The logit regression model is specifically designed for binary dependent variables (Stock & Watson, 2012). Like all regression analyses, the logistic regression is a predictive analysis. Logistic regression is used to describe data and to explain the relationship between one dependent binary variable and one or more metric (interval or ratio scale) independent variables. The center of the logistic regression analysis is the estimation of the odds ratio of an event. Negative values indicate a negative relationship between the probability of "success" and the independent variable; positive values indicate a positive relationship (Bland & Altman, 2000).

In this study, the dependent variable is "*bornglobal*", which is a binary variable. "1" represents born global firms, and "0" represents traditional internationalised firms. Moreover, because the dataset is a panel dataset, thus the pooled logit, fixed logit and random logit regressions are adopted in the following analysis. The estimation process is as same as the one carried out in the previous section.

The basic models for logit regression used in this study are presented below:

Pooled logit regression: $\Pr(y_{it} = 1|x_{it}) = \Lambda(x'_{it}\beta)$

Fixed effects logit: $\Pr(y_{it} = 1|x_{it}, \alpha_i) = F(x_{it}\beta + \alpha_i)$

Random effects logit: $\Pr(y_{it}1|x_{it}, \mu_i) = F(x_{it}\beta + \mu_i)$

In the above equations, let z denotes $x'_{it}\beta$, $\Lambda(\mathrm{z}) = \frac{e^z}{1+e^z}$, which is a cluster-robust estimator for the VCE used to correct the error correlation over time for a given individual. α_i denotes the fixed individual effects, which only considered in fixed effects logit model. μ_i denotes the specific random elements and allow the unobserved effects to be randomly distributed in the sample (Cameron & Trivedi, 2010). In order to

obtain the correct specification of born global specific terms, which can be fixed or random, a Hausman test is performed to ensure the correct specification.

5.4 Primary data analysis

The primary data used in this study is collected by questionnaires. The aim of primary data analysis is to investigate how the entrepreneurship affects the performance of Chinese born global firms. The questionnaire includes three sections with eight constructs and their indicators. It examines the entrepreneurship from three dimensions: market orientation (Chapter 4.4.4.1), international entrepreneurial capability (Chapter 4.4.4.2), and international knowledge (Chapter 4.4.4.3). And each of the aspects has its second constructs and indicators. The researcher employed structure modeling equation (SEM) as the analysis tool in this part of the study.

5.4.1 Introduction to Structure modeling equation analysis

Structure modeling equation, or SEM, is a general statistical modeling technique. It can be seen as a combination of factor analysis and regression or path analysis. It is also a theoretical proposition test which examines the theoretical link between variables or constructs and the direction of those constructs in significant relationships (Schreiber et al., 2006). In the primary data analysis section, the research conducted a proposed structural theoretical model, which is a confirmatory factor analysis (CFA). According to Schreiber (2006), SEM analysis consistes of two components: measurement model, and structural model.

SEM data analysis comprises of several steps, such as factor analysis, regression analysis, discriminant analysis, and canonical correlation in some cases (Grace, 2006). Based on theories and previous research, it is important to determine the degree of freedom of the model, to ensure it is over identified or positive. Meanwhile, to confirm the model can be identified by a SEM analysis software (e.g. Amos), it is necessary to set one of the indicators in each of the constructs in the model at 1 (Ferdinand, 2006; Blunch, 2012). In this study, the researcher conducted maximum likelihood estimates. The estimates were applied for small (sample size less than 200) but normally distributed data sample (Ferdinand, 2006; Byrne, 2013).

5.4.1.1 Basic concepts of Structure Modelling Equation

It is noted that structural equation modelling (SEM) has two basic aspects. The first one is a series of structure equations, which are based on the hypotheses proposed in the study. The second one is the structure relations, which reflect the concept of theory in the study (Byrne, 2013). With regard to SEM analysis, several basic but key concepts such as latent variable versus observed variables, exogenous versus endogenous latent variables, the factor analytical model, and full latent variable model needs to be addressed.

Firstly, latent variables are abstract phenomena that cannot be observed directly. Thus they cannot be measured directly as well. According to Byrne (2013), researchers need to define latent variables by the behaviors believed to represent them. The measurement of a latent variable is using observed indicators to measure the unobserved variables. The observation includes sorts of scales or scores. For example, attitudinal scales, scores on achievement tests, coded responds to questionnaire questions and so on (Byrne, 2013). These measurement scores are referred as observed or manifest variables. In addition, these observed variables are served as indicators of the underlying constructs in the SEM.

Secondly, another set of concepts need to be addressed is exogenous and endogenous latent variable. According to Byrne (2013), an exogenous latent variable can be seen as an independent variable; they cause variations in other latent variables' values in the model. These variables also can be influenced by other factors external to the model, such as gender, age, industry and so on. On the other hand, an endogenous latent variable can be seen as a dependent variable. They are influenced by the exogenous variables in the model, directly or indirectly (Ferdinand, 2006; Byrne, 2013). In this study, the exogenous latent variable is "*firm sale*", and endogenous latent variables are "*market orientation, international entrepreneurial capability, international knowledge, adaptation capability, absorption capability, innovation capability, risk taking capability, international networking capability, and marketing capability*".

Thirdly, the term of factor analytic model needs to be explained. It is the oldest and most widely used the statistical procedure for examining relationships between observed

variables and latent variables (Thompson, 2004). To proceed the procedure, the researcher should examine the covariation among the indicators to attain the underlined constructs' information. In addition, in terms of the proceeding process, there are two basic types of factor analysis: explanatory factor analysis (EFA) and confirmatory factor analysis (CFA). Explanatory factor analysis is designed to explore the relationships between indicators and latent variables. The aim of this analysis is to determine how and the extent of linkage between the indicators and underlying constructs. It enables the researcher to identify the minimum number of factors that account for the covariance among indicators (Thompson, 2004). However, this analysis is the exploratory approach. It means the researcher attains no prior knowledge that concerning the intended factors and indicators (MacCallum, Widaman, Zhang, & Hong, 1999; Preacher & MacCallum, 2003, Blunch, 2012; Byrne, 2013). On the contrary, confirmatory factor analysis (CFA) is a measurement model. It used to evaluate whether the hypothesized structure's goodness-of-fit is adequate to the sample data or not (Byrne, 2005). It is adopted when the researcher has knowledge about the underlying construct structure. The researcher proposes links between the indicators and latent variables based on his or her prior knowledge of the theory or empirical research, and then test the hypothesized structure statistically (Byrne, 2005; Bollen, 1989). In general, both models focus on how, to what extent and which indicators relate with their underlying latent variables. Furthermore, these models can be used to analyse the strength of regression path from factors to indicators. The validity of results attained from SEM analysis is determined by the fitness degree between model and data (Steenkamp & Baumgartner,2000). In this study, the researcher adopted confirmatory factor analysis because it focuses only on the relationships between factors and measured variables within SEM framework.

The last concept needs to be mentioned here is the full latent variable model. According to Ferdinand (2006) and Byrne (2013), the full latent model analysis includes both the measurement model and the structural model analysis. The measurement model is defined as a model that describes the relationships between latent variables and their indicators, such as CFA model. Structure model is used to describe the relationships among the latent variables themselves (Byrne, 2013). Unlike factor analytic model, the full latent model is more focusing on the regression structure among the latent variables.

Researchers can hypothesize the influence of one latent variable on another latent variable when modeling causal relationships (Byrne, 2013). A general SEM model can be seen as a full latent variable model; since it comprises a measurement model and a structure model (Byrne, 2013).

5.4.2 Structure equation modeling procedure

There are seven steps in conducting SEM analysis (Kline, 1998; Ferdinand, 2006), which are:

5.4.2.1 Model Development

Typically, a model development should be based on the researcher's knowledge of related theories, empirical studies or the combination of both (Reinartz, Haenlein & Henseler, 2009). Moreover, once the model is specified, the researcher can test the hypotheses and causalities based on the sample data, which includes all the constructs in the model. To develop a valid and justified model, researchers need to conduct a scientific approach and a comprehensive literature review (Ferdinand, 2006). According to Ferdinand (2006), the researcher can create causal relations among variables based on a solid theory justification, because SEM can only confirm the model by using empirical data, rather than build the model. In another word, SEM can only confirm the theoretical causal relationships between determinants by using empirical data, instead of creating causal relationships. Thus, SEM is more appropriate for confirmatory analysis, rather than explanatory analysis (Swimberghe, 2008).

In theory, it is believed that there is no limit on the number of constructs in a SME model. However, the number of constructs are limited by the capacity of the computer software (Ferdinand, 2006). Ferdinand insists the software might not be able to determine the level of statistical significance if the number of constructs is more than 20.

5.4.2.2 The path diagram

Path diagram provides a visual presentation of causal relationships, which are assumed to hold among the constructs under study (Byrne, 2010). In another word, it is applicable if the researcher has priori assumptions concerning the causal links among constructs or latent variables based on theories and previous research (Kline, 1998;

Byrne, 2010). There are two types of constructs types in a path diagram: exogenous and endogenous constructs (Ferdinand, 2006). As mentioned before, exogenous constructs are similar to independent variables that are not influenced by other latent constructs (Schreiber et al., 2006). On the contrary, endogenous latent variables may be viewed as dependent variables in regression analysis that are influenced by the exogenous variables in the model, directly or indirectly (Ferdinand, 2006). In the path diagram, there are arrows pointing from exogenous constructs to endogenous constructs (Schreiber et al., 2006). In the SEM model, the endogenous variables are the ones pointed by arrows (Santoso, 2012).

5.4.2.3 Convert the path diagram into structural equation and measurement specification model

The third step is to convert path-diagram into structural equation and measurement specification model. Researchers can start the conversion once the model development and path diagram has been done (Ferdinand, 2006). The structural equation model is consisted by the causal relationships between constructs or indicators under the study (Byrne, 2010). It also can be seen as a combination of a series of regression equations because regression equation represents the impact of one or more variables on another. The measurement specification model equation is used to define the measurement (by constructs) of variables (Ferdinand, 2006).

5.4.2.4 Determining the input matrix and estimation technique of the model

According to Ferdinand (2006), variance or covariance matrix and correlations matrix are input data for the estimation analysis in SEM model. SEM focuses on the relation pattern among respondents. Thus adopting covariance matrix data as input is the most suitable way to test the theory in the research (Ferdinand, 2006; Reinartz, Haenlein, & Henseler, 2009). Besides that, covariance matrix also enables the researcher to depict the optimum sample size required in SEM analysis. The optimal sample size depends on the total number of indicators that employed by latent variables. More specifically, the sample number should be 5-10 times of the sum of indicators (Ferdinand, 2006). For example, if the number of indicators is 19, the sample number should be around 95-190.

Another method of determining the minimum sample size is to use a formula (Westland, 2010). The formula designed to identify the minimum sample size in SEM analysis was discussed in Chapter 4 (4.8.2.2). Based on the calculation using the formula, the ideal sample size for conducting this study is 426 samples. However due to the limitation of this study, there are only 172 observations fit the criteria of born global firms.

Structural equation modeling, all the information are included in the means and covariance matrix because the sample data are assumed to follow a multivariate normal distribution (Reinartz, Haenlein & Henseler, 2009). The basic model in statistic modelling is Data=Model + Error. SEM software will maximize the model fit by using complex algorithms and taking all the model restrictions into account (Hox & Bechger, 1998). For instance, in AMOS software, there are lots of estimation techniques such as maximum-likelihood estimation (MLE); generalized least square estimation (GLS); un-weighted least square estimation (ULS); scale-free least square estimation (SLS); and asymptotically distribution-free estimation (ADF) (Ferdinand, 2006). These estimation techniques all assume that data follow a multivariate normal distribution (Reinartz, Haenlein & Henseler, 2009). For this study, the optimal estimation technique is employed the maximum-likelihood estimation due to the requirement of a reasonable sample size: about 200 observations or less (Hox & Bechger, 1998).

5.4.2.5. Model identification

Model identification determines whether the model is suited for the further analysis (Ferdinand, 2006). The model will only be identified if there is a theoretical possibility to generate exclusive results of each parameter (Kline, 1998). In another word, the model identification is deal with the problem that whether there is an exclusive set of parameters consistent with the data. If the qualified parameters exist in the sample, then the model is identified and can be tested in the further analysis (Byrne, 2013).

Identification is an important step for SEM researchers because the methodology gives them the freedom to specify models (Hoyle, 1995). However, two problems may occur in the identification process: under-identified and over-identified. The model that the researcher attempts to attain is a so-called “just-identified” model (Ferdinand, 2006; Byrne, 2013). A just-identified model is the one with equalized “knowns” and

"unknowns". In structural equation modelling, the knowns are consisted by the variances and covariances of the measured variables, while the unknowns are referred to the model parameters (Byrne, 2013). This type of model should be accepted because its condition has no degrees of freedom. It means the value of the degree of freedom (DF) in the just-identified model is 0 (Ferdinand, 2006; Byrne, 2013).

In an under-identified model, the number of estimated parameters exceeds the number of variances or covariances of the observed variables (Byrne, 2013). If the model is under-identified, the DF value will be negative, and SEM software is not able to proceed the identification process (Byrne, 2013). According to Ferdinand (2006) and Byrne (2013), this is because the information used to determine a parameter estimation solution is insufficient. On the contrary, in an over-identified model, the number of estimated parameters is less than the number of variance/covariances of the observed variables. Thus, its DF value is positive. Unlike under-identified model, SEM software can proceed the identification process as long as the over-identification criterions are met (Ferdinand, 2006; Byrne, 2013).

Researchers developed a formula to determine whether the model is just-identified, under-identified or over-identified. The formula is DF = Sample Moments – Estimated Parameters (Ferdinand, 2006, p. 50). Sample moments can be calculated by the formula: p (p+1)/2; where p is the number of observed variables (Ferdinand, 2006, p. 50). The estimated parameters can be calculated by the total number of regression coefficient or the factor loadings, variances (error and factor variances) and factor covariance (Byrne, 2013).

In this study, there are 20 observed variables in the model, which represent the numbers of indicators, so the p is 20. Based on the formula presented before, the value of sample moments is 20(20+1)/2= 210. The total number of estimated parameters is 53, include 19 factor loadings, 28 variances (19 error variances and 7 factor variances and 2 error covariances) and 6 factor covariances. Hence, the degrees of freedom equals to 210 – 53=157. As long as the value of DF is positive, it is undoubted that the structural model is over-identified. So SEM analysis can be proceed to the next step (Ferdinand, 2006; Byrne, 2013).

5.4.2.6. Model fit

In SEM analysis, the fit indices decide whether the model is acceptable or not. Researchers can analyse the significance of specific path if the model is acceptable. Nevertheless, the relationships among constructs and indicators are not necessarily strong even the fit indices are acceptable (Hoyle, 1995).

To examine the model fit in this study, it is necessary to address the assumptions underlying SEM analysis at first. There are four assumptions which are sample size, data normality, outlier data, and multicollinearity. As Kline (1998) suggeted the minimum sample size in SEM analysis 100. In addition, as mentioned before the ratio between the sum of observations and parameters is 5:1 or 10:1 (Ferdinand, 2006; Marsh, Balla, & McDonald,1988). The second assumption is about data normality. In the structural equation modeling, all the information are included in the means and covariance matrix because the sample data are assumed to follow a multivariate normal distribution (Hox & Bechger, 1998). In SEM software, data normality can be examined by statistical analysis. According to Ferdinand (2006), researchers can use 1% significance level and z value of ±2.58 to determine whether the observed data is normally distributed or not. The third assumption underlying SEM analysis is about the existence of outlier data. These data are holding extreme value compared with the other data (Santoso, 2012). There are sorts of reasons responsible for the emergence of this type of data. The most typical one is procedure error during data input process such as mistyping, misreading and so on. The final assumption is about multicollinearity. It is necessary to use correlation values among exogenous constructs to check the existence of multicollinearity in the model to avoid problems caused by this issue (Grewal et al., 2004). It is also advised to perform a discriminant validity test to ensure there is no multicollinearity problem exists in the model (Bagozzi & Phillips, 1982).

Once the assumptions are fully fitted, the next step is to evaluate the model fit indices. Many researchers, such as Marsh, Balla, and Hau (1996), recommend that it is necessary to use a range of fit indices in SEM analysis to examine the how the model fit the data. Indeed, Jaccard and Wan (1996) recommend using a variety of indices, because this

strategy may overcome the limitations of each index. In the following section, the researcher will deliberate each of the indices in details.

5.4.2.6.1 Discrepancy functions

Many fit indices are derived from the chi-square value. Theoretically, the chi-square value denotes the difference between the observed or empirical covariance matrix and the predicted or model covariance matrix. There are three chi-square related tests or measurement mostly used in SEM analysis, which are Chi-square discrepancy test (CMIN test), Chi-square minimum discrepancy function (CMINDF) and Root Mean Square (RMR).

In the CMIN test, the null hypothesis is observed sample data has no difference from the population (Ferdinand, 2006). If the null hypothesis has been accepted, the observed data sample will attain a good fit with low chi-square value and its non-significance with a p value>0.05 (Hoe, 2008). The chi-square function is used to examine the actual and predicted matrices, and there is no significant difference between actual data and predicted observed sample data, therefore the null hypothesis is accepted and the model fits the data well (Hair,2009).

Another statistic that minimises the impact of sample size on the Chi-Square is the relative/normed chi-square, it was introduced by Wheaton et.al in 1977. It is calculated by the Chi-square minimum discrepancy function which is the chi-square divide the degrees of freedom, formed as: $\chi 2/df$ (Wheaton, 1977; Steiger, 1990). A good fit for the observed data sample requires a small or low $\chi 2$ value relative to its degree of freedom. To be more specifically, the value of relative chi-square is 2 or less indicates a reasonably good fit for the model (Kline, 1998; Byrne, 2013).

The final chi-square related index is the root mean square (RMR or RMSE). It represents the square root of the average or mean of the covariance residuals--the differences between corresponding elements of the observed and predicted covariance matrix (Byrne, 2013). If the value of RMSE equals to zero, it means a perfect fit. However, the maximum value of RMSE is unlimited. According to some researchers, RMSE should be less than 0.08 (Browne & Cudeck, 1993)--and ideally less than 0.05

(Stieger, 1990). Alternatively, the upper confidence interval of the RMSE should not exceed 0.08 (Hu & Bentler, 1999).

5.4.2.6.2 Goodness-of-fit index

All the goodness-of-fit indices are derived from the chi-square value and the degree of freedom. For example, the Akaike's information criterion (AIC) is measured by twice as much the value of chi-square minus the degrees of freedom for the model (Gerbing & Anderson, 1993). SEM software such as AMOS can compute a series of goodness fit indexes, but each of them has its criterions and limitations.

Joreskog and Sorbom (1989) introduced two goodness-fit indices called GFI (goodness-fit) and AGFI (adjusted goodness-fit). Both of them are criteria which calculate a weighted proportion of variance in a covariance sample matrix (Ferdinand, 2006). The GFI specifies the goodness-of-fit, which is measured by the relative sum of variance and covariance in sample data. It is a non-statistical measure that ranges between 0 to 1. If the model fits perfectly, the GFI should have the value 1 (Kline, 1998). To be more specifically, the most recommended cut-off value of both indices is no less than 0.90, however some studies have shown that when factor loadings and sample sizes are low a higher cut-off of 0.95 is more appropriate (Ferdinand, 2006; Hair et al., 2006; Byrne, 2010; Santoso, 2012; Shevlin & Miles, 1998). In addition, according to Torkzadeh et al. (1994), the GFI value is acceptable if above 0.8. AGFI indicates the adjusted goodness-of-fit. It is an attempt to adjust the GFI for the complexity of the model. According to Kline (1998) and Hair (2015), AGFI is a similar of R^2 in the multiple regression analysis and its recommended value is 0.90 (Hair, 2015). In another word, the closer of AGFI value to 1, the better the model fits.

Two other well-known indices called TLI (Tucker Lewis index) and NFI (Normed Fit Index) are also widely used by researchers to evaluate model fit in SEM analysis (Marsh et al., 1988). The TLI, sometimes is also called the NNFI, is similar to the NFI. Both of these indices depend on the sample size, but TLI presents the best overall model performance. According to Hu and Bentler (1999), the value of TLI is normally lower than GFI. A value of 0.90 or higher means the model is acceptable, while a value higher than 0.95 indicates the model fits "good". NFI is the abbreviation for Normed Fit Index.

It specifies the percentage of the improvement of the overall fit of the model to a null model (Kline, 1998), and its recommended value is 0.95 (Hu & Bentler, 1999 cited in Byrne, 2010, p. 78).

Moreover, PGFI (parsimoney-adjusted goodness-of-fit index) and IFI (incremental fit index) are also important goodness-of-fit indexes used as a criterion in the model fit evaluation. PGFI is an index indicating the model's complexity and its recommended value is at least 0.50 (Byrne, 2013). IFI is the abbreviation of the incremental fit index; which was developed by Bollen in 1989 (as cited in Byrne, 2013). This index states the issue of parsimony and sample size, which are related to NFI (Byrne, 2013). Some of the studies suggested that a cut-off value ≥0.95, indicates a good model fit (Ferdinand, 2006; Hair et al., 2015; Byrne, 2010; Schreiber et al., 2006). While some of the researchers suggested the cut-off value for IFI is ≥0.90, and it indicates an acceptable model fit (Hu & Bentler, 1999).

5.4.2.6.3 Information theory goodness of fit measures

In addition to the indices discussed above, there are a series of indices acting as model fit measurements comparing the target and null models (Byrne, 2013). The "null model", is also called as measurement model. There are two kinds of null models, which are: saturated model and independence model (Ferdinand, 2006; Byrne, 2013). The saturated model is also called least restricted or perfect model because its number of estimated parameters equals to the number of data points (Ferdinand, 2006; Byrne, 2013). In comparison, an independence model is the one with restricted conditions, because its variables are uncorrelated with each other. Moreover, the latter model has a poor fit with data due to the complete independence of all variables in the model (Byrne, 2013). Various goodness fit indices have been developed, the following sections will discuss the details of the ones employed in this study.

A. The first model fit measurement needs to address here is a Comparative fit index (CFI). It is derived from the comparison of the target model with the independence model (Byrne, 2013). In another word, it represents the ratio between the discrepancy of the hypothesized model to the discrepancy of the independence model. It also indicates to what extent of the hypothesized model

is better than the independence model. Theoretically, CFI is not too sensitive to sample size (Fan, Thompson, and Wang, 1999). The value of this index is ranged from 0 to 1.00. The recommended cut-off value of this index is close to 0.95 (Ferdinand, 2006).However, there are some studies suggested the a value of CFI over 0.90 is sufficiently indicates an adequate fit of the model to the data (Bentler, 1990).

B. Another set of indices used to measure model fit are Parsimony ratio index (PRATIO), Parsimony adjustment to NFI (PNFI) and Parsimony adjustment to CFI (PCFI). The parsimony ratio index was developed by James et al., (1982 as cited in Byrne, 2013, p. 79). This index is calculated by dividing the DF of the hypothesized model with the DF of the independence model (Ferdinand, 2006). On the other hand, the Parsimony Adjustment to NFI and Parsimony adjustment to CFI were developed by Mulaik et al., (1989 as cited in Hooper et al., 2008, p. 55). The PNFI is measured by PRATIO multiplies NFI; the PCFI is measured by PRATIO multiplies CFI. The cut-off value of both is 0.50 (Ferdinand, 2006).

   According to Hox (1998), the aim to use measure fit index is to evaluate how well the hypothesized model approximates the true model. Root mean square error of approximation (RMSEA) is designed to cater this view. If the value of RMSEA is low, indicating the approximation is good. Typically, the cut-off value of this index is 0.05, but some research suggests 0.08 is also acceptable (Hox, 1998; Browne & Cudeck, 1992).

C. Akaike's Information Criterion (AIC) is another set of information theory goodness of fit measure applicable in the model fit process. It is applicable if the maximum likelihood estimation is adopted (Burnham & Anderson, 1998). This index is used to address the problems of parsimony in the assessment of model fit. Like the chi-square index, the AIC also reflects the extent to which the observed and predicted covariance matrices differ from each other. However, unlike the chi-square index, the AIC penalize the model if it is too complex. Because the value of AIC is calculated by the chi-square divided by n plus 2k / (n-1). In this formula, k =0.5v/v + 1 - df, where v is the number of variables and n is the sample size. It is recommend that the value of AIC in hypothesized

model should be smaller than the one in the independence model (Ferdinand, 2006; Byrne, 2013).

D. The Consistent AIC (CAIC) is the consistent version of AIC. It also addresses the problems of parsimony in the assessment of model fit (Hooper, Coughlan & Mullen, 2008). However, it confers a penalty if the sample size is small.

E. The Browne-Cudeck Criterion (BCC) is similar to the AIC and chi-square, which represents the extent to which the observed covariance matrix differs from the predicted covariance matrix. Moreover, compare with AIC, it also uses a penalty or even reinforces it when the model is complex. The formula for BCC calculation is chi-square divided by n plus 2k / (n- v - 2). In this formula, k = 0.5v/v + 1 - df, where v is the number of variables and n = the sample size (Byrne, 2013).

F. Bayes Information Criterion (BIC) is similar to the AIC, but the penalty against complex models is especially pronounced--even more pronounced than is the BCC and CAIC indices. Furthermore, like the CAIC, a penalty against small samples is included. It is recommended that the value of CAIC, BCC, and BIC in the hypothesized model should smaller than the ones in the baseline model (Burnham & Anderson,1998; Byrne, 2013).

The model assessment indices with their respective cut off values in SEM analysis are summarized in Table 5.2 below.

Table 5.2 Goodness of fit indices

Goodness of fit Index	Cut off value
χ^2 –Chi-square	Smaller value is preferred or better
Significance probability	≥ 0.05
CMIN/DF	≤2.00
GFI	≥0.90 or ≥0.95 or ≥0.80
AGFI	≥0.90 or ≥0.80
PGFI	≥0.50
NFI	≥0.95
RFI	≥0.95

IFI	≥0.95 or ≥0.90
TLI	≥0.95 or ≥0.90
CFI	≥0.95 or ≥0.90
PNFI	>0.50
PCFI	>0.50
RMSEA	≤0.08
AIC,CAIC,BCC,BIC	Smaller than independence model

Source: Adapted from Ferdinand (2006, p. 69); Hair et al. (2009); Byrne (2013); Muenjohn & Amstrong (2008); Burnham & Anderson, (1998); Bentler (1992);Hu & Bentler (1999).

5.4.2.7 Model modification

Model modification is the final step of SEM analysis. In SEM analysis, the model modification is a common solution if the model fit is inadequate. It enables the researcher to make some modification to the model by deleting parameters that not significant, or adding parameters that improve the model fit (Hair et al., 2009). Most of the SEM software such as AMOS can compute the modification indices for each fixed parameter. According to Hox (1998), the modification index is "the minimum amount that the chi-square statistic expected to decrease if the corresponding parameter is freed" (p. 9). A freed parameter in each step produces the largest improvement in fitting process, the process of "freed" only stops until an adequate fit reached in the model. The model modification is the final step in SEM analysis. It is advised that the modification is only applicable if there is a solid theoretic justification for it (Schereiber et al., 2006; Ferdinand, 2006; Hox, 1998). To be more specific, the added parameters should not only improve the model fit but also substantively meaningful. The changes in any parameters have to be substantial as long as these parameters belong to the model (Byrne, 2013).

In this study, the researcher conducted a confirmatory factor analysis at first, but the model fit is not ideal. So the researcher applied two model modifications to improve the model. According to Scheriber et al. (2006), if a CFA SEM analysis has been modified

by the researcher, then the analysis is no longer a CFA but become an exploratory factor analysis (EFA) research.

5.4.2.8 Indicators' reliability and construct relation analysis

The reliability analysis is used to examine the relationships between indicators and constructs. It can confirm which indicators can construe the construct (Ferdinand, 2006; Byrne, 2013). This analysis usually performed by two methods, which are: convergent validity test, and discriminant validity test (Ferdinand, 2006; Santoso, 2010). Its results reveal whether each construct has its characteristics, and if these constructs are reliable enough to be applied to the hypothesized model (Ferdinand, 2006).

5.4.2.9 Interpret the relationship significance between constructs

The interpretation of the relation significant verifies relationships between constructs in the structural model (Ferdinand, 2006).

5.5 Conclusion

This chapter provides a detailed description of the data analysis approaches and techniques that are most appropriate to this research. In the secondary data analysis section, the researcher introduced the details of research techniques including the use of correlation, linear regression model, and logit regression model. In the primary data analysis section, the researcher introduced the procedure of conducting a structural modelling equation analysis, and the criteria used to evaluate the reliability and discriminate validity of the proposed model. In the next chapter, the researcher will present and discuss the empirical results of two datasets respectively.

Chapter 6: Empirical Analysis: secondary data analysis and results

6.1 Introduction

In this chapter, the researcher will present and discuss the results generated from the analysis of the secondary data. As mentioned before, the aim of secondary data analysis in this study is to compare the performance of Chinese born global SMEs with their counterparts that adopted the traditional stage mode and to explore the influential factors affecting Chinese SMEs to follow the born global path. To find out the answer to these research questions, the researcher will utilise the techniques introduced in chapter five to examine the dynamic of Chinese Listed SMEs. There are two parts in the following sections. The first part shows the results of the series of models which are used to test the difference in performance between born global firms and traditional internationalised firms. The second part present and discuss on the analysis of influential factors that induce SMEs follow the born global path.

6.2 Secondary Data description

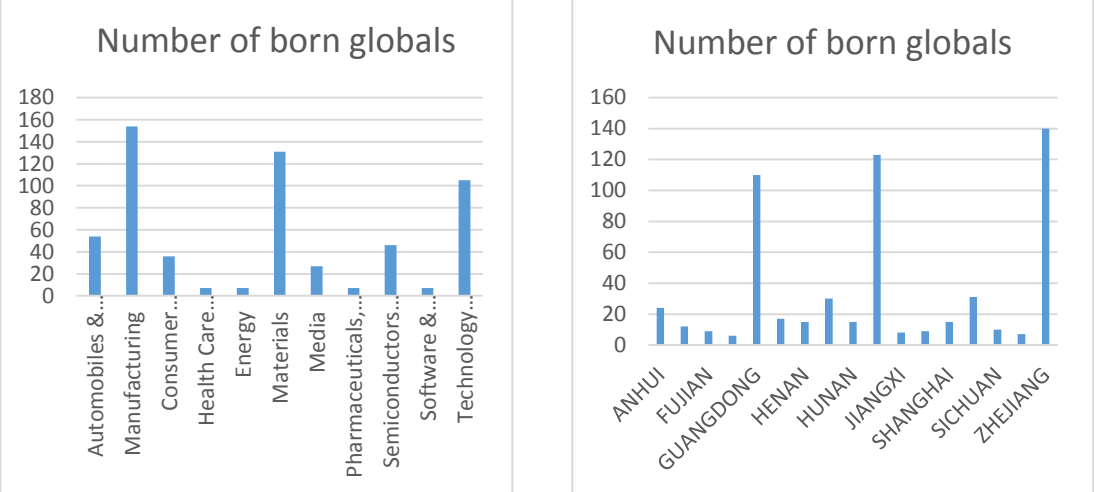
6.2.1 Data set description

As mentioned in the methodology chapter, the hypotheses proposed will be tested using a sample comprising of a twelve-year panel dataset from 2003 to 2014. The firms examined here are listed SMEs on the SME Board and Growth Enterprise Board in China's stock exchange. The selecting criteria of SME are following definition provided by the Law of the People's Republic of China on Promotion of Small and Medium-sized Enterprises in 2003. In addition, given the emergence of born global firms is fairly recent in China, the researcher adopts a basic criteria to distinguish the born global ones from the traditional firms in the available sample. The criteria used to select born global firms are: (1) the maximum time before starting international activities should no more than three years; (2) the minimum share of foreign sales as a percentage of total sales should be more than 10%.

6.2.1.1 Location, Sectoral Distribution and Ownership of born global firms

The total number of SMEs included in the sample is 1247. Among these firms, 410 of them never engaged in export activities, thus, leaving 837 useful sample. The total valuable observations are 10044 covering the period of 2003-2014. Among these export SMEs, born global firms occupied 5.78%. Comparing to the traditional exporter, it is obvious that Chinese born global firms are still in the emerging phase. In Figure 6.1, it can be noted that born global firms in China are mostly located in the Yangtze River Delta and Pearl River Delta. These areas are representatives of China's fast growing market-based economy, and they provide location advantage for born globals to lower firms' transportation cost. In the previous literature, it was found born global firms are mostly centralized in the high-tech industries in developed countries such as Finland, Sweden, United States and so on (Knight & Cavusgil, 2004;BrÄNnback, Carsrud, & Renko, 2007; Li, Qian, & Qian, 2012; Andersson & Wictor, 2003). It is because the nature of high-tech firms may be more internationally competitive comparing with firms in other sectors.

Figure 6.1: Location and sectoral distribution of born global firms



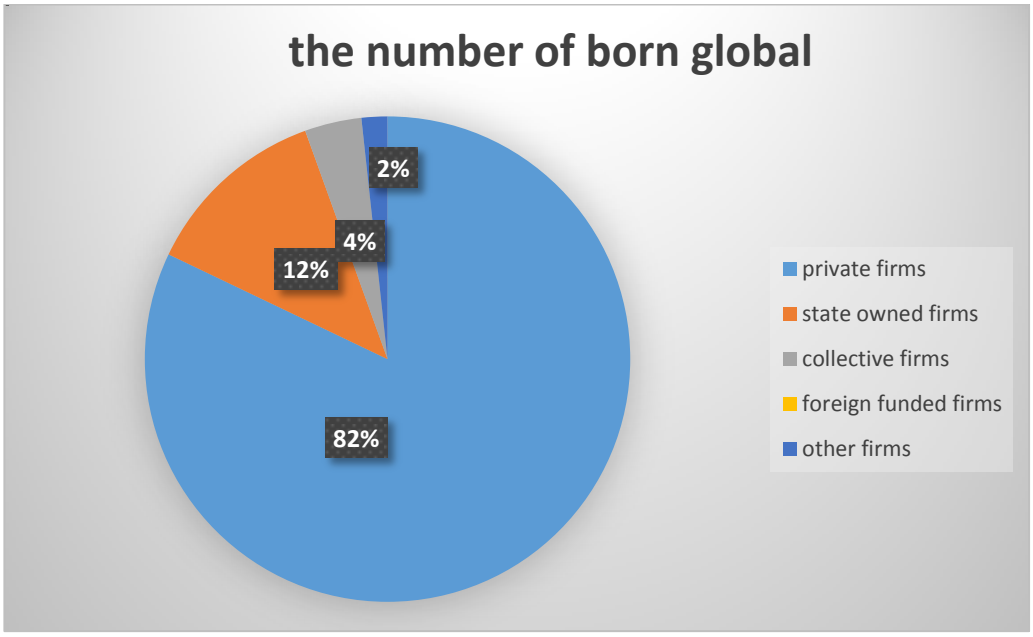
Source: Drawn from WIND dataset.

However, from figure 6.1, it also can be seen that the industry distribution of born global firms in China is different from those in developed countries. Chinese born globals are

concentrated in traditional industries rather than the high-tech industries. The top three industries which born globals operating in are manufacturing, materials and technology hardware & equipment respectively. This distribution has shown the fact that China's industry upgrade is still far from complete.

The figure 6.2 presents the ownership distribution of Chinese born global firms in this study. From this pie chart, it is obvious that private firms are the major occupier among the born global firms which reached 82% in the total. In contrast, the sum of state-owned firms, collective firms and other firms are only 18% which is much less than the proportion of the private firms. These results imply private firms are more inclined to choose born global mode when they need to engage with international business.

Figure 6.2: Ownership distribution of born global firms



Source: Drawn from WIND dataset.

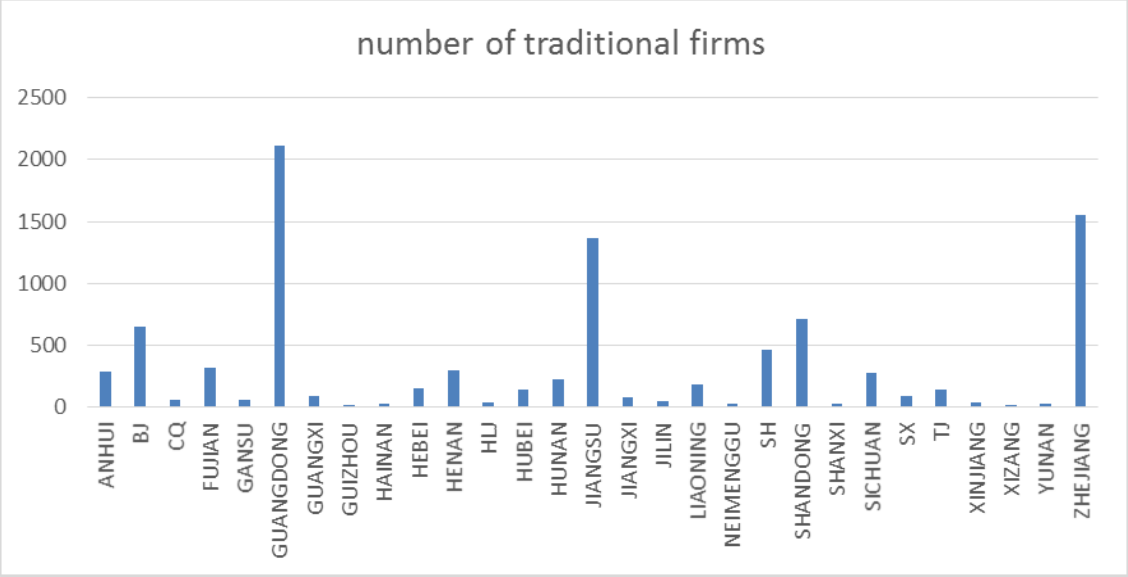
In addition, it may be noted that, there is no foreign-funded born global firms existing in this data sample. To go foe international is a risky decision for all the firms. As mentioned in the literature, the effectiveness of decision mechanism in private firms is much higher than other firms. Because the managers in privately owned firms can make all the decisions independently and quickly.

In the meanwhile, it can be seen from the figure, there still some State-Owned SMEs growing up as born global firms. It is a good sign which indicates born global mode has been better acknowledged by the other types of firms.

6.2.1.2 Location, Sector Distribution and Ownership of traditional internationalised firms

In this section, it presents the location, sector and ownership distribution for traditional internationalised firms. Figure 6.3 shows the location distribution of traditional internationalised firms. From this figure, it can be seen that unlike born global firms, traditional internationalised firms exist in every province even the most underdeveloped areas such as Tibet and Xinjiang.

Figure 6.3: Location distribution of traditional internationalised firms



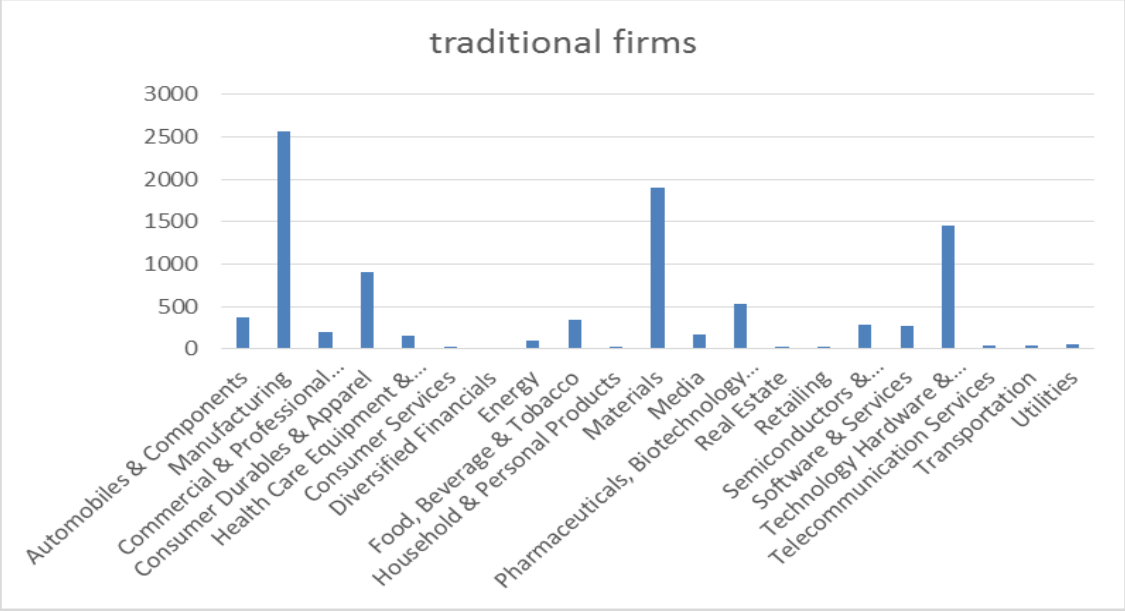
Source: Drawn from WIND dataset.

It is worth mentioning that the location distribution of these firms is consistent with the degree of regional development. For instance, the three area that most of the traditional internationalised firms choose to locate are Guangdong province, Jiangsu province, and Zhejiang province. The numbers of firms in these provinces are 2110, 1365, and 1552 respectively. These areas formed as Pearl River Delta, which contributed a significant proportion of GDP for China's economy every year. In the born global firms'

descriptive analysis, the researcher also concluded that most of the born globals were concentrated in the Pearl River Delta. In addition to locating in the four municipalities that are directly controlled by the central government such as Beijing, ShangHai, TianJing and Chongqing, the traditional internationalised firms are also concentrated in the central region, such as Sichuan, Hunan, Henan.

Figure 6.4 presents the sectoral distribution of traditional internationalised firms. This figure clearly shows that traditional internationalised firms are still concentrated in the traditional industries such as manufacturing, materials, and technology hardware & equipment. These industries are labor-intensive industries, which cheap labor is their main strength to compete with other firms in the international market. It is worth mentioning that the industry distribution of born global firms is almost identical to the traditional internationalised firms. This phenomenon directly proved that the Chinese market is still in the transition and upgrade stage. Chinese government has promoted a series of policies not only to accelerate the industry focus shift from traditional industries to emerging industries but also encourage firms to optimize their industrial structure and industry upgrade in the last few decades (Jiang, Li, 2004).

Figure 6.4: Industry Distribution of traditional internationalised firms

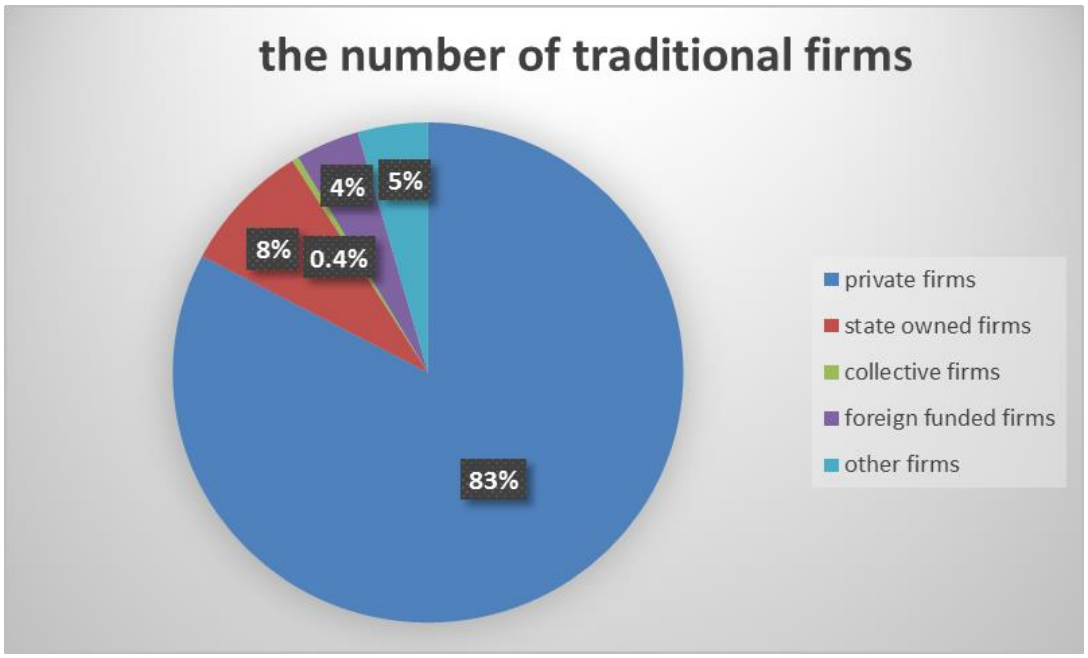


Source: Drawn from WIND dataset.

However, Figure 6.4 also shows that sizeable number of firms are engaging in emerging industries, such as biotechnology, customer durables & apparel, software & services and automobiles. The emergence of these industries signified that with years of reform, China's economy structure is gradually diverse and balanced.

Figure 6.5 shows the ownership distribution of traditional internationalised firms. Undoubtedly, private firms are the mainstream among traditional internationalised firms which occupied 83% in the total. The second place is occupied by the state-owned firms which are 8%.

Figure 6.5: Ownership distribution of traditional internationalised firms



Source: Drawn from WIND dataset.

It worth mentioning that, the number of state-owned firms are higher in the born globals in comparison with the traditional ones. However, 4% of traditional internationalised firms are foreign funded, whereas none of the born global firms is foreign-funded in this sample. Hence it can be said that born globals are still newcomers in China's economy, foreign investors are not certain about how this form of firms can survive in this environment.

6.2.2 Descriptive Statistics

Table 6.1 presents the descriptive statistics of dependent variables and independent variables used to examine the differences between performance in traditional internationalised firms and born global firms. The mean represents the average value of the variable in the dataset; the standard error is the standard deviation of the sampling distribution of a statistic. The upper and lower values of 95% of confidence interval for the mean based on distribution with n – 1 degrees of freedom. This interval estimate assumes that the population standard deviation is not known and that the data for this variable are normally distributed.

Table 6.1: Descriptive statistics of variables used for investigating the differences in performance between traditional internationalised firms and born global firms

	Mean	Std. Err.	[95% Conf. Interval]	
In_totalturnover	11.11513	0.0166754	11.08243	11.14782
Born global	0.0874937	0.0044873	0.0786961	0.0962913
In_totalasset	11.31889	0.0177743	11.28404	11.35373
In_rd	7.528743	0.0185377	7.492399	7.565087
In_salecost	7.931203	0.0190877	7.89378	7.968625
In_financialcost	6.635482	0.0257574	6.584983	6.685981
In_capitalintensity	-1.589594	0.011475	-1.612092	-1.567097
In_inventoryintensity	-1.912551	0.0103142	-1.932773	-1.89233

N=3966

Source: Stata 13

Table 6.1 shows that the mean of independent variable "*bornglobal"* is 0.0875, and its standard error is 0.0045. Within 95% confidence interval, the value of the mean lies between 0.0787 and 0.0963. The mean of variable "*ln_rd*" is 7.5287, and its standards

error is 0.01854. Within 95% confidence interval, the value of the mean lies between 7.4924 and 7.5651.

Table 6.2 shows the descriptive statistics of dependent variables and independent variables used to explore the influential factors affecting Chinese SMEs to follow the born global path.

Table 6.2: Descriptive statistics of dependent variable and independent variables with respect to the factors induce Chinese SMEs to follow the born global path

	Mean	Std. Err.	[95% Conf. Interval]	
Born global	0.0887886	0.0045053	0.0799557	0.0976214
In_totalasset	11.315347	0.017746	11.28055	11.35014
In_rd	7.527408	0.0185009	7.491135	7.56368
In_salecost	7.932504	0.0191094	7.895039	7.969969
In_financialcost	6.630087	0.0257044	6.579692	6.680482
In_capitalintensity	-1.59523	0.0115844	-1.617942	-1.572518
In_leverage	3.702002	0.0073822	3.687529	3.716476

N=3987

Source: Stata 13.

Table 6.2 shows that the mean of dependent variable "*bornglobal"* is 0.0888, and its standard error is 0.0045. Within 95% confidence interval, the value of the mean lies between 0.07996 and 0.09762. The mean of variable "*ln_rd*" is 7.5227, and its standards error is 0.0185. Within 95% confidence interval, the value of the mean lies between 7.4911 and 7.5637.

6.3 Correlation analysis

The next step in the panel data analysis is to conduct a correlation analysis. The author presents the correlation matrixes in table 6.3.and table 6.4.

Table 6.3: Correlation matrix with respect to the differences in performance between traditional internationalised firms and born global firms

	1	2	3	4	5	6	7
1. born global	1.0000						
2. ln_totalasset	0.0019	1.0000					
3. ln_rd	0.0355	0.6218	1.0000				
4. ln_salecost	-0.0459	0.6864	0.5144	1.0000			
5. ln_financialcost	0.0170	0.7232	0.3900	0.4789	1.0000		
6. ln_capitalintensity	-0.0021	0.0999	0.0145	0.0089	0.2402	1.0000	
7. ln_inventoryintensity	0.0233	-0.1106	-0.0335	0.0117	-0.0003	-0.0138	1.0000

N=3423

Source: Stata13.

Table 6.3 shows that there are seven variables in the analysis of examining the difference in performance between traditional internationalised firms and born global firms. Among these variables, "*bornglobal*" contains relatively low relationships with all other variables, the highest one is with "*ln_rd*" with a correlation coefficient of 0.0355. On the contrary, variable "*ln_totalasset*" maintains a relatively moderate relationship with other variables. The highest correlation coefficient 0.7232 is found between "*ln_totalasset*" and "*ln_financialcost*". In general, all the correlation coefficients are in a reasonable range, so the researcher can proceed the study into next stage.

In Table 6.4, there are six variables in the analysis of exploring factors induce Chinese SMEs to follow the born global path.

Table 6.4: Correlation matrix with respect to the factors induce Chinese SMEs to follow the born global path

	1	2	3	4	5	6
1. ln_totalasset	1.0000					

2. ln_rd	0.6218	1.0000				
3. ln_salecost	0.6851	0.5146	1.0000			
4. ln_financialcost	0.7235	0.3911	0.4774	1.0000		
5. ln_capitalintensity	0.1001	0.0145	0.0082	0.2398	1.0000	
6. ln_leverage	0.0963	0.0203	0.0960	0.4069	0.1059	1.0000

N=3987

Source: Stata 13.

Among these variables, "*ln_capitalintensity*" contains relatively low relationships with all other variables, the highest one is with "*ln_financialcost*" with a correlation coefficient of 0.2398. On the contrary, variable "*ln_totalasset*" maintains a relatively moderate relationship with other variables. The highest correlation coefficient 0.7235 is found between "*ln_totalasset*" and "*ln_financialcost*". In general, all the correlation coefficients are also in a reasonable range, so the author can take the analysis to the next step.

6.4 Multicollinearity analysis

Following by the correlation analysis, the author proceeds with another type of multicollinearity analysis-variance inflation factor (VIF). Multicollinearity is a common problem when estimating linear or generalized linear models, including logistic regression and probit regression (Cameron & Trivedi, 2010). It might labilize a multiple regression model and lead to unreliable estimates of regression coefficients (Mansfield & Helms, 1982). In order to detect the potential multicollinearity problems in the analysis, the researcher adopted the most widely-used diagnostic tools, which is the variance inflation factor (VIF) (Fox & Monette 1992). As a rule of thumb, a variable whose VIF values are greater than 10 may merit further investigation. Tolerance, defined as 1/VIF, is used by many researchers to check on the degree of collinearity. A tolerance value lower than 0.1 is comparable to a VIF of 10. It means that a variable could be considered as a linear combination of other independent variables (Fox & Monette 1992).

Table 6.5 shows the multicollinearity diagnostics for the independent variables employed in the first part of secondary data analysis. From this table, it can be seen that none of them has a VIF higher than 5, thus there is no serious multicollinearity problem in this part of regression analysis.

Table 6.5: Multicollinearity Diagnostics with respect to the differences in performance between traditional internationalised firms and born global firms

Variable	VIF	Sort VIF	Tolerance	R-Squared
borngloba	1.01	1.00	0.9913	0.0087
ln_rd	1.70	1.30	0.5890	0.4110
ln_totalasset	3.82	1.95	0.2617	0.7383
ln_salecost	1.99	1.41	0.5036	0.4964
ln_financialcost	2.29	1.51	0.4367	0.5633
ln_capitalintensity	1.08	1.04	0.9243	0.0757
ln_inventoryintensity	1.05	1.02	0.9562	0.0438
Mean VIF	1.85			

N=3423

Source: Stata 13

Table 6.6 presents the results of multicollinearity diagnostics for the independent variables adopted in the second part of secondary data analysis. In this table, none of them has a VIF higher than the critical value 5, implies that there is no serious multicollinearity problem among the variables. Thus, the researcher can proceed the study into next stage-regression.

Table 6.6: Multicollinearity Diagnostics with respect to the factors induce Chinese SMEs to follow the born global path

Variable	VIF	Sort VIF	Tolerance	R-Squared
ln_rd	1.69	1.30	0.5916	0.4084
ln_totalasset	3.95	1.99	0.2529	0.7471
ln_salecost	1.95	1.40	0.5127	0.4873
ln_financialcost	2.94	1.71	0.3403	0.6597
ln_capitalintensity	1.08	1.04	0.9247	0.0753
ln_leverage	1.34	1.16	0.7483	0.2517

Mean VIF 2.16

N=3987

Source: Stata 13.

6.5 Regression results relating to RQ1

The first research question needs to tackle in this study is to examine the difference in performance between the firms following the born global path and firms adopting the traditional stage mode. To answer this question, the researcher needs to conduct a series of statistical test. The procedure of the test start from a pooled OLS model, followed by examining the results by Breusch-Pegan Lagrangian multiplier test. If the results holds, it may conclude that the pooled OLS model is the most appropriate test to explore this question. Otherwise, the procedure continues with a set of panel data analysis: a fixed

effects model and a random effects model. The procedure will be finalized by the Hausman Test which is used to determine which model is more appropriate for the data to ensure the consistency and accuracy of the estimation. In the following section, the researcher will deliberate the results in detail.

As shown in table 6.7, there are three models displayed in this study. As shown in Chapter 4 (4.5.2), Model 1 is a pooled OLS model which is used to examine the existence of individual effects at first to ensure the consistency and accuracy of the estimation. The pooled regression model is:

$$y_{it} = x'_{it}\beta + \alpha + \varepsilon_{it}$$

Where, y denotes the dependent variable, i stands for each individual firm under investigation, β is the intercept which also called as regression coefficient, ε_{it} is the error term, and t denotes the time or year. Without the consideration of individual specific effects, most of the variables are highly significantly associated with the dependent variable within the 95% confidence level. The first hypothesis: the relationship between born global mode and firms' performance is positive- is confirmed by the significant (at 95% confidence interval) result. It implies that born global firms achieved better performance comparing with firms adopted traditional mode. The second hypothesis -the relationship between firm's size and firm's performance is positively related-is also supported by the test results. The model shows the variable of ln_total asset, a measurement for firms' sizes is a highly significant which means that the expansion of firm's size can promote firm's performance. The third hypothesis-private firms would achieve better performance than collective firms, and other firms are also supported. It worth noting that the regression coefficients for other four ownerships are negative, and only the coefficients of collective firms and other firms are significant in the model. It implies that comparing with private firms, the performance of other types of firms are even worse than the performance of private firms. Finally, the hypothesis-innovation is positively related with firm's performance is supported-since the coefficient of the variable that identifies the firm's research and development expense is positive and significant in the model. Therefore, it can be concluded that the more the firms spending on R&D activities, the better performance they can achieve.

However, overall, the pooled OLS model is not supported by the results of Breusch-Pegan Lagrangian multiplier test. The test result is highly significant with $\bar{\chi}^2(01)$ = 2421.57; Prob> $\bar{\chi}^2$= 0.0000, which means the null hypothesis of var (u) =0 should be rejected. Thus the pooled OLS model is not an appropriate model for the data.

Table 6.7: Results of empirical models

	Pooled OLS	Fix effects	Random effects
	ln_total turnover	ln_total turnover	ln_total turnover
Born global	0.0891	0.1715	0.0961
	(3.17)***	(2.11)**	(2.06)**
State owned firms	-0.0385		0.0794
	(-1.37)		(1.45)
Collective firms	-0.1124		-0.1037
	(-2.81)***		(-1.40)
Foreign-funded	-0.0027		0.0006
firms	(-0.07)		(0.01)
Other firms	-0.5501		-0.3518
	(-5.88)***		(-1.89)*
L.ln_rd	0.0843	0.0477	0.0399
	(9.48)***	(4.99)***	(4.51)***
L.ln_total asset	0.6578	0.3684	0.4551
	(43.00)***	(22.95)***	(33.32)***
L.ln_sale cost	0.1383	0.2138	0.1748
	(14.80)***	(11.87)***	(13.40)***
L.ln_financial cost	0.0488	-0.0065	0.0291
	(6.32)***	(-0.98)	(4.60)***
L.ln_capital intensity	-0.0065	-0.0091	-0.0048
	(-0.55)	(-0.60)	(-0.37)
L.ln_inventory intensity	0.0853	0.1251	0.1216
	(6.68)***	(7.29)***	(8.54)***
N	3445	3445	3445

Source: Stata13. Note: *p<0.10, **p<0.05, ***p<0.01. t statistics in parentheses

The second model and the third model are fix effects model and random effects model. These models are appropriate for panel data analysis and help the re researcher to identify the factors influencing firm's performance. The fixed effects regression model and random effects model are:

Fixed effects model: $y_{it} = x'_{it}\beta + \alpha_i + \varepsilon_{it}$

Random effects model: $y_{it} = x'_{it}\beta + \alpha + \mu_i + \varepsilon_{it}$

Where, y denotes the dependent variable, i stands for each individual firm under investigation, β is the intercept which also called as regression coefficient, ε_{it} is the error term, and t denotes the time or year. Fixed effects model captures the fixed individual effects which represent by α_i. And in random effects model, μ_i represents a group of specific random elements, which allow the unobservable effects to be randomly distributed in the cross-sectional unit (Cameron & Trivedi, 2010).

The second model is a fixed effects model. Most of the independent variables are found to be highly associated with the dependent variable, at least at the 5% level. Hypothesis 1 is supported in this model. It reveals that born global mode can promote firm's performance. Hypothesis 2 and Hypothesis 4 are also supported in this case. The results show that firms' size and its R&D expense can significantly affect their performance. However, constant variables as ownership is a time-invariant variable which is not observable in fix effects model; thus, the third hypothesis is not applicable in this case.

The third model is a random effects model. The regression results also show most of the independent variables are related to the dependent variables, at 5% level. Similar to the fix effects model, hypothesis 1, 2, and 4 are supported in Model 3. Hence, born global mode is a beneficial factor for the firm's development because there is a significant positive relationship between born global mode and firms' performance. In addition, both "*ln_totalturnover"* and "*ln_rd*" are also significantly and positively related to firm's performance. It implies that both size and R&D expenditure are contributing factors for firm's performance. However, hypothesis 3 is not supported in this case,

because none of the regression result of other four types of ownerships are significant except for the other firms which consist of Limited liability firms, Joint stock limited liability firms, Hong Kong-Macao-Taiwan invested firms significant at 10% level. Overall, private firms perform better than all other types of firms.

Finally, a Hausman Test is performed to identify which model is the most appropriate one to test the hypotheses. The Hausman Test result is significant with χ^2 (7) = 362.54; Prob>χ^2 =0.0000, which means one should reject the null hypothesis of "difference in coefficients not systematic". Consequently, it can be said that comparing with the random effects model, fix effects model can provide better analysis for the data and for fulling the first research question.

6.6 Discussions on the regression results regarding RQ1

In the existing literature, born global model has been widely adopted and investigated in developed countries (Burgel & Murray, 2000; Efrat & Shoham, 2012; Gerschewski, Rose, & Lindsay, 2015; Moen, 2002; Nummela, Saarenketo, Jokela, & Loane, 2014; Preece et al., 1999; Rennie, 1993). This study sheds light on the question whether born global mode is applicable for Chinese SMEs.

The empirical results support the findings of the existing literature Kuivalainen (2007). As expected, this study confirmed the positive relationship between born global mode and firm's performance. In addition, this research conducts a comparative apporoach by examing the difference in performance between traditional internationalised firms and born global firms. The result indirectly implies that traditional internationalisation model may compromise firm's performance. It provided a proper answer for Clegg et al. (2016)'s call for the investigation into links between internationalisation model choice and SME's performance in the context of China. It worth mentioning that the positive impact of born global mode on firm's performance was found not only for the firms in the hi-tech sector but also in the low-tech sector.

Furthermore, the findings also indicate that firm's size and R&D investment both have a significant and positive impact on firm's performance. This finding also consistent with the previous research that found firm size can promote firm's performance (Hawawini,

Subramanian & Verdin ,2003), and the ones that found R&D investment can enhance firm's competitiveness and performance (Kafouros, Buckley, Sharp, & Wang, 2008; Eberhart, Maxwell, & Siddique, 2008; Eberhart, Maxwell, & Siddique, 2004; Chen, Chen, Liang & Wang, 2013).

6.7 Regression results relating to RQ2

The second research question raised in this study is what are the main factors inducing Chinese SMEs to follow the born global path. To explore the influential factors affecting Chinese SMEs to follow the born global path, the researcher performed logit regression models with binary dependent variables. The first set of models are pooled logit regression model, fixed effects logit regression, and random effects logit regression model. Again, the analysis is followed by using the Hausman specification test to test the fixed effects logit model versus the random effects model. In the pooled logit analysis, the researcher employed robust and clustered standard errors to correct the error correlation over time for a given individual. In the following section, the researcher will deliberate the results in detail.

6.7.1 The Pooled logit regression results

The first model is a pooled logit model as shown in 4.5.4. The Pooled logit model is:

$$\Pr(y_{it} = 1|x_{it}) = \Lambda(x'_{it}\beta)$$

Where, let z denotes $x'_{it}\beta$, $\Lambda(\mathrm{z}) = \frac{e^z}{1+e^z}$, which is a cluster-robust estimator for the VCE (Variance Component Estimation) used to correct the error correlation over time for a given individual. VCE is program to estimate covariance matrices.

To find out the relationships between proposed independent variables and dependent variables, the researcher used province, R&D investment, total asset as independent variables, and sale cost, financial cost, leverage and capital intensity as control variables. To provide a more explicit explanation for the readers, the researcher employed odds ratio (OR) to interpret the relationships between dependent variable and independent variables. The odds ratio is a measure of association between exposure and an outcome. According to Szumilas (2010), the OR represents the odds that an outcome will occur

given a particular exposure, compared to the odds of the outcome occurring in the absence of that exposure. Odds ratios are used to compare the relative odds of the occurrence of the outcome of interest (e.g. born global or not in this study), given exposure to the variable of interest (e.g. location, R&D investment, total asset). It can be used to determine whether a particular exposure is a risk factor for a particular outcome and to compare the magnitude of various risk factors for that outcome (Zhang & Kai, 1998). It was suggested that if the odds ratio equals to 1, it indicates that the exposure does not affect odds of the outcome. If the odds ratio is larger than 1, then the exposure associated with higher odds of the outcome, and otherwise if the odds ratio is smaller than 1 (Szumilas, 2010).

Table 6.8 provides the regression results for the pooled logit model. The first hypothesis the researcher proposed is that born global firms are influenced by their locations. In Table 6.8, it can be found that argument is supported by the pooled logit regression results used in this study. In the pooled logit regression, the p-value of Zhe Jiang province, Jiang Su province, Guang Dong province, Hu Bei Province, He Bei Province and Gan Su province are significant. Because "Province" is a categorical variable, Beijing is as the reference group. It implies that in comparison with Beijing, six provinces are more likely to cultivate born global firms. More specifically, Zhe Jiang province has a regression coefficient as 1.834646, with an odds ratio of 6.262918. The positive coefficient indicates that comparing with Beijing, Zhe Jiang province is more likely to attract born global firms. The odds ratio indicates that the odds of cultivating a born global firm in Zhe Jiang are higher by a factor of 6.26. The regression coefficient in Jiang Su province is 1.747867, and the odds ratio is 5.742343. It indicates that in comparison of Beijing, Jiang Su province is also a better place for born global firms to start, and the odds ratio is higher by a factor of 5.74. Another location need to mention here is Guang Dong province, its regression coefficient is 1.451392 and odds ratio is 4.269055. Similar to Zhejiang and Jiang Su, Guang Dong province is more suitable for born global firms comparing with Beijing, and the odds ratio is higher by a factor of 4.26.

Table 6.8: pooled logit model results

	Born global				
		Coef	Robust std.Err.	P>|z|	odds ratio
Province	Beijing				
	Shanghai	0.1832448	1.256666	0.884	1.201108
	Tianjin	1.297531	1.323413	0.327	3.660249
	Zhe Jiang	1.834646	0.7890278	0.020**	6.262918
	Jiang Su	1.747867	0.783427	0.026**	5.742343
	Guang Dong	1.451392	0.7920979	0.067*	4.269055
	He Nan	1.398657	1.117501	0.211	4.049756
	Hu Bei	2.553539	1.04963	0.015**	12.85251
	An Hui	1.737072	1.079679	0.108	5.680687
	Si Chuan	1.04142	1.26832	0.412	2.833239
	Shan Dong	1.146921	0.9061308	0.206	3.148484
	Fu Jian	1.122069	1.018195	0.270	3.071201
	He Bei	2.645329	1.103375	0.017**	14.08808
	Jiang Xi	1.040387	1.386521	0.453	2.830312
	Hu Nan	1.28531	1.262802	0.309	3.615787
	Gan Su	2.610026	1.267105	0.039**	13.59941
ln_rd L1		0.2570002	0.1345042	0.056*	1.293045
ln_totalasset L1		-0.1051526	0.1649705	0.524	0.9001871
ln_salecost L1		-0.3199765	0.1371924	0.020**	0.7261661
ln_financialcost L1		0.1172887	0.1062585	0.270	1.124444
ln_leverage L1		0.0040362	0.2111519	0.985	1.004044
ln_capitalintensity L1		-0.1407368	0.1532039	0.358	0.8687179
cons		-3.086967	1.829272	0.091*	0.0456402
N		3242			

Source: Stata13. Note: *p<0.10, **p<0.05, ***p<0.01. t statistics in parentheses; Wald (21)=35.1;log pseudolikelihood= -974.74997;Prob>chi2=0.0275.

It can be noted that the regression results generated from pooled logit model is consistent with the conclusion that researcher drawn from the descriptions of the data. The conclusion was that born global firms in China are mostly located in the Yangtze River Delta and Pearl River Delta. These areas are representatives of China's market-based economy, and they provide location advantage for born globals to lower firm's

transportation cost. Besides these three locations, there are another three provinces need to be noted. The first one is Hu Bei province, and the second one is He Bei province, and the last one is Gan Su Province. These three places are located in the central China, and according to the test results of pooled logit regression model, all of them are better places for born global firms compare with Beijing, especially Hu Bei province. Hubei's total GDP ranked 8th in China with a total GDP of 2995 billion RMB (2015). The result of this analysis indicates that compared with Beijing, Hu Bei province is more appropriate place for born global firms to start their business. The odds ratio of cultivating a born global firms in Hu Bei is higher by a factor of 12.85.

The second hypothesis proposed in this study is born global firms are influenced by their size. Table 6.8, the regression coefficient of lagged "*ln_totalasset*" is -0.1051526, which indicates that the emergence of born global is negatively related to the previous year's firm's size. It means firms with larger size may be less willingly to follow the born global path. In addition, the odds ratio for the lagged firm's size is 0.9001871; it means the odds to be a born global is lower for a firm with the larger size. To be more specifically, the statistics implying that for an additional unit in firm's size, the odds for the firm to be a born global firm is lower by a factor of 0.9001. However, the p-value of lagged "*ln_totalasset*" is not significant, which implies the hypothesis is not supported by the analysis.

The third hypothesis proposed before is born global firms are influenced by the R&D expenditure. From the test results, it is clear that the regression coefficient of lagged "*ln_rd*" is 0.2570002, which is positive. So it is rational to conclude that last year's research and development investment is positively influence firm's decision to follow the born global path. Moreover, the odds ratio for the lagged R&D investment equals to 1.293045 which proved that the odds of being a born global firm are increased if the investment in R&D activities increased in the previous year. Furthermore, the p-value of lagged "*ln_rd*" is 0.056 which is significant. Hence, the hypothesis that R&D expenditure will influence born global firms is also supported by the analysis.

6.7.2 The Fixed effects logit model results

The second model is a fixed logit model as shown in 4.5.4. The Fixed logit model is:

$$\Pr(y_{it} = 1|x_{it}, \alpha_i) = F(x_{it}\beta + \alpha_i)$$

Where, y denotes the dependent variable, i stands for each individual firm under investigation, β is the intercept which also called as regression coefficient, and t denotes the time or year. α_i denotes the fixed individual effects, which only considered in fixed effects logit model.

The regression results of fix effects logit model are presented in Table 6.9. In the fix effects model, the coefficients of the time-invariant regressors are not identified so these variables are dropped. 763 groups with $\sum_{i=1}^{T_i} y_{it} = 0$ (all zeros) or $\sum_{i=1}^{T_i} y_{it} = T_i$ (all ones) are dropped leaving 58 observations.

Table 6.9: The fix effects logit model results

	Born global			
	Coef	Std.Err.	P>|z|	odds ratio
Province	(omitted)			
ln_rd L1	3373753	0.4188692	0.421	1.401265
ln_totalasset L1	-0.9638174	1.318083	0.465	0.381434
ln_salecost L1	0.5906863	0.8899218	0.507	1.805227
ln_financialcost L1	-0.5622799	0.7139759	0.431	0.569908
ln_leverage L1	-1.148801	1.725804	0.506	0.317016
ln_capitalintensity L1	0.5205965	1.059387	0.623	1.683031
N	58			

Source: Stata13. Note: *p<0.10, **p<0.05, ***p<0.01. t statistics in parentheses; LR (6)=3.69;log likelihood= -19.845211;Prob>chi2=0.7321.

From Table 6.9, it can be seen that variable "*province*" is omitted because there is no within-group variance. So the first hypothesis is not applicable in this case. The second hypothesis proposed in this study is that there is a relationship between firm's size and born global firms. However, the result shows that the p value of lagged "*ln_totalasset*"

is not significant, which implies the hypothesis is not supported in this model. The third hypothesis is about the relationship between R&D investment and born global firms. In this model, the coefficient of lagged "*ln_rd*" is 0.3373753 with a positive sign. It implies that the contribution of the increase in R&D investment will positively affect the choice of becoming Born Global. Meanwhile, its odds ratio is 1.401265, it means for an additional unit in R&D investment, the odds of formatting a successful born global firm is higher by a factor of 1.401265. But the p value of lagged "*ln_rd*" is not significant, so this hypothesis is not supported by fix effects model as well.

6.7.3 The Random effects model results

The third model used in this part of the analysis is a random effects logit model. Unlike the fixed effects logit model, random effects model claimed that there is no correlation between individual effects and covariates (Cameron & Trivedi, 2010). Similar to the pooled logit model, the random effects logit model can analyse the constant variables. This model has been shown in Chapter four (4.5.4), which is:

$$\Pr(y_{it}1|x_{it}, \mu_i) = F(x_{it}\beta + \mu_i)$$

Where, y denotes the dependent variable, i stands for each individual firm under investigation, β is the intercept which also called as regression coefficient, and t denotes the time or year. α_i denotes the fixed individual effects, which only considered in fixed effects logit model. μ_i denotes the specific random elements and allow the unobserved effects to be randomly distributed in the sample.

Thus the first hypothesis can be tested using random effects model. From Table 6.10, it can be seen that in comparison with Beijing, most of the provinces examined in this study are much better locations for the growth of born global firms. For instance, the odds ratio of Zhe Jiang province is 6756.301; it implies that odds of cultivating a born global firm in Zhe Jiang are higher than Beijing by a factor of 6756.301. The coefficient in Jiang Su province is 8.59345, and the odds ratio is 5396.196. It indicates that in comparison with Beijing, Jiang Su province is also a better place for born global firms to start, and the odds ratio is higher by a factor of 5396.196. Similarly, for Guang Dong province, its coefficient is 7.569469 and odds ratio is 1938.11. Thus, Guang Dong province is also more suitable for born global firms comparing with Beijing, and the

odds ratio is higher by a factor of 1938.11. Finally, Hu Bei province has also been proved as a better place for born globals comparing with Beijing. Its odds ratio indicates that the odds of cultivating a born global firm are higher by a factor of 94785.27. The above statistics results show that the first hypothesis is supported in the random effects model.

Table 6.10: random effects logit model results

		Born global			
		Coef	Robust std.Err.	P>|z|	odds ratio
Province	Beijing				
	Shanghai	5.468767	2.949203	0.064	237.1675
	Tianjin	7.646973	2.93956	0.009***	2094.296
	Zhe Jiang	8.818231	2.176369	0.000***	6756.301
	Jiang Su	8.59345	2.200189	0.000***	5396.196
	Guang Dong	7.569469	2.127993	0.000***	1938.11
	He Nan	7.662254	2.67537	0.004***	2126.546
	Hu Bei	11.45937	2.650329	0.000***	94785.27
	An Hui	7.905229	3.227954	0.014**	2711.424
	Si Chuan	6.920099	3.302449	0.036**	1012.42
	Shan Dong	7.02869	2.272515	0.002***	1179.528
	Fu Jian	6.406118	2.695164	0.017**	605.5383
	He Bei	9.479024	2.636696	0.000***	13082.41
	Jiang Xi	8.903183	3.370787	0.008**	7355.35
	Hu Nan	6.983	2.705414	0.010*	1078.148
	Gan Su	9.773466	3.490837	0.005***	17561.54
ln_rd L1		0.454877	0.2542178	0.074*	1.57598
ln_totalasset L1		-0.352241	0.4263248	0.409	0.7031106
ln_salecost L1		-0.2481399	0.3114898	0.426	0.7802508
ln_financialcost L1		0.0512768	0.2445388	0.834	1.052614
ln_leverage L1		-0.2480868	0.5383416	0.645	0.7802922
ln_capitalintensity L1		-0.1852088	0.3635139	0.610	0.8309308
cons		-16.31194	4.478115	0.000***	8.24e-08
N		3242			

Source: Stata13. Note: *p<0.10, **p<0.05, ***p<0.01. t statistics in parentheses; Wald (21)=31.56;log likelihood= -304.13512;Prob>chi2= 0.0648.

As mentioned before, the second hypothesis is that born global firms are influenced by their sizes. The independent variable which is related with this hypothesis is "*ln_totalasset*". The random effects test results show that the coefficient of lagged "*ln_totalasset*" is -0.352241. The negative coefficient means that if firm increase their sizes, the possibility of being a born global will decrease. The associated odds ratio for this variable is 0.7031106. It indicates for an additional unit in firm's size, the odds for the firm to be a born global is lower by a factor of 0.703. Nevertheless, the p-value of lagged "*ln_totalasset*" is not significant, so undoubtedly this hypothesis is not supported in this model.

The last hypothesis examined in this part of the analysis is about the relationship between R&D expenditure and the choice of born global. The result shows the relationship between the dependent variable "*born global*" and independent variable lagged "*ln_rd*" is significant. Thus, it can be concluded that this hypothesis is supported by the analysis. To be more specifically, the coefficient of lagged "ln_rd" is 0.454877; it means that the increase in last year's R&D investment will cause the possibility of being a born global increases a certain portion as well. Its odds ratio is 1.57598, which means for an additional unit in last year's R&D investment, the odds for the firm to be a born global is higher by a factor of 1.57598.

6.7.4 The Hausman Test of logit models

A Hausman Test is also used to identify which logit model is the most appropriate one to test the hypotheses. This test result is not significant with χ^2 (6) =1.95; Prob>χ^2 = 0.9243, which means one should accept the null hypothesis of "difference in coefficients not systematic". Thus, it proved that comparing with the fix effects model, random effects model can provide better analysis towards the data and investigation for the research question.

It may be noted that in comparison of pooled logit model with random effects model, 'rho' is the most important indicator. It can be appreciated as the proportion of the total variance contributed by the panel-level variance component (Hunter & Schmidt, 2000). Therefore, when rho is zero, the panel-level variance component is unimportant. Because when rho is zero, the panel model is not a significant improvement on the pooled model(Press, 2007). In this study, rho equals to 0.9588889, which is not zero. And the result of likelihood-ratio test of rho=0 is significant with chibar2 (01) = 1341.23 Prob >= chibar2 = 0.000, which means panel estimator is better than the pooled estimator. So in the end, random effects logit model is the most appropriate model for testing hypotheses relating to RQ2.

6.8 Overall discussion on logit regression results

In general, the test results indicate that the choice of becoming born global firms are influenced by their location and research development investment, but not by their sizes (Table 6.10). Plenty of studies already investigated the factors that influence firm's choice of being born global, such as Dow & Karunaratna (2006), Granstrand (1999), Jolly et al. (1992), Zhang et al. (2009) and so on. This part of analysis sheds light on the question what factor induce Chinese SMEs to follow the born global path.

In this study, some of the key findings support the conclusions in the literature. For example, this study confirmed that the relationship between firm's size and born global firms is not important. This finding is consistent with the previous research that found the firm size is not a decisive driver for born global firms (Oviatt & McDougall, 1994; Rialp, Rialp, & Knight, 2005; Jolly, Alahuhta, & Jeannet, 1992; Li et al., 2012). "Born global" is a binary variable, so the result is indirectly proved that for traditional internationalised firms, size is a considerable driver, which again, is consistent with the previous study that the positive impact of size on traditional international firms were found (Ambos & Håkanson, 2014; Dow, 2000; Håkanson & Ambos, 2010).

Furthermore, in this random effects logit analysis, R&D investment is also found have a significant and positive impact on firm's choice to be a born global. This finding is also consistent with the previous research (Knight & Cavusgil, 1996; Rennie, 1993; Lecerf , 2012). Born global firms are more willing to invest in the research and development

activities to gain competitiveness in the global market. In comparison, traditional internationalised firms may not be as keen as born globals to gain high technological advantages. Instead, they are more inclined to gradually occupy the foreign market by price advantage of the low-tech products (Knight & Cavusgil, 1996).

Different from the results found in the previous literature (Moen, 2002; Sylvie, 2004), location is still a considerable element for Chinese SMEs when they considered whether to choose born global model as their internationalisation strategy. The result is consistent with the conclusion drawn from the descriptive data analysis which stressed that, the Yangzi Delta District and Zhujiang Delta District is the most attractive location for firms which attempt to engage with international business, born global firms are no exception. The advantage of Yangzi Delta District and Zhujiang Delta District were created by Chinese government's 'open door' policy starting from 1978. These areas enjoy location advantage, low logistics costs and unimpeded information and preferable tax treatment. Thus lots of SMEs are located there. Born global firms are also attracted by the comparative advantages of these areas. Similarly, comparing with Beijing; Hu Bei province also has a comparative location advantage. The reason for this could be many. First of all, Hu Bei Province is located in the middle and lower reaches of Yangzi River, which enjoys the convenience brought by land transportation and waterway transportation. Secondly, Hubei province is the focal point of the "Rising of Central Regions Strategy". This strategy is initiated and undertaken by the Chinese government to develop the central regions of China economically. It has already experienced the significant industrialization and economic growth for a few years, which stimulates the development of the SMEs. Thirdly, comparing with Beijing, the cost of establishing a born global firm in Hubei province is much cheaper, due to lower costs of the plant, the labour costs and so on.

6.9 Chapter Summary

The secondary data analyses, which includes a descriptive data analysis and a set of panel regression analysis, provides readers with answers to the first and second research question that researcher proposed in the first chapter.

Based on the panel regression analysis presented above (6.5), the independent variable "born global" is found to be positively related to the dependent variable "total turnover"-the indicator for firms' performance. This result proves that a difference in the performance between the firms following the born global path and firms adopting the traditional stage mode is exist. And more importantly, born global model act as a promoter for firm's performance. Furthermore, three out of four hypotheses are supported by the regression result of this study. In addition to born global mode, both size and innovation are positively related to firm's performance.

The result of the second set of panel regression analysis discussed above helped readers to understand the influential factors affecting Chinese SMEs' decision whether following the born global path when going for international. This provides an answer to the second research question. Two out of three hypotheses are supported by the empirical results. Namely, the choice of becoming a born global firm is influenced both by locations and R&D expenditure. However, the decision is not affected by the sizes of firms. Overall, the main results in this study are consistent with the previous literature.

Chapter 7: Empirical Analysis: primary data analysis and results

7.1 Introduction

In this chapter, the researcher will present the results generated from the analysis of the primary data. It comprises two main parts: the descriptive data analysis and the SEM analysis. The results of the analyses could provide the reader with answers to one of the research questions: How the entrepreneurship influences the performance of born global firms? The analyses are focus on investigating the relationships between three dimensions of entrepreneurship and the performance of born global firms. The three dimensions are market orientation, international entrepreneurship capability and international knowledge. In the following section, the researcher will provide the descriptive data analysis first, followed by a detailed SEM analysis.

7.2 Descriptive data analysis

Descriptive data analysis can provide the reader with a brief and general view of respondents' characteristics. It can also provide detailed descriptions for the constructs and their indicators. In this study, the researcher selected born global firms from all the correspondents based on the definition used before, which is firms with (1) the maximum time before starting international activities should no more than three years; (2) the minimum share of foreign sales as a percentage of total sales should more than 10%. These criteria are used in many international new venture studies such as Zahral (2000), Zhou (2007).

7.2.1 Respondent characteristics

In this section, the researcher examines the ownership, the export intensity and firms' sizes of the selected born global firms.

Table 7.1 below provides the readers with frequency and percentage of ownerships in this study. There are 172 respondents who fit the "born global" criteria in the data sample. In this sample, born global firms consists of four types of SMEs, which are

limited liability SMEs, joint stock limited liability SMEs, private SMEs, and foreign-funded SMEs.

Table 7.1: Ownership distribution of the respondents ownership

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Limited liability	93	54.1	54.1	54.1
	Joint stock limited liability	17	9.9	9.9	64.0
	Private	60	34.9	34.9	98.8
	Foreign-funded	2	1.2	1.2	100.0
	Total	172	100.0	100.0	

Source: the author

From the statistics, it can be seen that 93 of them are limited liability enterprises, 60 of them are private firms, accounting for 54.1% and 34.9% of the total respectively. These statistics are consistent with the descriptive analysis in the second data analysis, which showed that in China, private firms are the mainstream of the born global firms. It may be noted that the diversified ownerships of born global firms provide a relatively representative sample concerning their attitudes which will form the constructs and their indicators used in this study.

In Table 7.2, the researcher has categorized the export intensity from level 1 to level 10. Export intensity is the ratio of exports to total sales. Level 1 is defined as export intensity equal or higher than 10% but lower than 20%. Level 2 is export intensity equal or higher than 20% but lower than 30%. The level increase 1 as the export intensity increases 10%. Thus the highest level 9 is defined as export intensity equal or higher than 90% but lower than 100%.

Table 7.2: Export intensity of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	23	13.4	13.4	13.4
	2.00	117	68.0	68.0	81.4
	3.00	3	1.7	1.7	83.1
	4.00	1	.6	.6	83.7
	7.00	10	5.8	5.8	89.5
	8.00	12	7.0	7.0	96.5
	9.00	1	.6	.6	97.1
	10.00	5	2.9	2.9	100.0
	Total	172	100.0	100.0	

Source: the author

According to the criteria of born global firms adopted in this study, born global firms are firms with (1) the maximum time before starting international activities should no more than three years; (2) the minimum share of foreign sales as a percentage of total sales should more than 10% (Zahral, 2000; Zhou, 2007). From Table 7.2, most of the target born global firms (117) have level 2 export intensity, accounting 68% of the total sample. 23 born global firms achieved export intensity equal or higher than 10% but lower than 20%; these firms make 13.4% of the total sample. Overall, the above tables show that Chinese born global firms have possessed competitiveness in international market.

Table 7.3: Firm sale of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	4	2.3	2.3	2.3
	2.00	11	6.4	6.4	8.7
	3.00	15	8.7	8.7	17.4
	4.00	16	9.3	9.3	26.7
	5.00	24	14.0	14.0	40.7
	6.00	23	13.4	13.4	54.1
	7.00	19	11.0	11.0	65.1

	8.00	60	34.9	34.9	100.0
	Total	172	100.0	100.0	

Source: the author

In addition to ownership and export intensity, firms' sales are also presented in Table 7.3. The researcher divided firm's sale in 8 groups. The first one is for firm's sale no more than 5,000,000 RMB; the second one is for firms' sale between 5,000,000 to10, 000,000 RMB. As the number of group increase 1 unit, the firm's sale increases 5,000,000 RMB. With such kind of pattern, the last group which is group 8 is defined as firm's sale over 35,000,000 RMB. Table 8.3 shows that most of the born globals in this sample are concentrated in the last group which is the one with highest firm's sale. The numbers of born global firms which achieved more than 35,000,000 RMB last year are 60 accounting for 34.9% of the total firms in the sample. Another category which has the second highest number of born global firms is group 5. There are 24 born globals in this group, and each of them has attained sales between 20,000,000 RMB and 25,000,000 RMB. In general, the statistics indicate that the sales of born global firms are mostly higher than expected.

7.3 Summary of descriptive analysis

In this study, firm sale (exogenous variable) is affected by two second order constructs and one first order construct. The second order constructs are '*market orientation*' and '*international entrepreneurial capability*'. The first order construct is '*international knowledge*'.

And the second order construct '*Market Orientation*' is measured by two first order constructs, which are: '*Adaptation Capability*' and '*Absorption Capability*'. The second order construct '*International Entrepreneurial Capability*' is measured by four first order latent variables which are: '*International Networking Capability*', '*Innovation Capability*', '*Marketing Capability*', and '*Risk Taking Capability*'. The descriptive analysis provided above provided some details of the firms included in this sample.

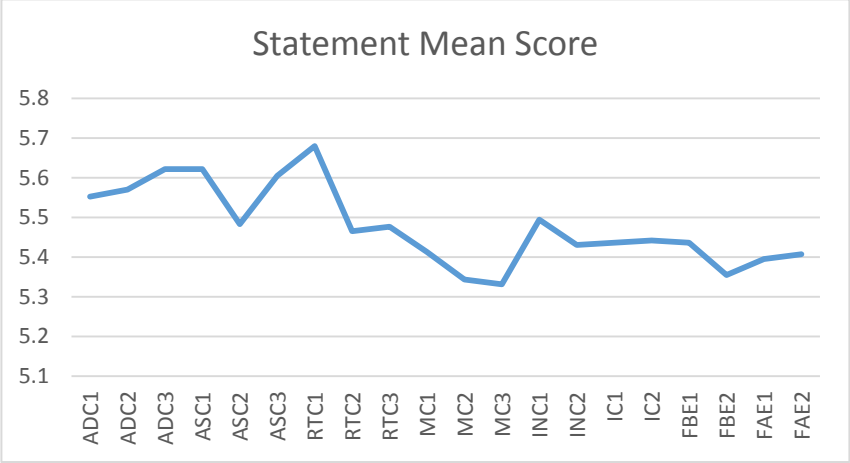
Firstly, the descriptive analysis provides the readers with the information on firms' characteristics. These included firms' ownership, export intensity, and sales. According to the results, among 172 respondents, 54% are limited liability firms, 34.9% are private

firms, 9.9% are joint stock limited liability firms, and only 1.2% are foreign funded firms. There is an interesting fact that none of firms included in the sample is state owned. According to the results generated from the secondary data analysis in Chapter six (6.2.1.1), it has been found that most of the state-owned firms chose to follow the traditional internationalisation path, rather than the born global path. This may explain why there is no state-owned firms among the born global firms in this sample. Thus the analysis result for ownership is consistent in two different datasets.

In the sample, 117 respondents achieved export intensity equal to or higher than 20% but lower than 30%, 23 respondents achieved export intensity equal to or higher than 10%, but less than 20%. It is clear that most of firms included in the sample are only reached the first and second level. However, since Hubei province is an inland province, which is lagging behind the coastal areas. In terms of firms' performance, 34.9% farm's sale were higher than 35,000,000 RMB last year, 14% of them attained sales between 20,000,000 RMB and 25,000,000 RMB. These statistics show that most of the born global firms have achieved good performance in practice.

The questionnaire used in this study contains 19 statements; and it applied a Likert 7 scale scoring, and this scoring ranged from strongly disagree to strongly agree. It is found that most of the respondents responded to score 5 which is 'agreed somewhat'.

Figure 7.1: statement mean score



Source: the author

Figure 7.1 illustrates the mean score for each statement, which shown that overall the born global firms had a positive opinion regarding every statement in the questionnaire with average score of five. And the average frequency of the 'Agrees' (answer 5 to 7) across all the statements was 149. The lowest mean score of the statements was 5.33 and the standard deviation was 0.74186, which was for statement number MC3: 'Our firm can differentiate firm products based on the knowledge of marketing tools'. 154 firms (which account for 89.5% of the total) selected answers between 5 to 7. It may be inferred that there are marketing strategies in place for the born global firms but there is a great scope to improve in this regard. On the other hand, the highest mean score was for statement number RTC1; 'Our firm believes it is best to explore the environment gradually, bold or aggressive actions will be taken when necessary', which was 5.68, and its standard deviation was 1.036. 142 firms selected answers between 5 and 7 (the Agree's), which account for 82.6% of the total respondents. This result can be interpreted as showing that respondents from born global firms are aware that it is necessary to prepare an aggressive plan for the international market. In addition, there are some statements shows lower rate in 'Agrees', such as statement number FBE1. The statement of FBE1 is 'Top management in our firm continuously communicates its mission to succeed in international markets to firm employees'. The mean score for FBE1 was 5.44, and its standard deviation was 0.992. 139 firms selected answers between 5 to 7 (the Agrees), which account for 80.8% of the total respondents.

The demographic details collected through the questionnaires provided basic information about the owners and the current status of their firms. This information helped to distinguish the born global firms from the traditionally internationalized ones, and the ones that never engaged with international business. However, this basic information could not enable deeper understandings of a firm's development such as profitability, R&D investment etc. For the purpose of this study, it was concluded that without more detailed information, the analysis could still proceed, but that the analysis would be limited in this respect.

7.4 Structural equation modelling Analysis

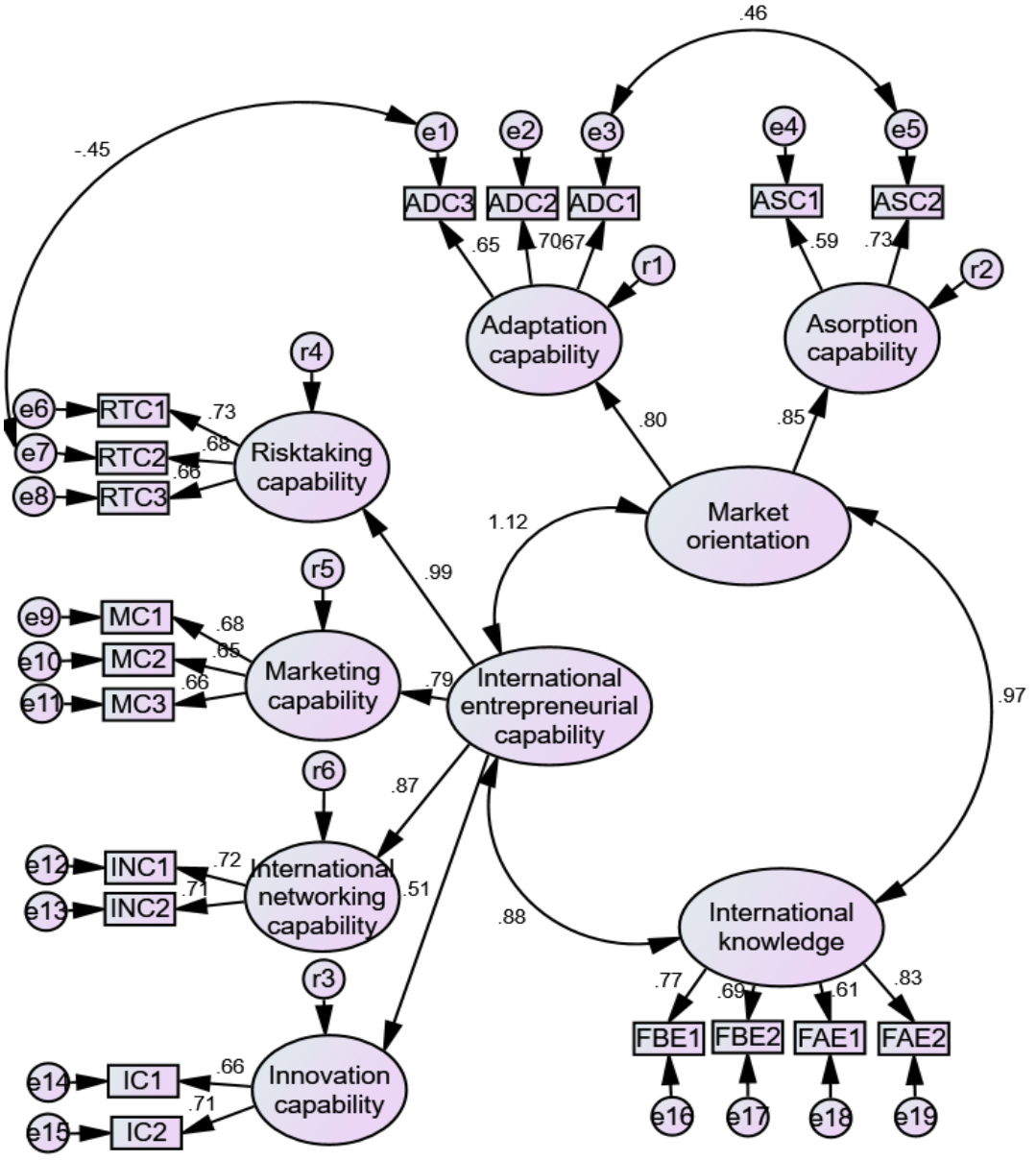
Structural equation modelling (SEM) allows the researcher to test theoretical propositions regarding how variables or constructs are theoretically linked and how those constructs direct the significant relationships (Schreiber et al., 2006). In this study, the researcher developed a structural theoretical model to test a theory, how the entrepreneurship affects the performance of Chinese born global firms. There are two major models included in the SEM analysis, which are the measurement model and the structural model (Schreiber et al., 2006).

In addition, as mentioned in the Chapter five (5.4.2), SEM data analysis is proceeded by several steps (such as model development), to determine the degree of freedom of the model, and ensure it is over-identified or positive. There is already a fixed parameter in the value of 1 at one of the indicators in each of the constructs in the model, to provide confirmation that the model can be identified by SEM analysis software (Ferdinand, 2006; Santoso, 2012). In this SEM analysis, the researcher adopted the maximum likelihood estimation method to estimate the structural model. This estimation method was applied due to the size of the data sample, which was less than 200, with normally distributed data (Ferdinand, 2006; Byrne, 2010).

7.4.1 Measurement Model Analysis

This section presents the analysis of measurement model, includes model identification, goodness-of-fit indices, convergent validity test, discriminant validity test and so on. The measurement model is shown in figure 7.2.

Figure 7.2: Entrepreneurship Measurement Model



Chi-Square=261.220; Prob=.000; GFI=.861; AGFI=.813
;CFI=.910; TLI=.890; RMSEA=.071

Source: SEM 23 test output file

7.4.1.1 Measurement model identification

Confirmatory factor analysis (CFA) is a measurement model. It is used to evaluate whether the hypothesized structure's goodness-of-fit is adequate to the sample data or not. It is adopted when the researcher has knowledge about the underlying construct structure (Byrne, 2005; Bollen, 1989). The aim of the confirmatory factor analysis is to help researchers to confirm whether there is a theoretical measurement model existed or not (Hair et al., 2006).As the first step of confirmatory factor analysis (CFA), the measurement model analysis is mainly used to test the reliability of the observed variables or indicators (Schreiber et al., 2006). According to Schreiber (2006), it investigates the extent of interrelationship and covariation among latent variables.

Before the measurement model analysis, the researcher should go through a model identification stage, to examine whether the measurement model is over-identified or not. The description below presents the results of the measurement model identification.

Table 7.4: Measurement model identification

Computation of degrees of freedom and result (Default model)	Value
Number of distinct sample moments	190
Number of distinct parameters to be estimated	49
Degree of freedom (190-49)	141
Minimum was achieved	

Source: AMOS 23 test output file

From the measurement model (Figure 7.2), it can be seen there are 19 observed variables in this analysis, so the number of distinct sample moments is 19(19+1)/2= 190, the unknown parameters in the model consist of 19 factor loadings, 19 variances, and 11 factor covariances, making a total of 49 estimated parameters. Based on that, the calculation is: the degree of freedom (DF) = 190 – 49 = 141. Therefore, the minimum and positive DF was achieved, indicating that the further analysis can proceed (Hair et al.,2009).

7.4.1.2 Goodness of fit indices of measurement model

The next step is to confirm whether the proposed measurement model well fitted with the data. Several goodness-of-fit indices were applied to examine the model fit. In the last chapter, the researcher summarized the goodness-of-fit indices and their cut-off value, as shown in Table 7.5, As a rule of thumb, these indices are the higher, the better.

Table 7.5: Goodness of fit indices

Goodness of fit Index	**Cut off value**
χ^2 –Chi-square	Smaller value is preferred or better
Significance probability	≥ 0.05
CMIN/DF	≤2.00
GFI	≥0.95 or ≥0.90 or ≥0.80
AGFI	≥0.90 or ≥0.80
PGFI	≥0.50
NFI	≥0.95
RFI	≥0.95
IFI	≥0.95 or ≥0.90
TLI	≥0.95 or ≥0.90
CFI	≥0.95 or ≥0.90
PNFI	>0.50
PCFI	>0.50
RMSEA	≤0.08
AIC,CAIC,BCC,BIC	Smaller than independence model

Source: Adopted from Ferdinand (2006, p. 69); Hair et al. (2009); Byrne (2013); Muenjohn & Amstrong (2008); Burnham & Anderson, (1998).

7.4.1.3 Measurement Model Fit Summary

The cut-off value of the indices listed in the model fit assessment are used for the model fit assessment (Ferdinand, 2006; Hair et al., 2009; Byrne, 2010; Schreiber et al., 2006). The results of model fit indices of the entrepreneurship measurement model are presented in Table 7.6-7.11.

The first index result presented is the Minimum Chi-Square Discrepancy Test or CMIN test. From Table 7.6, the default overall model χ^2 – Chi-square or CMIN is 261.220 with 141 degrees of freedom. According to Kline (1998) and Byrne (2013), a good fit for the observed data sample requires a small or low χ^2 value about its degree of freedom. To be more specifically, the value of relative chi-square of 2 or less indicates a reasonably good fit for the model. In addition, according to Santoso (2010), if the χ^2- Chi square value of default model, is between the χ^2 value of the saturated model and the independence model, meaning that the model is in a good-fit with the data. In this study, the χ^2 - Chi-square value of default model is 261. 220, which is between 0 (the χ^2 value of the saturated model) and 1501.712 (the χ^2 value of the independence model). Moreover, the CMIN/DF is 1.853, which is lower than 2. It indicates that the model is a good fit with the data. However, the p-value of the default model is 0.000, which indicates that there is a difference between the observed data sample and the population (Ferdinand, 2006), which means the model does not fit well.

Table 7.6: CMIN test

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	49	261.220	141	.000	1.853
Saturated model	190	.000	0		
Independence model	19	1501.712	171	.000	8.782

Source: Amos 23 test output file

The second set of indices are: RMR, GFI, AGFI, and PGFI. RMR index represents the square root of the average or mean of the covariance residuals (Byrne, 2013). If the value of RMR equals to zero, it means a perfect fit. According to some researchers, RMR should be less than 0.08 (Browne & Cudeck, 1993) or ideally less than 0.05 (Stieger, 1990). Alternatively, the upper confidence interval of the RMR should not exceed 0.08 (Hu & Bentler, 1998). From the Table 7.7, it can be seen that the RMR value is 0.046, which indicates the model fits the observed data well.

Table 7.7: RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.046	.861	.813	.639
Saturated model	.000	1.000		
Independence model	.275	.283	.204	.255

Source: Amos 23 test output file

Next to the RMR index, there are three goodness-of-fit indices, which are GFI, AGFI, and PGFI. According to Ferdinand (2006), GFI and AGFI are criteria that calculate a weighted proportion of variance in a covariance sample matrix. Most of the studies suggested the cut-off value of both indices is better if they are closer to 1. To be more specifically, the most recommended cut-off value of both indices is no less than 0.90, however some studies have shown that when factor loadings and sample sizes are low a higher cut-off of 0.95 is more appropriate (Ferdinand, 2006; Hair et al., 2006; Byrne, 2010; Santoso, 2012; Shevlin & Miles, 1998). In this study, the value of GFI is 0.861, which is lower than the recommended cut-off value of 0.90. It implies that the model fits the observed data marginally. Besides that, the value of AGFI index is 0.813 in this study, which is also lower than the recommended cut-off value. It also suggests that model marginally fits the observed data. However, some studies suggested a different cut-off value for these indices. For instance, Torkzadeh (1994) suggested that the GFI cut-off value should be higher than 0.80. With this reference, the GFI value in this study is 0.861 meaning the model fits the observed data well. For the AGFI index, Muenjohn and Amstrong (2008) also suggested a cut-off value higher than 0.80. Using this cut-off value as a benchmark, the value of AGFI in this study also indicates the model fits the observed data well. PGFI index is the parsimony-adjusted GFI. It is recommended that this value is closer to 1 the better (Schreiber et al., 2006). The PGFI value in this study is 0.639. Thus the model fits the observed data only marginally.

The third set of indices are the baseline comparisons indices. This kind of indices are indices comparing indices in a baseline model such as the independence model or another model with the proposed model (Schreiber et al., 2006).

Table 7.8: Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.826	.789	.912	.890	.910
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Source: Amos 23 test output file

According to previous studies, the recommend cut-off value for the model Normed Fit Index (NFI) is no less than 0.95 (Ferdinand, 2006; Hair et al., 2009; Byrne, 2010; Schreiber et al., 2006), the recommend cut-off value for the Relative fit index (RFI) is no less than 0.95 (Ferdinand, 2006; Hair et al., 2009; Byrne, 2010). From Table 7.8, the NFI value is 0.826 and the RFI value is 0.789. Both indices indicate that the model only fit the observed data marginally.

IFI is the abbreviation for the Incremental fit index. Some of the studies suggested that a cut-off value ≥ 0.95, indicates a good model fit (Ferdinand, 2006; Hair et al., 2009; Byrne, 2010; Schreiber et al., 2006). While other researchers suggested the cut-off value for IFI should be ≥ 0.90, and it indicates an acceptable model fit (Hu & Bentler, 1999). In this analysis, the value of IFI is 0.912, based on the reference; it can be concluded that the model fits the observed data well.

Tucker Lewis index (TLI) is another model fit evaluation index. A value of 0.90 or higher means the model is acceptable, while a value higher than 0.95 indicates the model fits "good" (Ferdinand, 2006; Hair et al., 2009; Byrne, 2010; Schreiber et al., 2006). In this study, this model has a TLI value of 0.890. Thus it can be inferred that the model fits the observed data marginally. Finally, the comparative fit index (CFI), which is used to indicate if the extent of the hypothesized model is better than the independence model. The ideal cut-off value of this index should be close 0.95 (Ferdinand, 2006). However, it is also suggested that the desired value of CFI is over 0.90, and it sufficiently indicates an adequate fit of the model to the data (Bentler, 1992). In this study, the CFI value equals to 0.910, based on the above reference, it implies that the model fits the observed data well.

The fourth set of indices is the Parsimony-Adjustment Measures which are also used to assess the model fit (Schreiber et al., 2006). The two indices included in these measures are the PNFI index and PCFI index.

Table 7.9: Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.825	.681	.750
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

Source: Amos 23 test output file

According to previous literature, the recommend cut-off value for both indices are > 0.50 (Ferdinand, 2006; Byrne, 2010). From Table 7.9, it can be seen that the value of PNFI is 0.681, and the value of the PCFI is 0.750. Both of them exceed the reference cut-off value, so it can be concluded that the model fits the observed data well.

Table 7.10 presents the results of root mean square error of approximation (RMSEA) indices.

Table 7.10: RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.071	.057	.084	.007
Independence model	.213	.203	.223	.000

Source: Amos 23 test output file

It is used to evaluate how well the hypothesized model approximates the true model (Hox, 1998). Theoretically, the desirable recommended cut-off value of this index is 0.05, but some research suggests that 0.08 is also acceptable (Hox, 1998; Browne & Cudeck, 1992). In this study, the model achieved a value of RMSEA of 0.071, which is acceptable. So it implies that the hypothesized model approximates the true model well.

The last set of indices presented in this section is the information theory goodness of fit measure, which includes: Akaike's Information Criterion (AIC), Browne-Cudeck Criterion (BCC), Bayes Information Criterion (BIC) and Consistent Akaike's

Information Criterion (CAIC). According to the previous literature, it is recommended that the value of AIC, CAIC, BCC and BIC in the hypothesized model should be smaller than the ones in the baseline model (Burnham & Anderson, 2004; Byrne, 2013). These smaller values imply that the model fits the observed data well (Ferdinand, 2006). From Table 7.11, it can be seen that the values of the AIC, BCC, BIC and CAIC in default model are smaller than the ones in the saturated and independence model. Thus it can be concluded that the hypothesized model is well fitted with the observed data.

Table 7.11: AIC

Model	AIC	BCC	BIC	CAIC
Default model	359.220	372.200	513.447	562.447
Saturated model	380.000	430.331	978.024	1168.024
Independence model	1539.712	1544.745	1599.514	1618.514

Source: Amos 23 test output file

In summary, the researcher presented the details of the goodness of fit indices which applied in this study. The indices include significance probability, CMIN/DF, GFI, AGFI, PGFI, NFI, RFI, IFI, TLI, CFI, PNFI, PCFI, RMSEA, AIC, BCC, BIC, and CAIC. These indices are the common ones used to evaluate model's overall fitness (Byrne, 2013; Hox, 1998; Schreiber et al., 2006; Bentler, 1992). From the results, we can conclude that most of the indices investigated in this study meet the recommend cut-off value. It implies this model fits the observed data well (Schreiber et al., 2006). Table 7.12 provides a summary to compare the test value and the cut-off value of common model fit indices. As showed in the table, most of the indices fit the cut-off criteria. Thus it is rational to conclude that the measurement model fits the observed data well.

Table 7.12: The measurement model goodness of fit results

Goodness of fit Index	**Cut off value**	**Obtained value**	**Result**
Significance probability	≥ 0.05	0.000	Not good fit
CMIN/DF	≤ 2.00	1.853	Good fit
GFI	≥0.95 or≥0.90 or≥0.80	0.861	Good fit
AGFI	≥0.90 or ⩾0.80	0.813	Good fit

PGFI	≥0.50	0.639	Marginal fit
NFI	≥0.95	0.826	Marginal fit
RFI	≥0.95	0.789	Marginal fit
IFI	≥0.95 or ≥0.90	0.912	Good fit
TLI	≥0.95 or ≥0.90	0.890	Marginal fit
CFI	≥0.95 or ≥0.90	0.910	Good fit
PNFI	>0.50	0.681	Good fit
PCFI	>0.50	0.750	Good fit
RMSEA	≤0.08	0.071	Good fit
AIC, CAIC, BCC, BIC	Smaller than independence model	359.220,372.200, 513.447, 562.447	Good fit

Source: AMOS 23 output file and Ferdinand (2006, p. 69); Hair et al. (2009); Byrne (2013); Muenjohn & Amstrong (2008); Burnham & Anderson (1998); Bentler (1992); Hu & Bentler (1999).

7.4.1.4 Model modification

The model modification is a common solution if the model fit is inadequate. It enables the researcher to make some modification to the model by deleting parameters that not significant, or adding parameters that improve the model fit (Hair et al., 2009). It is advised that the modification is only applicable if there is a solid theoretic justification for it (Schereiber et al., 2006; Ferdinand, 2006; Hox, 1998).

The results of the proposed entrepreneurship measurement model analysis is presented in figure 7.2. It shows the relationships between constructs and their indicators. It may be noted that two error covariance were added, they are e1 and e7, e3 and e5. The statement for ADC3 is "Our firm can significantly modify products/packaging according to the needs of foreign markets", and the statement for RTC2 is "Our firm inclines to take on projects with high risks". According to Crichton (1999), "Risk" means the probability of a loss, and depends on three elements, hazard, vulnerability, and exposure. The direct effect of products modifying is therefore to reduce social vulnerability which is a risk (Brooks, 2003). It can be interpreted as firms with the ability to modifying products may lower the risk brought by the "high-risk projects". Another error

covariance found is between e3 and e5. The statement for ADC1 is "Our firm can price products effectively according to the changes in the market", and the statement for ASC2 is "Our firm can learn, analyse and interpret useful information from the environment". According to Shim and Sudit (1995), "an effective price should be set at the level of production where marginal costs intersect marginal revenue" (p.37). However, in the international market, there are many other factors affecting the pricing efficiency, such as fluctuated exchange rate, "border effects" and so on (Goldberg & Knetter, 1996). It is necessary to study the detailed information on the price levels to improve the efficiency (Goldberg & Knetter, 1996). Thus, it is normal that this two statements correlated to some extent.

7.4.2 Indicator-construct relation analysis and validity test

The next step is to perform the indicator and construct relation analysis and the validity test. The reason to perform these tests is that it is necessary to investigate whether the indicator is suitable for the construct (Ferdinand, 2006; Byrne, 2010). According to the previous studies, there are two methods of conducting this analysis, the first one is the convergent validity test, and the second one is the discriminant validity test (Ferdinand, 2006; Santoso, 2010). However, the precondition of these tests, is to perform a factor loading significance test beforehand.

7.4.2.1 Factor loading significance test

This test is used to investigate the factor loading of each indicator to its related construct. It is suggested a factor loading higher than 0.5 means that indicator belongs to the construct (Hair et al., 2009). While some other researchers claimed that a factor loading higher than 0.4 is sufficient to confirm the existence of the relationship (Ferdinand, 2006). Table 7.13 shows that all the factor loadings are over 0.6 except for innovation capability (0.451). Hence, the indicators are good proxies of the constructs.

Table 7.13: Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P
Risk-taking capability	<---	International entrepreneurial capability	1.292	.163	7.933	***
Marketing capability	<---	International entrepreneurial capability	.822	.128	6.418	***
International networking capability	<---	International entrepreneurial capability	1.000			
Adaptation capability	<---	Market orientation	.922	.127	7.234	***
Absorption capability	<---	Market orientation	1.000			
Innovation capability	<---	International entrepreneurial capability	.451	.103	4.372	***
ADC3	<---	Adaptation capability	.900	.120	7.519	***
ADC2	<---	Adaptation capability	1.000			
ADC1	<---	Adaptation capability	.980	.127	7.736	***
ASC1	<---	Absorption capability	.775	.110	7.026	***
ASC2	<---	Absorption capability	1.000			
IC1	<---	Innovation capability	.984	.232	4.245	***
MC3	<---	Marketing capability	.806	.118	6.836	***
MC2	<---	Marketing capability	.899	.133	6.761	***
MC1	<---	Marketing capability	1.000			
RTC3	<---	Risk-taking capability	.658	.078	8.406	***
RTC1	<---	Risk-taking capability	1.000			
INC2	<---	International networking capability	.852	.108	7.894	***
INC1	<---	International networking capability	1.000			
FBE2	<---	International knowledge	.681	.071	9.532	***
FAE1	<---	International knowledge	.682	.083	8.176	***
FAE2	<---	International knowledge	1.000			

			Estimate	S.E.	C.R.	P
IC2	<---	Innovation capability	1.000			
FBE1	<---	International knowledge	.914	.084	10.88	***
RTC2	<---	Risk-taking capability	.761	.088	8.651	***

Source: Amos 23 test output file; *p<0.10, **p<0.05, ***p<0.01.

In addition, from Table 7.13, it can be seen that all the value of the probability is below 0.01. A p value lower than 0.01 indicates that the relationship between the indicator and construct is highly significant at the level of 1%. It is also worth mentioning that the p-values for the relationship between the first order construct and second order construct are also below 0.01. These p values imply that the relationships between first order constructs and their second order constructs are highly significant at a 1% level. Therefore, it can concluded that in this model, all of the indicators can be used to measure their constructs, and all of the first order constructs can be applied to measure their second order constructs.

7.4.2.2 Convergent validity test

Because the results of factor loading significance test are promising, the research can proceed to the next step which is the convergent validity test. The result of the convergent validity test is determined by the indicator's coefficient value and its standard error value. According to Anderson and Gerbing (1998), if the ratio between the coefficient value of the indicator and its standard error (SE) is higher than 2, it means that the indicator dimension is significantly convergent, meaning this indicator is valid for measuring its construct (Ferdinand, 2006). In addition, the critical ratio (CR) can be used to perform the convergent validity test. According to Ferdinand (2006), the indicator is valid to measure the construct if the CR value is twice as much as the SE value. From Table 7.13, all the indicators share the same pattern that CR value/SE value is greater than 2. These results imply that all the indicators are significantly valid for measuring their constructs. Finally, for the second order constructs, they share the same pattern, thus it can be concluded that these first-order constructs are also significantly valid for measuring their second order constructs.

7.4.2.3 Discriminant validity test

Another test needed to to examine the validity of the measurement model is discriminant validity test, which is used to examine whether the constructs are perfect correlate with each other. According to Anderson (1987) and Venkatraman (1989), this test can measure the extent of differences between model dimensions to confirm whether the model is unique or not. This study employed a chi-square test to examine the χ^2 differences between the constrained model (i.e., where the correlation is fixed to 1) and the unconstrained model (i.e., where the correlation is released). If the difference is significant and the correlation is different from 1, then the constrained model should be rejected. On the contrary, if the difference is not significant, and the correlation is not different from 1, the constrained model should be accepted (Deery, Erwin, & Iverson, 1999). In Table 7.14, the researcher presented the results of constrained measurement model used in this study. Based on this table, the constrained model has degrees of freedom (DF) value of 157, and chi-square value of 328.719.

Table 7.14: Notes for constrained measurement model

Computation of degrees of freedom and result	Value
Number of distinct sample moments	190
Number of distinct parameters to be estimated	33
Degrees of freedom	157
Minimum was achieved	-
Chi-square	328.719

Source: AMOS 23 test output file

Table 7.15: Notes for unconstrained measurement model

Computation of degrees of freedom and result	Value
Number of distinct sample moments	190
Number of distinct parameters to be estimated	49
Degrees of freedom	141
Minimum was achieved	-
Chi-square	261.22

Source: AMOS 23 test output file

Based on the results of the unconstrained measurement model the researcher presented in Table 7.15, the chi-square difference can be calculated. From this table, it can be seen the differences in DF value between the constrained measurement model and the unconstrained measurement model is 157-141=16. Based on the chi-square distribution table in Stock and Watson (2012)'s book, the critical value of a DF value of 16 with a significance level of 5% is 26.296. As mentioned before, the null hypothesis for the chi-square test is that the constrained model is the correct model for this analysis.

Table 7.16: Δ chi-square test

Unconstrained model		Constrained model ϕij=1		Δ chi-square
Chi-square	DF	Chi-square	DF	
261.22	141	328.719	157	67.499

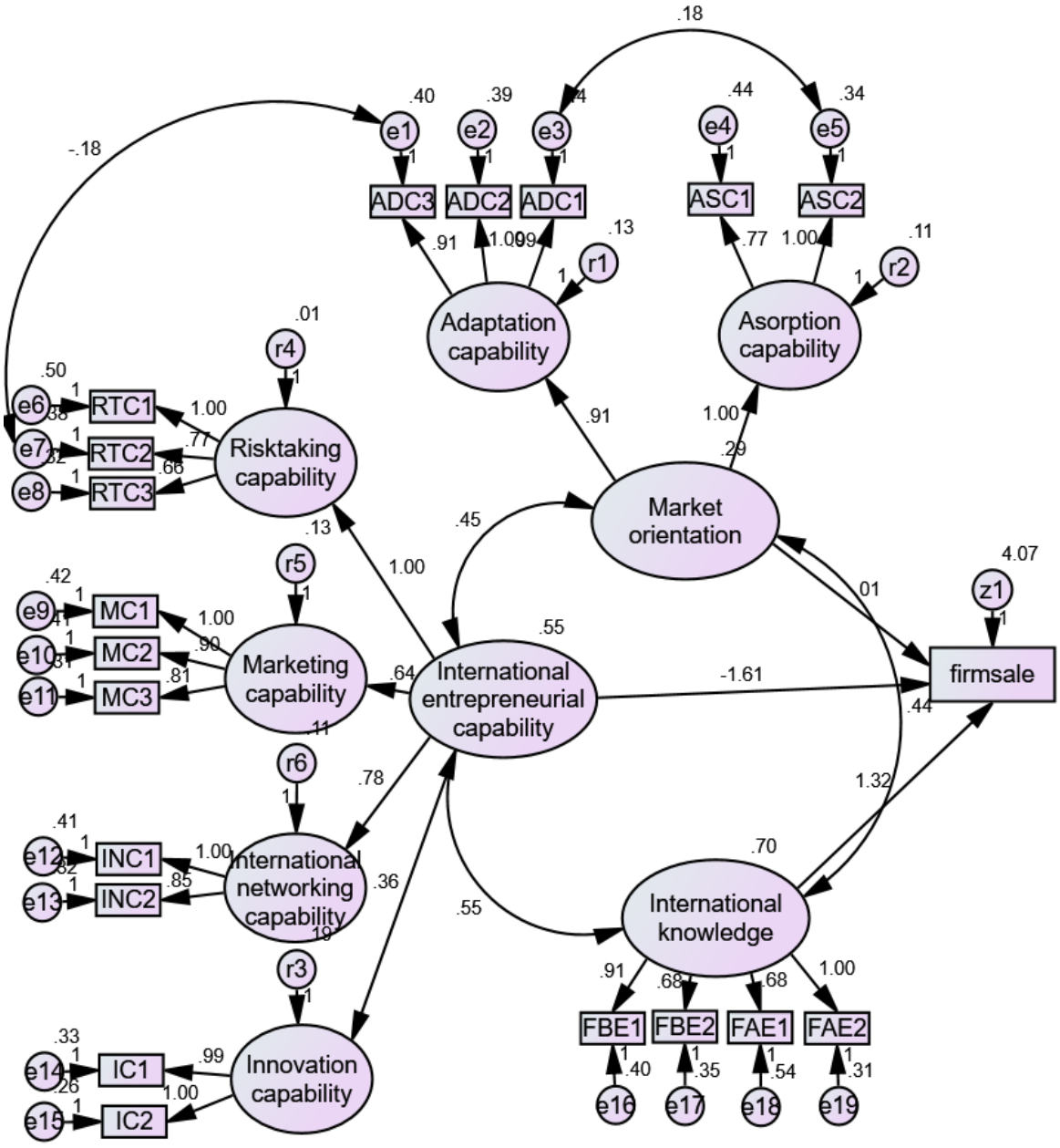
Source: AMOS 23 test output file

However, in Table 7.16, the difference between two models is 67.499, which is larger than the critical value 26.296. It indicates that the null hypothesis is rejected, and the unconstrained measurement model is most appropriate one for this study. Meanwhile, the chi-square value is lower in the unconstrained model in comparison with the constrained model; it means that all of the constructs in this model are not perfectly correlated (Bogazzi & Philips, 1982). In another word, it implies that each construct is unique and independent.

7.5 Structural model analysis

Based on the results of convergent validity test and discriminant validity test, the research can proceed to next step: the structure model analysis. In this step, there are two procedures. The first one is to examine the overall model fit of the structural model; the second one is to test structural parameter estimates. These estimates could explain the relationship between constructs in the structural model (Byrne, 2010). The structure model is shown in Figure 7.3. In the following sections, the research will deliberate on steps of testing the structure model.

Figure7.3: Entrepreneurship CFA SEM Model



Source: Amos 23 test output file

7.5.1 Model identification

As mentioned in the previous chapter, model identification is the first step in SEM analysis. It determines whether the model is suited for the further analysis (Byrne, 2013). Table 7.17 presents the results of model identification. In this study, there are 20 observed variables in the model, which represent the numbers of indicators, so the p-value is 20. Based on the formula presented before, the value of sample moments is 20(20+1)/2= 210, the estimated parameters are 53, include 19 factor loadings, 28 variances (19 error variances and 7 factor variances and 2 error covariance) and 6 factor covariance. Thus, the degrees of freedom equals to 210 – 53=157, which is a positive number. It indicates that the structural model is over-identified. According to the previous literature, it is able to proceed next step with an overidentified model (Hair et al., 2009). Thus in the rest of the section, the researcher will discuss the overall model fit base on the test results conducted by AMOS 23.

Table 7.17: Structural model identification

Computation of degrees of freedom and result (Default model)	Value
Number of distinct sample moments	210
Number of distinct parameters to be estimated	53
Degrees of freedom	157
Minimum was achieved	-

Source: Amos 23 test output file

The next step is to confirm the overall model fit by the model fit indices. In Table 7.18, the researcher summarized the goodness-of-fit indices and their cut-off value. In the following section, the researcher will compare the individual indices derived from this study with the cut-off values in this table.

Table 7.18: Goodness of fit indices

Goodness of fit Index	**Cut off value**
χ^2 –Chi-square	Smaller value is preferred or better
Significance probability	≥ 0.05
CMIN/DF	≤ 2.00

RMR	< 0.08 or < 0.05
GFI	≥ 0.95 or ≥ 0.90 or ≥ 0.80
AGFI	≥ 0.90 or ≥ 0.80
PGFI	≥ 0.50
NFI	≥ 0.95
RFI	≥ 0.95
IFI	≥ 0.95 or ≥ 0.90
TLI	≥ 0.95 or ≥ 0.90
CFI	≥ 0.95 or ≥ 0.90
PNFI	> 0.50
PCFI	> 0.50
RMSEA	≤ 0.08
AIC, CAIC, BCC, BIC	Smaller than independence model

Source: Adopted from Ferdinand (2006, p. 69); Hair et al. (2009); Byrne (2013); Muenjohn & Amstrong (2008); Burnham & Anderson (1998).

7.5.2 Structure model fit summary

Table 7.19 shows the results of the Minimum Chi-Square Discrepancy Test (CMIN test). The χ^2 or CMIN value of the default model is 277.467, the value of DF is 157, and the CMIN/DF is 1.767 which is lower than 2. These statistics imply that the model is a good fit with the data. However, the p-value of the default model is 0.000. It means that the model does not fit well because there is a difference between the observed data sample and the population (Ferdinand, 2006). In addition, according to Santoso (2010), if the χ^2- Chi square value of default model, is between the χ^2 value of the saturated model and the independence model, meaning that the model is in a good-fit with the data. In this study, the χ2- Chi-square value of default model is 277.467, which is between 0 (the χ2 value of the saturated model) and 1523.803 (the χ2 value of the independence model).

Table 7.19: CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	53	277.467	157	.000	1.767
Saturated model	210	.000	0		
Independence model	20	1523.803	190	.000	8.020

Source: Amos 23 test output file

The next set of model fit indices are the RMR, GFI, AGFI, and PGFI index. RMR index represents the square root of the average or mean of the covariance residuals (Byrne, 2013). If the value of RMR equals to zero, it means a perfect fit. According to some researchers, RMR should less than 0.08 (Browne & Cudeck, 1993). In Table 7.20, it can be seen that the RMR value of the default model is 0.056, so the model fits the observed data well.

Table 7.20: RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.056	.860	.813	.643
Saturated model	.000	1.000		
Independence model	.265	.293	.218	.265

Source: Amos 23 test output file

Next to the RMR index, there are three goodness-of-fit indices, which are GFI, AGFI, and PGFI. The most recommended cut-off value of GFI is ≥ 0.95 (Ferdinand, 2006; Hair et al., 2009; Byrne, 2010; Santoso, 2012; Schreiber et al., 2006), in this study, the value of GFI in the default model is 0.86, so the model only fits the observed data marginally. In addition, the recommended cutoff value is also higher than 0.95. In this study, the value of AGFI index is 0.813, it is lower than the recommend cut-off value. So it can be concluded that model only marginally fits the observed data.

However, Torkzadeh (1994) suggested that the GFI cut-off value should be higher than 0.80. With this reference, the GFI value in this study (0.86) indicates the model fits the observed data well. For the AGFI index, Muenjohn and Amstrong (2008) suggested a cut-off value which is higher than 0.80. Comparing with the cut-off value, the value of

AGFI in this study also indicates the model fits the observed data well. PGFI index is the parsimony-adjusted GFI, its recommend value is also closer to 1 the better (Schreiber et al., 2006). In this study, the PGFI value is 0.643. So the model only fits the observed data marginally.

The Baseline Comparisons indices are used to compare with the baseline model such as independent model or another model. In Table 7.21, it can be seen the value of the NFI index in default model is 0.818, it is lower than the recommend cut-off value 0.95 (Ferdinand, 2006; Hair et al., 2009; Byrne, 2010; Schreiber et al., 2006). So the model only fits the observed data marginally.

Table 7.21: Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.818	.780	.912	.891	.910
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Source: Amos 23 test output file

The next index is the RFI, it has a value of 0.780 in the default model. The cut-off value for RFI is ≥ 0.95 (Byrne, 2010), so the model fits the observed data marginally. For the IFI, its recommend cut off value is ≥ 0.95 (Ferdinand, 2006; Hair et al., 2009; Byrne, 2010; Schreiber et al., 2006). However, other researchers suggested the cut-off value for IFI should be ≥ 0.90 (Hu & Bentler, 1999). The value of IFI in this structural model is 0.912. Using 0.90 as the benchmark, the value of IFI in this study indicates the model fits the observed data well. The cut-off value for Tucker Lewis index (TLI) is ≥ 0.90 (Ferdinand, 2006; Hair et al., 2009; Byrne, 2010; Schreiber et al., 2006). The value of TLI in the default model is 0.891, so the model only fits the observed data marginally. The next index is the comparative fit index (CFI), its recommended cut-off value is ≥ 0.95 (Ferdinand, 2006) or ≥ 0.90 (Bentler, 1992). In this study, the CFI value is 0.910, so it fits the model well.

In Table 7.22, there are two indices need to be addressed: PNFI index and PCFI index. According to previous literature, the recommend cut-off value for both indices are > 0.50 (Ferdinand, 2006; Byrne, 2010). From Table 7.22, it can be seen that the value of PNFI is 0.676, and the value of the PCFI is 0.752. Both of them exceed the reference cut-off value, so the model fits the observed data well.

Table 7.22: Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.826	.676	.752
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

Source: Amos 23 test output file

Table 7.23 presented the results of root mean square error of approximation (RMSEA) index. The recommended cut-off value is 0.05, but some research suggests 0.08 is also acceptable (Hox, 1998; Browne & Cudeck, 1992). The value of RMSEA in the default model is 0.067, which is acceptable. So the model fits the observed data well.

Table 7.23: RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.067	.054	.080	.018
Independence model	.203	.193	.212	.000

Source: Amos 23 test output file

Table 7.24 presents the result of the Akaike information criterion (AIC), consistent AIC (CAIC), Browne-Cudeck Criterion (BCC) and Bayes Information Criterion (BIC). It is recommended that the value of these indices should be smaller in the hypothesized model compare with the ones in the baseline model (Burnham & Anderson, 2004; Byrne, 2013). A smaller value in default model means the structure model fits the observed data well (Ferdinand, 2006). The values of the AIC, BCC, BIC and CAIC in default model are 383.467, 398.307, 550.284 and 603.284. All of them are smaller than the ones in the saturated and independence model. Thus it can be concluded that this model is well fitted with the observed data.

Table 7.24: AIC

Model	AIC	BCC	BIC	CAIC
Default model	383.467	398.307	550.284	603.284
Saturated model	420.000	478.800	1080.974	1290.974
Independence model	1563.803	1569.403	1626.753	1646.753

Source: Amos 23 test output file

In summary, the researcher adopted some common goodness of fit indices to examine the overall model fitness. The indices include significance probability, CMIN/DF, GFI, AGFI, PGFI, NFI, RFI, IFI, TLI, CFI, PNFI, PCFI, RMSEA, AIC, BCC, BIC, and CAIC (Schreiber et al., 2006). These indices measure whether the default model fits the observed data or not from various perspectives (Schreiber et al., 2006). From the above discussion, it can be concluded that most of the indices meet their cut-off value, so the structure model in this study fits with the observed data well (Schreiber et al., 2006).

Table 7.25 compared the cut-off value and obtained value of the goodness-of-fit indices.

Table 7.25: Model fit results

Goodness of fit Index	**Cut off value**	**Obtained value**	**Result**
Significance probability	≥ 0.05	0.000	Not good fit
CMIN/DF	≤2.00	1.767	Good fit
RMR	<0.08 or <0.05	0.056	Good fit
GFI	≥0.95 or ≥0.90 or ≥0.80	0.860	Good fit
AGFI	≥0.90 or ≥0.80	0.813	Good fit
PGFI	≥0.50	0.643	Good fit
NFI	≥0.95	0.818	Marginal fit
RFI	≥0.95	0.780	Marginal fit
IFI	≥0.95 or ≥0.90	0.912	Good fit
TLI	≥0.95 or ≥0.90	0.891	Marginal fit
CFI	≥0.95 or ≥0.90	0.910	Good fit

PNFI	>0.50	0.676	Good fit
PCFI	>0.50	0.752	Good fit
RMSEA	≤0.08	0.067	Good fit
AIC,CAIC,BCC, BIC	Smaller than independence model	383.467, 398.307, 550.284, 603.284.	Good fit

Source: Adopted from Ferdinand (2006, p. 69); Hair et al. (2009); Byrne (2013); Muenjohn & Amstrong (2008); Burnham & Anderson, (1998).

Based on the results above, it is clear that the model fits the observed data well. The next step of the analysis is to test structural parameter estimates. Because these estimates could explain the relationship between constructs in the structural model (Byrne, 2010).

7.5.3 Relationship significance test between constructs

It is necessary to review the hypothesis that drawn in the previous chapter at first to examine the relationship between the constructs and indicators.

Hypothesis1: The performance of born global firms are significantly influenced by their market orientation.

Hypothesis1a: The higher the level of adaptation capability, the born global firms will be more market orientated.

Hypothesis1b: The higher the level of absorption capability, the born global firms will be more market orientated.

Hypothesis2: The performance of born global firms are significantly influenced by their international entrepreneurial capability.

Hypothesis2a: The higher the level of networking capability, the higher the level of international entrepreneurial capability in born global firms.

Hypothesis2b: The higher the level of innovation capability, the higher the level of international entrepreneurial capability in born global firms.

Hypothesis2c: The higher the level of marketing capability, the higher the level of international entrepreneurial capability in born global firms.

Hypothesis2d: The higher the level of risk taking capability, the higher the level of international entrepreneurial capability in born global firms.

Hypothesis3: The performance of born global firms are significantly influenced by the level of international knowledge.

The researcher uses the probability (p) value to verify the hypothesis above. If the value of p is lower than 0.05, we should accept the hypothesis and confirm the significant relationship between two constructs. If the p-value is higher than 0.05, then we should reject the hypothesis and the relationship between two constructs is not significant. In Table7.26 below, the researcher presented the results of the analysis.

Table 7.26: Regression Weights: (born global - Default model)

			Estimate	S.E.	C.R.	P value
Risk-taking capability	<---	International entrepreneurial capability	1.000			
Marketing capability	<---	International entrepreneurial capability	.643	.092	6.969	***
International networking capability	<---	International entrepreneurial capability	.782	.099	7.883	***
Adaptation capability	<---	Market orientation	.906	.125	7.220	***
Absorption capability	<---	Market orientation	1.000			
Innovation capability	<---	International entrepreneurial capability	.356	.078	4.572	***
ADC3	<---	Adaptation capability	.912	.121	7.518	***
ADC2	<---	Adaptation capability	1.000			
ADC1	<---	Adaptation capability	.989	.128	7.704	***
ASC1	<---	Absorption capability	.768	.109	7.043	***

			Estimate	S.E.	C.R.	P value
ASC2	<---	Absorption capability	1.000			
IC1	<---	Innovation capability	.989	.230	4.295	***
MC3	<---	Marketing capability	.806	.118	6.835	***
MC2	<---	Marketing capability	.902	.133	6.773	***
MC1	<---	Marketing capability	1.000			
RTC3	<---	Risk taking capability	.664	.079	8.364	***
RTC1	<---	Risk taking capability	1.000			
INC2	<---	International networking capability	.854	.108	7.913	***
INC1	<---	International networking capability	1.000			
FBE2	<---	International knowledge	.676	.071	9.493	***
FAE1	<---	International knowledge	.683	.083	8.235	***
FAE2	<---	International knowledge	1.000			
IC2	<---	Innovation capability	1.000			
FBE1	<---	International knowledge	.914	.083	10.944	***
RTC2	<---	Risk taking capability	.770	.089	8.646	***
Firm sale	<---	Market orientation	.011	1.057	.010	.992
Firm sale	<---	International entrepreneurial capability	-1.614	.882	-1.829	.067
Firm sale	<---	International knowledge	1.325	.701	1.890	.059

Source: Amos 23 test output;*p<0.10, **p<0.05, ***p<0.01.

From the results presented above, we can find that the first hypothesis “the performance of born global firms are significantly influenced by their market orientation” is not supported by the data. The p-value for the relationship between firm sale and market

orientation is 0.992, which is much higher than the critical value 0.05. Thus, the proposed relationship is not significant.

The second hypothesis "the performance of born global firms are significantly influenced by their international entrepreneurial capability" is supported by this analysis. The value of p for the link between firm sale and international entrepreneurial capability is 0.067, which is higher than the critical value 0.05, but lower than 0.10. Thus, the result suggested that the proposed relationship between these firm sale and international entrepreneurial capability is significant at the level of 10%. It means there is a significant relationship between the two constructs.

The third hypothesis for the relationship between firm sale and international knowledge is also supported by the data. The p-value for these constructs is 0.059, which is higher than 0.05, but lower than 0.1. It implies that the proposed relationship between the firm sale and international knowledge is not significant at the level of 5%, but significant at the level of 10%.

Generally speaking, all of the hypotheses which evaluate the relationships between first-order constructs and second-order constructs are supported in this study. The p value of these relationships is highly significant which is lower than 0.001. So it implies that the relationships between the pairs of first order constructs and second order constructs are significant at the level of 1%.

To investigate the extent of the links among constructs and indicators in the structural model, the researcher also provided a regression weights table for the readers.

Table 7.27: Standardized Regression Weights: (born global - Default model)

			Estimate
Risk taking capability	<---	International entrepreneurial capability	.987
Marketing capability	<---	International entrepreneurial capability	.796
International networking capability	<---	International entrepreneurial capability	.872
Adaptation capability	<---	Market orientation	.801
Absorption capability	<---	Market orientation	.853
Innovation capability	<---	International entrepreneurial capability	.515
ADC3	<---	Adaptation capability	.657

			Estimate
ADC2	<---	Adaptation capability	.698
ADC1	<---	Adaptation capability	.670
ASC1	<---	Absorption capability	.588
ASC2	<---	Absorption capability	.736
IC1	<---	Innovation capability	.665
MC3	<---	Marketing capability	.655
MC2	<---	Marketing capability	.647
MC1	<---	Marketing capability	.682
RTC3	<---	Risk taking capability	.660
RTC1	<---	Risk taking capability	.730
INC2	<---	International networking capability	.712
INC1	<---	International networking capability	.722
FBE2	<---	International knowledge	.688
FAE1	<---	International knowledge	.612
FAE2	<---	International knowledge	.830
IC2	<---	Innovation capability	.708
FBE1	<---	International knowledge	.770
RTC2	<---	Risk taking capability	.683
Firm sale	<---	Market orientation	.003
Firm sale	<---	International entrepreneurial capability	-.573
Firm sale	<---	International knowledge	.528

Source: Amos 23 test output;*p<0.10, **p<0.05, ***p<0.01.

Table 7.27 presents the standardized regression weights of the constructs in the relationship. Because there is no significant relationship between construct ‘firm sale’ and ‘market orientation’ found in Table 7.26, so it is not necessary to verify the value of standardized regression weights of this relationships anymore (Ferdinand, 2006). However, for the relationship between firm sale and international entrepreneurial capability, and the relationship between the firm sale and international knowledge, it is necessary to examine whether their regression weights are strong enough. From the table, it shows the absolute estimated value of firm sale and international entrepreneurial capability is 0.573, which is higher than 0.05. For firm sale and international knowledge

is 0.528, which is also higher than 0.05. According to Byrne (2013), these estimated values imply that the relationships between both pairs of constructs are very strong.

For the relations between first-order constructs and second-order constructs, all of the standardized regression weights are much higher than the critical value 0.05. For instance, the estimated value for risk taking capability and international entrepreneurial capability is 0.987, which is much higher than 0.05. In this case, it can be concluded that the relationship between risk taking capability and international entrepreneurial capability is very strong. This logic is also applicable to other similar relationships. So it is believed that the relationships between the pairs of first-order constructs and second-order constructs are very strong.

7.5.4 Hypotheses testing

To test the hypothesis, the researcher will specify the regression equation models in next step.

7.5.4.1 Main structure equation

The main Structure equations is:

Firm sale = $0.003MO - 0.573IEC + 0.528IK + \delta$

Where, MO: Market orientation

IEC: International entrepreneurial capability

IK: International knowledge

β：Regression weight

δ：Disturbance

This is the main structure equation, which reveals the relationships between firm sale and market orientation, firm sale and international entrepreneurial capability, firm sale and international knowledge. From the regression results, it can be seen that there is a positive relation between firm sale and market orientation. However, based on the result of the CFA SEM analysis, the relationship is not significant because p value is higher than 0.1. So it can be concluded that market orientation has a positive but not significant

effect on a firm's financial performance. This result is a conflict with the conclusion in the literature about the positive and significant relationship between market orientation-performance (Aldas-Manzano et al., 2005; Pelham & Wilson, 1995; Morgan et al., 2009). However, many researchers argued that the market orientation-performance relationship can be moderated due to various factors, such as competitive environment (Slater & Narver, 1994), market turbulence (Kumar, Subramanian & Yauger, 1998), technological uncertainty (Li et al.,2008) and so on. In this study, although the SEM analysis only confirmed the positive but not significant relationship between market orientation-performance, the researcher believes there are some reasons which may cause the insignificant result. First of all, the relationship between market orientation and firm performance may be compromised due to the market imperfections. Until now, the transition of market economy in China still far from complete. There are many market imperfections may be caused by government activities, such as legal restrictions and interventions in the or by other problems such as asymmetric dissemination of information (Buckley et al., 2007). Secondly, the time of the data on firm performance is constrained. This sample only contains the firm's sale in 2015, which is only a static indicator of the performance.

Another second order construct is international entrepreneurial capability. It is a multidimensional construct which is reflected by risk taking capability, marketing capability, international networking capability and innovation capability. From the regression result, a negative relationship between international entrepreneurial capability and firm sale is found. This finding is also a conflict with the previous research on the positive effect of entrepreneurship and performance (Zhang, Tansuhaj & McCullough, 2009; kuivalainen et al. 2007). However, there are other studies which also failed to find the positive relationship. For instance, Lumpkin and Dess (1996) in their conceptual model suggest that internal and external factors may moderate the relationship between international entrepreneurial capability and performance. Specifically, they found that the impact of entrepreneurship orientation on performance may be different in different types of environments (i.e., external factors). They also suggested that entrepreneurial strategies require considerable financial resources to be successful. Hart (1992) claimed that entrepreneurial strategies under certain circumstances might even cause poor

performance. Smart and Conant (1994), claimed they could not find a significant relationship between EO and performance. The firms investigated in this study are limited in Hubei province, which is not as developed as the eastern districts. Apart from the environmental reasons, the born global firms are resource constrained and the entrepreneurial initiatives may be compromised with the attempt to save the limited resources. These problems have also been brought up by Wiklund and Shepherd (2005) in their research.

The last construct participated in this structure equation is international knowledge. In this study, the researcher separated this construct from the second-order construct: international entrepreneurial capability. In Zhang et al. (2009)'s study, they treated international knowledge as one of the dimensions of construct international entrepreneurial capability, so the impact of international knowledge on performance is indirect. To capture a complete view of international knowledge, in addition to foreign business experiences, the researcher also added manager or employee's foreign academic experience as an indicator of international knowledge in this study. From the equation, a positive relationship between international knowledge and performance is found. This finding is consistent with previous research on the positive effect of international knowledge and performance (Kaleka, 2012; Papadopoulos & Martín, 2010). It is obvious that, international knowledge enables firms to gain competitive advantages in the global market via its experiences from academic and operational practice.

7.5.4.2 Dimensions of second order constructs

In this study, the researcher employed a two orders structure equation model. Each second order constructs are measured by several dimensions. 'Market orientation' is considered to be a latent variable that measured by two dimensions, which are 'adaptation capability' and 'absorption capability'. 'International entrepreneurship capability' is measured from four dimensions which are 'risk taking capability', 'marketing capability', 'international networking capability' and 'innovation capability'. These dimensions are also constructs measured by different indicators. To test the

hypotheses for these first order construct, the researcher will specify the regression equations and discuss them individually in the following section.

Regression equations:

1. MO = $0.801ADC + 0.853ASC + \varepsilon_1$
2. IEC = $0.987RTC + 0.796MC + 0.872INC + 0.515IC + \varepsilon_2$

Where, ADC: Adaptation capability

ASC: Absorption capability

IC: Innovation capability

RTC: Risk-taking capability

MC: Marketing capability

INC: International networking capability

γ : Loading factor

λ : Loading factor

ε : Error term

μ : Error term

A. Market orientation

The first equation presents the relationship between market orientation and adaptation capability and absorption capability. From the equation, we can find a positive relationship between adaptation capability and market orientation. Moreover, based on the result of the CFA SEM analysis, the relationship is significant because the p-value is lower than 0.01. Hence, it can be concluded that adaptation capability has a positive and significant impact on firm's market orientation. This conclusion is consistent with the previous research on the positive effect of adaptation capability and market orientation (Li et al., 2008; Monferrer, Blesa & Ripollés, 2015).

Another dimension used to measure market orientation is absorption capability. The result shows that the relationship between absorption capability and market orientation is positive. Moreover, from the result of CFA SEM analysis, we can find that the p-value for the relationship between those two is lower than 0.01, which implies the relationship is also highly significant. This further confirms the findings from the previous research on the positive influence of absorption capability on market orientation (Lichtenthaler, 2016; Monferrer, Blesa & Ripollés, 2015).

B. International entrepreneurial capability

The second equation outlines the relationship between international entrepreneurship capability and risk taking capability, marketing capability, international networking capability and innovation capability.

In this equation, the risk-taking capability shows a positive impact on firm's international entrepreneurship capability. Additionally, according to the result from CFA SEM analysis, the relationship between those two constructs also highly significant. This result has confirmed the findings in previous studies on the positive effect of risk taking capability and international entrepreneurship capability (Zhang, Tansuhaj & McCullough, 2009; Lumpkin & Dess, 1996).

In addition, marketing capability also shows a positive effect on firm's international entrepreneurship capability. Moreover, the relationship is also highly significant due to the small p-value which is lower than 0.01. This conclusion consistent with many previous literatures which advocate the positive impact of marketing capability on international entrepreneurship capability (Zhang, Tansuhaj & McCullough, 2009; Lee & Hsieh, 2010). So presumably, it is fair to conclude that to sustain its competitive advantage and develop its international entrepreneurship capability, a firm should focus on its marketing capability enhancement.

The third dimension used to investigate the international entrepreneurship capability construct is the international networking capability. From the equation, the coefficient of international networking capability is 0.872; it implies the relationship between international networking capability, and international entrepreneurship capability is positive. And base on the CFA SEM analysis result, its p-value is lower than 0.01 which

means the relationship is highly significant. These findings are consistent with the previous study which suggests a positive influence of international networking capability on international entrepreneurship capability (Zhang, Tansuhaj & McCullough, 2009; Mort & Weerawardena, 2006). Thus, it indicates that international networking capability can help firms to enhance their international entrepreneurship capability.

The final dimension which included in the international entrepreneurship capability construct is the innovation capability. In the equation above, we can find the coefficient of innovation capability is 0,515, which shows the relationship between innovation capability and international entrepreneurship capability is positive. Moreover, in the CFA SEM analysis, the p-value for international networking capability is lower than 0.01 which is highly significant. It suggests the relationship between two constructs also significant. These findings are consistent with the previous study which advocate the positive impact of innovation capability on international entrepreneurship capability (Zhang, Tansuhaj & McCullough, 2009; Knight & Cavusgil, 2004). So to sustain its competitive advantage and develop its international entrepreneurship capability, a firm should also focus on its innovation capability enhancement.

7.5.5 Summary of the structural model CFA SEM analysis

According to the discussion above, the researcher suggests that most of the indices reflect that the entrepreneurship structural model fits well with the observed data. However, there are four indices which do not fit well or only fit marginally. They are the significance probability value, TLI, NFI, and RFI respectively. The results of hypotheses testing indicate that one out of nine hypotheses presented insignificant relationships between constructs, which is the relationship between the ‘market orientation’ and ‘firm sale’. The Table 7.28 summarized the results of hypotheses test of this study.

Table 7.28 Summary of the Hypotheses Test Results

No	Hypotheses	Predicted effect	Substantive conclusions
1	H_1: The performance of born global firms are significantly influenced by their market orientation.	positive	H_1 not supported
2	H_{1a}: The higher the level of adaptation capability, the born global firms will be more market orientated.	positive	H_{1a} supported
3	H_{1b}: The higher the level of absorption capability, the born global firms will be more market orientated.	positive	H_{1b} supported
4	H_2: The performance of born global firms are significantly influenced by their entrepreneurial capability.	negative	H_2 supported at level 10%
5	H_{2a}: The higher the level of networking capability, the higher the level of entrepreneurial capability in born global firms.	positive	H_{2a} supported
6	H_{2b}: The higher the level of innovation capability, the higher the level of entrepreneurial capability in born global firms.	positive	H_{2b} supported
7	H_{2c}: The higher the level of marketing capability, the higher the level of entrepreneurial capability in born global firms.	positive	H_{2c} supported
8	H_{2d}: The higher the level of risk taking capability, the higher the level of entrepreneurial capability in born global firms.	positive	H_{2d} supported
9	H_3: The performance of born global firms are significantly influenced by the level of international knowledge.	positive	H_3 supported at level 10%

Source: the author

7.6 Chapter Summary

This chapter presents the empirical results of the SME. It consists of two parts: descriptive data analysis, and CFA SEM analysis. The analyses provide readers with the answer for the last research question "how the entrepreneurship influences the performance of born global firms".

The empirical results show that, both the entrepreneurship measurement model and the entrepreneurship structural model fit the observed data well.

In the measurement model, although some of the indices not fit perfectly, most of the indices fit the criteria and suggest that the model fitted the data well. In the measurement model, all the values of factor loading are higher than 0.06, hence these indicators are

appropriate to measure their respective constructs (Ferdinand, 2006). The assessment of reliability and discriminate validity also justified that the measurement model was appropriate.

In the structure model, one construct relationships out of total nine was not supported by the test of this study. It is the relations between firm performance and 'market orientation'. In contrast, the results indicate that the performance of born global firms investigated in this study are influenced by 'international knowledge' and 'international entrepreneurship capability'. Nevertheless, 'market orientation' is significantly influenced by adaptation capability and absorption capability. Meanwhile, 'international entrepreneurship capability' is significantly influenced by 'risk taking capability', 'networking capability', 'marketing capability', and 'innovation capability'.

Chapter 8: Summary and Conclusions

8.1 Introduction

This chapter presents the reader with the main findings and discussion derived from the empirical analysis. In addition to this, it highlights the research contribution of this study regarding the determinants of the born global model and the role that the born global mode plays in firm's performance. Moreover, it discusses the possible managerial and governmental policy implications of this study. The managerial implications not only provide theoretical suggestions for the study of the born global model, but they also offer practical suggestions both for the entrepreneurs of born global businesses and policymakers. For entrepreneurs, it helps to enhance competitiveness by investigating the influential factors associated with the performance of born global firms. For policymakers, it provides statistical evidence regarding the viable ways in which Chinese SMEs can be assisted in gaining competitiveness in the global market.

8.2 Research Overview

Since the 1990s, the emergence of "born global" firms start to catch scholar's attention. Consequently, the born global model in internationalisation has been widely used and studied. This model is usually applied to firms which are small, technology-oriented, and which operate in international markets from the earliest days of their establishment (Hennart, 2014). They are business organisations that, from inception, seek to derive a significant competitive advantage from the use of resources and the sale of outputs in multiple countries (Rennie, 1993; Oviatt & McDougall, 1994). In many cases, especially in developed countries, the born global model is an effective strategic choice for SMEs. And in the existing literature, it can be found that born global model has been widely adopted and investigated in developed countries (Burgel & Murray, 2000; Efrat & Shoham, 2012; Gerschewski, Rose, & Lindsay, 2015; Moen, 2002; Nummela et al., 2014; Preece et al., 1999; Rennie, 1993).

The current research compares two internationalisation models – the Uppsala model and the born global model – and facilitates an in-depth examination of born global firms, includes influential factors which induce firms to choose this model to internationalise,

and the relationship between entrepreneurial factors and firms' performance. The comparison enables the researcher to provide a deeper understanding of the different impacts on firm performance bought by the two internationalisation models. The present research also examines the major factors affecting Chinese entrepreneurs' decisions to adopt the born global model when attempting to initiate internationalisation

8.2.1 Research Questions, Hypotheses, and Objectives

The research questions and hypotheses are as follows:

1. Is there any difference in performance between the firms following the born global path and firms adopting the traditional stage mode?

Hypothesis 1: The born global model is related to firm performance.

Hypothesis 2: Firm size is related to firm performance.

Hypothesis 3: Private firms achieve the best performance when compared to firms with other ownership frameworks.

Hypothesis 4: Innovation is related to firm performance.

2. What factors induce Chinese SMEs to follow the born global path?

Hypothesis 1: born global firms are influenced by their locations.

Hypothesis 2: born global firms are influenced by their size.

Hypothesis 3: born global firms are influenced by the R&D expenditure.

3. How the entrepreneurship influences the performance of born global firms?

Hypothesis 1: The performance of born global firms is significantly influenced by market orientation.

Hypothesis 2: The performance of born global firms is significantly influenced by entrepreneurial capability.

Hypothesis 3: The performance of born global firms is significantly influenced by the level of international knowledge.

The main research objectives of this study are as follows:

1. To compare the performance of Chinese born global SMEs with their counterparts that adopted the traditional stage mode.

2. To explore the influential factors which cause Chinese SMEs to follow the born global path.

3. To investigate the entrepreneurial factors which affect the performance of Chinese born global firms.

8.2.2 Data Analysis Review

To satisfy the research objectives and address the research questions and hypotheses, both secondary and primary data were collected and analysed in this study.

8.2.2.1 Secondary data analysis

This study's secondary data analysis was divided into two parts, both of which used a novel dataset: the China Industry Business Performance Database (Wind Database), covering the period from 2003 to 2014. The first part was designed to answer the first research question, and three regression models – the pooled OLS model, the fixed effects model, and the random effects model – were used to compare differences in the performance of traditional internationalised firms and born global firms. In these models, the firms' total turnover was chosen as the dependent variable to represent the firms' performance. For independent variables, the researcher created a dummy variable – "born global" – to represent the qualified born global firms and another categorical variable – "ownership" – to classify the type of firm ownership. Moreover, the total asset was used as an indicator for firm size, while the R&D expenditure was used to reflect innovation ability. For control variables, the researcher chose sales cost and financial cost, capital intensity (measured by the ratio of fixed assets to total assets), and inventory intensity (measured by the ratio of inventory to total assets). All the variables

were identified or created based on the internationalisation and strategic management literature.

The second part of the secondary data analysis was designed to address the second research question. The researcher tested three models – the pooled logit model, the fixed effects logit model, and the random effects logit model – to explore the main factors affecting firm decisions regarding the choice of the born global model when conducting international business. The establishment of these models was based on studies associated with the Uppsala model, where variables such as firm size, location, and R&D investment were found to be very important.

8.2.2.2 Primary data analysis

The purpose of the primary data analysis performed in this study was to address the final research question, and the primary data was collected using questionnaires disseminated to a sample group incorporating 172 qualified born global firms. Specifically, the researcher developed a two-order structural equation model based on the entrepreneurship literature, and three dimensions of entrepreneurship were combined – namely, market orientation, international entrepreneurial capability, and international knowledge – to investigate the impact they have on firm performance. Entrepreneurship is a multidimensional construct, and this highlights the importance of recognising that most of the existing literature only uses a single dimension or the interrelation between two dimensions (Zhang, Tansuhaj, & McCullough, 2009). In this research, the researcher applied a range of dimensions to measure two second-order constructs: market orientation and international entrepreneurial capability. More specifically, market orientation is measured by two first-order latent variables: adaptation capability and absorption capability. In addition, international entrepreneurial capability is measured by four first-order latent variables: marketing capability, risk-taking capability, innovation capability, and networking capability. These constructs are identified from the entrepreneurship literature (see Section 4.5.5).

8.3 Main research findings

Based on the results generated in Chapters 6 and 7, the researcher has summarised the main research findings in Table 8.1.

Table 8.1: Research findings

No	Relationships	Test Result
1	Born global model→firm performance	significant
2	Uppsala model→firm performance	significant
3	State-owned firms→private firms	not significant
4	Collective firms→private firms	not significant
5	Foreign-funded firms→private firms	not significant
6	Other firms→private firms	significant at 10% level
7	R&D investment→firm performance	significant
8	Total assets→firm performance	significant
9	Sales cost→firm performance	significant
10	Financial cost→firm performance	significant
11	Capital intensity→firm performance	not significant
12	Inventory intensity→firm performance	significant
13	Shanghai→Beijing	not significant
14	Tianjin→Beijing	significant
15	Zhejiang→Beijing	significant
16	Jiangsu→Beijing	significant
17	Guangdong→Beijing	significant
18	Henan→Beijing	significant
19	Hubei→Beijing	significant
20	Anhui→Beijing	significant at 5% level
21	Sichuan→Beijing	significant at 5% level
22	Shandong→Beijing	significant
23	Fujian→Beijing	significant at 5% level
24	Hebei→Beijing	significant

25	Jiangxi→Beijing	significant at 5% level
26	Hunan→Beijing	significant at 10% level
27	Gansu→Beijing	significant
28	R&D investment→born global model	significant at 10% level
29	Total assets→born global model	not significant
30	Sales cost→born global model	not significant
31	Financial cost→born global model	not significant
32	Leverage→born global model	not significant
33	Capital intensity→born global model	not significant
34	The market orientation of born global→born global firms' performance	not significant
35	The international entrepreneurial capability of born global→born global firm performance	significant at 10% level
36	The international knowledge of born global→born global firms' performance	Significant at 10% level

In general, the answers of the research questions are answered as follows:

1. The answer for the first research question is that there are differences in performance between the firms following the born global path and firms adopting the traditional stage mode. In comparison with the traditional Uppsala model, the born global model is positively related with firm performance while the traditional Uppsala model is not.
2. The answer for the second research question is that the factors which induce Chinese SMEs to follow the born global path are location and investment in R&D, rather than their size.
3. The answer for the third research question is that the performance of born global firms is influenced by international knowledge and international entrepreneurial capabilities, but not market orientation.

In the following sections, this study will discuss the findings from secondary data anlaysis and primary data analysis separately.

8.3.1 Secondary Data Analysis Findings (I)

The purpose of this section of the study is to determine whether the born global model affects firm performance. The regression results confirmed that a positive relationship exists between the born global model and firm performance. Furthermore, because "born global" was used as a dummy variable, the result indirectly implied that the traditional internationalisation model may compromise firm performance. The findings also indicated that firm size and R&D investment had a significant and positive impact on firm performance, thereby implying that both size and R&D expenditure are contributing factors in the development of firms. However, in the fixed effects model, constant variables, including ownership, were not observable. Regarding the random effects model, the results of the four other types of ownership were not significant. Additionally, the result generated from 'other firms' was negative and significant, thereby meaning that in general, private firms can facilitate higher performance when compared to other types of firms.

It is notable that these results are supportive of "agency theory" (Eisenhardt, 1989; Jensen & Meckling, 1976). According to Eisentardt (1989), agency theory can be used to tackle two problems: one is the agency problem that arises from conflicting shareholder and senior managerial goals, and the other is the issue associated with the costliness of verifying the actual actions of senior managers. This is relevant for the Chinese context since the top managers in state-owned enterprises (SOE) and collective firms are usually appointed by the government, the chief implication of which is that they may not consistently act in the best interests of shareholders.

8.3.2 Secondary data analysis findings (II)

In general, the results show that the firm's decision of being born global is influenced by their location and investment in R&D, and yet not by their size. As "born global" is a binary variable, the result indirectly suggests that for traditional internationalised firms, size is a considerable driver. This result is consistent with studies conducted on the Uppsala model, in which scholars routinely demonstrated that traditional internationalised firms prefer to gain a solid domestic base first, then gradually expand their business into the international market (Sylvie & Colin, 2004; Johanson & Vahlne,

1977). From these studies, it can be concluded that firm size is an important, influential factor for the further development of firms. Contrastingly, studies conducted on the born global model demonstrated that born global firms start their international business from inception, or at least within three years following their inception (Knight & Cavusgil, 1996). According to these studies, size is not a primary factor considered by born global firms. Therefore, the insignificant result in this study is consistent, and it provides statistical confirmation of the conclusion drawn in previous studies. Moreover, this study could act as an initiator for the entrepreneurs of born global firms in China to encourage them to pay more attention to the variable of location when they start their business, and to invest more in R&D. Location and R&D development can enhance the competitive advantages of born global firms not only in the domestic market but also in the global market.

8.3.3 Primary data analysis findings

This section presents the main findings of the primary data analysis. It is comprised of the following two parts: the first part presents the analysis regarding the main constructs while the second part explains the dimensions of the second-order constructs.

8.3.3.1 Analytical Findings from the main constructs

As shown in Table 8.1, entrepreneurs in born global firms are aware that international knowledge is significantly related to firm performance. This implies that the born global firms which possess more international knowledge are more likely to achieve better performance. However, the relationship between market orientation and firm performance is not significant, while the relationship between international entrepreneurship and firm performance is negative but significant at the 10% level. From the previous literature, numerous scholars have claimed that both market orientation and international entrepreneurial capability played an important part in firm performance. The insignificant or less significant result in the current study can be accounted for in a variety of ways: it may stem from the fact that the influence of these constructs on firm performance could be compromised by the firms' attempt to conserve limited marketing resources; in addition, it may stem from time constraints associated with the data. The firm performance data was only based on 2015 firm sales figures,

thereby meaning that it serves only as a snapshot or static indicator of performance. The finding of negative relationship between international entrepreneurial capability and firm performance indicates that relating to the short run, the development of international entrepreneurship may compromise firm performance. Moreover, entrepreneurs are not quite clear about the importance of market orientation for the further development of firms, and it is undeniable that both are necessary for the development of born global firms.

8.3.3.2 Analytical Findings from the second-order construct dimensions

In addition to the results presented in Table 8.1, the researcher identified and used second-order constructs to measure the major constructs of entrepreneurship. Table 8.2 presents the results of this part of the analysis for the readers. The table demonstrates that firm market orientation is positively and significantly influenced by adaptation and absorption capability. These positive relations imply an increase in both adaptation and absorption capability can enable firms to obtain a higher market orientation. The table also shows that international entrepreneurial capability is positively and significantly affected by risk-taking capability, networking capability, marketing capability, and innovation capability. These positive relations reveal that an increase in these four capabilities may lead to an increase in the international entrepreneurial capability of firms. The reason for employing the first-order constructs in this study is to establish a more comprehensive understanding of the multidimensional constructs. More specifically, this study examines different dimensions of market orientation and international entrepreneurship. It provides insights for the entrepreneurs by helping them to identify their strengths and weaknesses, thereby enabling them to enhance the degree to which they are competitive in the international market.

Table 8.2: Relationships between the second-order and first-order constructs

1	The adaptation capability of born global→the market orientation of born global	significant
2	The absorption capability of born global→the market orientation of born global	significant
3	The networking capability of born global →the international entrepreneurial capability of born global	significant
4	The innovation capability of born global→the international entrepreneurial capability of born global	significant
5	The marketing capability of born global→the international entrepreneurial capability of born global	significant
6	The risk-taking capability of born global→the international entrepreneurial capability of born global	significant

8.4 Contributions of this research to knowlege

This section highlights the main contributions of this study to the literature.

First of all, this study has made a valuable contribution by broadening the understanding of the application of the born global model to the context of Chinese SMEs. Previous research on the born global model has primarily been conducted in developed countries, including the United Kingdom, France, and Canada (Burgel & Murray, 2000; Efrat & Shoham, 2012; Gerschewski, Rose, & Lindsay, 2015; Moen, 2002; Nummela et al., 2014; Preece et al., 1999; Rennie, 1993). In this study, the researcher studies the application of the born global model to Chinese SMEs and examines the major factors that affect the performance of Chinese SMEs, both born global and traditionally internationalised. It should also be emphasised that the importance of SMEs in China has been investigated by numerous researchers, and yet the extant literature addressing born global firms is still scarce. Therefore, this study contributes to the growing literature on this subject.

In the existing literature, the born global model has been widely studied and investigated in developed countries (Burgel & Murray, 2000; Efrat & Shoham, 2012; Gerschewski, Rose, & Lindsay, 2015; Moen, 2002; Nummela et al., 2014; Preece et al., 1999; Rennie,

1993), whereas little research has been conducted in the context of developing countries, especially in China. Hence, the present study has added to the understanding of the born global firms. Indeed, Clegg (2016) called for research on the exploration of pattern choice regarding internationalisation and firm performance, in general and, in particular, for Chinese firms. This research has been designed to account for these gaps by examining the connections between firm-specific factors and the performance of traditionally internationalised SMEs and born global SMEs. In addition, Knight and Liesch (2016) highlighted the need for future studies to investigate the firm-level factors which support the development of born global firms in the global market. This paper also responded to this call by conducting one of the first studies to empirically explore the application of firm-specific factors on Chinese born global firms. Finally, another focus of the study is to respond to calls to investigate the effects of other entrepreneurial factors in addition to the way in which international entrepreneurial capability impacts on firm performance (Zhang et al., 2009; Knight & Liesch, 2016).

Second, this research has enriched evidence of the relationships between entrepreneurial factors and firm performance by considering entrepreneurship as a multidisciplinary subject (Zhang et al., 2009) and by incorporating a series of novel constructs to investigate this relationship. As a result, this research made a contribution to model-building, in addition to the contexualisation of the study.

Finally, another contribution of this study stems from the fact that it furthers knowledge in the current area of study by an improved research design, including the research methodology. Most of the research relating to born global firms in China uses primary data analysis and qualitative analysis, including surveys (Zhang, Tansuhaj, & McCullough, 2009; Zhou et al., 2007), interviews (Su, 2013), or case studies (Liu, Xiao, & Huang, 2008; Lin, Mercier-Suissa, & Salloum, 2016; Qu & Avgeris, 2013). However, this study not only uses both secondary and primary data, it also combined the longitudinal analysis and a structural equation model. Overall, the research has added significant new perspectives to research design in this field.

In the following sub-sections, the researcher further elucidates the contributions of the present study.

8.4.1 Secondary data analysis contributions

By employing a novel dataset and conducting a panel data analysis, this study illuminates the question of whether the born global model is an effective choice for Chinese SMEs to apply. In terms of the contributions of the secondary data analysis component of this study, three primary contributions are worth underlining.

First, the findings provide an effective response to Clegg et al.'s (2016) call for an investigation to be carried out into the connections between the choice of internationalisation model and the performance of SMEs in the context of China. The current study shows that the born global model can affect the performance of Chinese SMEs. Firms that followed the born global model in the samples were found to have achieved a higher performance than the traditional internationalised firms. This phenomenon can be attributed to the nature of born global firms: such firms focus on the global market from the initiation of operations, they engage in a greater degree of risk-taking than their counterparts, they are motivated to seize opportunities, and they have considerable potential for further development.

Second, based on the complex context of China, this study has helped to integrate and conceptualise the previous studies conducted on the born global model and the significance of the model regarding firm performance. It has advanced the understanding of the born global model in world's largest transitional economy by considering China as a new market, and it has thereby contributed to the growing body of literature on this subject. Prior studies have suggested that the born global model is easier to apply to firms in small, open economies (Gabrielsson, 2005), economies with small domestic markets (Moen, 2002), or knowledge-intensive economies (Arenius, 2005). This is because in these economies, firms are more motivated to expand their businesses abroad. However, given China's status as a giant and emerging country, the appearance of born global firms is still a new phenomenon. Accordingly, the research on born global firms is rather limited. Thus, this study added to the understanding of the born global firms in China.

The second part of the panel data analysis has addressed the call of Knight and Liesch (2016) to focus on the firm-level factors that induces firms to adopt born global model

to internationalise. This part of study contributes to the literature by highlighting the importance of firm location and R&D investment in born global firms. Theoretically, location is not always recognised as an important factor in the born global literature. However, in the context of China, due to some preferable governmental policies which support development in certain regions, the locational advantages are found to be a critical factor contributing towards firm success.

8.4.2 Primary data analysis contributions

The primary data analysis has been used to address the question of how entrepreneurship affects the performance of born global firms. There are three contributions to the literature from this part of the study.

First, The research linked to Chinese born global firms only focuses on certain aspects of the drivers of born global firms, such as the impact of international entrepreneurial capability on the performance of born global firms (Zhang et al., 2009) and the role of leadership played in born global firms (Lin, Mercier-Suissa & Salloum, 2016). The findings provide a useful response to the calls of Zhang (2009) and Knight (2016) for an investigation of the effects that other entrepreneurial factors (in addition to international entrepreneurial capability) have on firm performance. In this study, the researcher has incorporated two new constructs – market orientation and international knowledge – along with the proposed constructs of international entrepreneurial capability, and it has examined the way in which they are both related to firm performance. The empirical results demonstrate that international knowledge is essential for born global firms in that it enables them to achieve better performance.

Second, as distinct from the research undertaken by Zhang (2009), where international knowledge was an indicator of international entrepreneurial capability, the current research treats international knowledge as an independent construct. Therefore, a second-order structural equation model was employed in this part of study to enrich the theoretical entrepreneurship model. In this model, the level of firm entrepreneurship is measured by three dimensions: market orientation, international entrepreneurial capability, and international knowledge. Each of these is considered to be a latent

variable that underlies multiple dimensions. Moreover, each first-order construct is measured using different indicators. Importantly, the scale behaves well, and the results are statistically significant.

Finally, the results of this part of the study contribute to the literature concerning the question of how entrepreneurship enables born global firms to gain competitive advantages in the global market. The empirical analysis results of the SEM model show that entrepreneurship can improve firm competitiveness by way of its efforts regarding adaptation, absorption, risk-taking, marketing, innovation, networking, and international knowledge.

8.5 Managerial implications of the research findings

The findings of this study have several managerial implications for the entrepreneurs of SMEs. First, the born global model has been found to be an applicable internationalisation strategy for SMEs that are eager to initiate their international business. The study results suggest that when considered in relation to the traditional internationalisation model, the born global model can significantly improve firm performance. Thus, this study provides entrepreneurs with an alternative strategic choice after they have decided to initiate internationalisation. As previously discussed, internationalisation is an inevitable trend for all firms; in view of this, entrepreneurs of SMEs in China should be aware that their firms can gain more competitive advantages in the global market if they internationalise earlier using the born global model. This is because the findings suggest that this type of internationalisation model is beneficial in enhancing firm performance.

Second, this study examined the several firm specific factors that entrepreneurs should consider before they decide to follow the born global path. It provides the entrepreneurs of Chinese SMEs with a comprehensive understanding of the multiple factors that important for the born global firms. Most of the studies relating to the born global model focus on topics such as entrepreneurship, and this is because scholars believe that born global firms are more entrepreneurially motivated in comparison to the traditional exporters; this belief stems from the way in which born global firms are also referred to as entrepreneurial firms, thereby meaning that they have perceived the world as one

market since their inception. Consequently, they do not confine their operations to a single country (Sylvie & Colin, 2004). Thus, the investigation of traditional influencing factors such as size, location, and R&D investment are overlooked by most researchers. However, as mentioned before, the concept of "born global" is not familiar among Chinese entrepreneurs at present, and entrepreneurial capabilities are not the most significant factors for them. Due to the widespread use of Uppsala model and its easier application among Chinese firms, entrepreneurs are more accustomed to the consideration of firm specific factors such as location, size when formulating an internationalisation strategy. Therefore, this study's analytical findings enable entrepreneurs to understand the complexity of the born global model, thereby encouraging them to pay closer attention to firm-specific factors.

Another implication derived from the current study relates to the importance of locational advantages. As aforementioned, both the central and local government have been implementing a series of regional preferential policies to facilitate the development of SMEs in certain regions. Entrepreneurs must establish a familiarity with these preferential policies and, moreover, they should pay attention to the issues of when and how such a home-specific locational advantage exists.

Finally, in the primary data analysis, the researcher found that one of the key internal factors influencing firm performance is international knowledge. It may therefore be suggested that for SMEs, the key to success could be that an entrepreneur should possess a considerable degree of international knowledge. Previous international knowledge may reduce the risk associated with international markets, and these knowledge can significantly truncate the preparation period required by a firm. Moreover, advantages are associated with the greater confidence enjoyed regarding operations in the international market. This illuminates the essential nature of managers hiring employees who possess sufficient international knowledge.

8.6 Governmental policy implications of the research findings

This study's findings also lead to several practical implications for policymakers. These are listed as follows:

1. The government should continuously promote the relevant preferential regional policies. Furthermore, to ensure that SMEs are familiar with the latest policies, specialised guidance for individual firms conducting international business should be provided.
2. The government should not only identify born global firms from the entire group of operating SMEs by establishing a formal criterion, but also it should encourage SMEs to adopt the born global model of internationalisation. This will allow those SMEs engaging in international business to demonstrate international competitiveness even during the preliminary stages of their internationalisation.
3. The government should also encourage banks and other financial industries to provide more effective financing support for born global firms. This could involve issuing loans with lower interest rates, extending the loan repayment period, and other measures.
4. The government could organise relevant events and workshops to promote communication between entrepreneurs, thereby helping these firms to enhance their competitive capabilities.

8.7 Limitations of this study

It is important to acknowledge the limitations associated with this study as these can inform future research directions. The most notable limitation is the relatively small sample size, which may directly affect the generalisability of the results. Many researchers recognise challenges linked to data collection from firms, and this is especially the case regarding SMEs in China (Brouthers & Xu, 2002; Peng & Luo, 2000). Problems such as false information, missing information, and a lack of transparency are common issues that permeate into the data collection process. Importantly, these problems are mainly caused by the lack of central SME data and the delay of information disclosure in China. The secondary data sample used in this study incorporated the listed SMEs because only these firms disclosed relatively complete information. Furthermore, in this sample, born global firms only accounted for 5.78% of the export SMEs, and this is because most export firms have chosen to follow the traditional path towards internationalisation.

Another limitation relates to the restricted number of variables and constructs introduced in the present study's model. The number of variables can affect the significance of the relationship studied. However, as aforementioned, the disclosed information is scarce and incomplete, and the record of many SMEs is even blank until 2008. As a result, the variables used in this study are also limited by data availability. Furthermore, the measurement of certain constructs in the primary data analysis, such as firm performance, is facilitated only by a firm's sales in a particular year (namely, 2015).

The third limitation is that this study is based on the context of China. This means that the findings may have limited generalisability to other countries. Countries differ in relation to various aspects, including culture, demography, social elements, economic elements, and others, thereby highlighting that the conclusions generated from this study may not be applicable for other countries.

The fourth limitation is due to the geographical sample that was the basis of this study. As discussed in Chapter 4 (4.6.2.2), the questionnaire was distributed in Hubei province, so the firms investigated in this study are limited to a single region, which leads to a relatively small sample size. And unlike the firm owners in developed regions, firm owners in Hubei Province are less willing to provide some private information such as annual income, export sales etc. This caused some limitations in the data collection process and effectively lowered the valid sample size. Although informed by the literature, the questionnaire was designed from three aspects to measure entreprenurship capabilities, there were no dynamic variables included. Moreover, it is arguable that the scales used in the questionnaire were not fully effective, because the scores were clustered on the high end. According to Warmbrod (2014), the design of a scale needs a dispersion of responses to separate out the critical few on which to focus attention.

Finally, this study only used the data on firm's exports to distinguish born global firms from those that had adopting traditional market entry modes. In Chapters 3 and 4 (3.10 and 4.5.1.2), the definition of the born global mode adopted in this study is discussed, (i.e. both the standard one and the one adopted in this study). This did not include firms that concentrate on foreign direct investment (FDI) or are 'born again globals', etc.

8.8 Recommendations for future studies

Based on the limitations proposed before, it is worthwhile to discuss the recommendations for future research.

In this study, the secondary data was collected from the listed SMEs only, which limited the sample size. Further studies can try to get access to other sources that identify SME's, especially the ones that not yet listed. It is possible that there are many SMEs in China which fit the criteria of born globals, but do not yet not qualify for listing.

In addition, due to the restricted number of variables and constructs, further studies can attempt to investigate a greater number of variables, such as those relating to the institutional environment, which are believed to have a powerful impact on creating or destroying born global firms in a country (Manolova et al., 2008).

Moreover, because this study is limited in the context of China, the researcher suggests that further studies should test the applicability of the framework within the context of other countries. Cultural, political, and economic variables should be included in future studies, and the prospect of a comparative study of born global firms would be a worthwhile endeavour.

Based on the fourth limitation mentioned before, the questionnaire was only distributed to SMEs located in Hubei province. Thus, it would be worthwhile to conduct further research by designing a similar study that focuses on SMEs in other regions or specific industries. With respect to the design of the questionnaire, it could be improved by adopting dynamic variables such as return on assets (ROA), return on equity (ROE) and so on. These indicators can better reflect the changes in firm's performance and thus measure how firms' capabilities influence their performance in long run. Moreover, the limitation caused by scale design could usefully be addressed by improving the design of scales in order to avoid the skewing of answers towards the high end, by asking questions from different perspectives, or reordering the scales.

Finally, the defining criteria for 'born global'used in this study were only related with a firm's export intensity and the year of its first export activity. Future studies could

benefit from a broader definition, so that firms with FDI experience, ‘born again global’ firms and others could be included in the studies.

8.9 Chapter summary

It can confidently be stated that this study has satisfied its research aim and achieved its research objectives, primarily owing to its effective examination of the differences in firm performance as produced by the choice of internationalisation strategy. Moreover, the aim and objectives of this study have been fulfilled by the author’s identification of the key factors (both firm-specific and entrepreneurial) that influence the choice to follow the born global and the performance of born global firms.

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Appendix 1

A: First part of Secondary data analysis results

Descriptive statistics

	Mean	Std. Err.	[95% Conf. Interval]	
ln_totalturnover	11.11513	.0166754	11.08243	11.14782
Born global	.0874937	.0044873	.0786961	.0962913
ln_totalasset	11.31889	.0177743	11.28404	11.35373
ln_rd	7.528743	.0185377	7.492399	7.565087
ln_salecost	7.931203	.0190877	7.89378	7.968625
ln_financialcost	6.635482	.0257574	6.584983	6.685981
ln_capitalintensity	-1.589594	.011475	-1.612092	-1.567097
ln_inventoryintensity	-1.912551	.0103142	-1.932773	-1.89233

N=3966

Correlation

	1	2	3	4	5	6	7
1. born global	1.0000						
2. ln_totalasset	0.0019	1.0000					
3. ln_rd	0.0355	0.6218	1.0000				
4. ln_salecost	-0.0459	0.6864	0.5144	1.0000			
5. ln_financialcost	0.0170	0.7232	0.3900	0.4789	1.0000		
6. ln_capitalintensity	-0.0021	0.0999	0.0145	0.0089	0.2402	1.0000	
7. ln_inventoryintensity	0.0233	-0.1106	-0.0335	0.0117	-0.0003	-0.0138	1.0000

N=3423

Multicollinearity analysis

Variable	VIF	Sort VIF	Tolerance	R-Squared
borngloba	1.01		1.00	0.9913
0.0087				

ln_rd	1.70	1.30	0.5890
0.4110			
ln_totalasset	3.82	1.95	0.2617
0.7383			
ln_salecost	1.99	1.41	0.5036
0.4964			
ln_financialcost	2.29	1.51	0.4367
0.5633			
ln_capitalintensity	1.08	1.04	0.9243
0.0757			
ln_inventoryintensity	1.05	1.02	0.9562
0.0438			

N=3423; Mean VIF=1.85

Pooled OLS regression

Source	SS	df	MS
Model	2706.47222	18	
Residual	150.359568		
Total	736.519742		
	3426	.214979493	

Number of obs =3445

F(18, 3426) =699.41

Prob >F =0.0000

R-squared=0.7861

Adj R-squared=0.7850

Root MSE = .46366

In_totalturnover	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Born global	.0891304	.0281563	3.17	0.002	.0339255	.1443353
Ownership1						
2	-.0385586	.0281492	-1.37	0.171	-.0937495	.0166323
3	-.1124172	.0400603	-2.81	0.005	-.1909618	-.0338727
4	-.0027643	.0406057	-0.07	0.946	-.0823781	.0768494
5	-.5501107	.0935535	-5.88	0.000	-.733537	-.3666844
In_rd L1	.0843705	.0088975	9.48	0.000	.0669255	.1018155
In_totalasset L1	.6578274	.0152975	43.00	0.000	.6278343	.6878205
In_salecost L1	.1383731	.0093492	14.80	0.000	.1200424	.1567038
In_financialcost L1	.0488531	.0077288	6.32	0.000	.0336996	.0640066

In_capitalintensity L1	-.0065012	.0118151	-0.55	0.582	-.0296667	.0166642
In_inventoryintensityL1	.0853017	.0127644	6.68	0.000	.060275	.1103283
Wave						
2008	-.2347478	.4646213	-0.51	0..613	-1.145711	.676215
2009	-.4960387	.4643832	-1.07	0.286	-1.406535	.4144573
2010	-.355009	.4643274	-0.76	0.445	-1.265396	.5553776
2011	-.4270407	.4643482	-0.92	0.358	-1.337468	.4833868
2012	-.6175728	.4643551	-1.33	0.184	-1.528014	.2928682
2013	-.6648533	.4643943	-1.43	0.152	-1.575371	.2456645
2014	-.6872269	.4643405	-1.48	0.139	-1.597639	.2231853
_cons	2.464646	.4780101	5.16	0.000	1.527433	3.40186

Random effects regression

Random-effects (GLS) regression — Number of obs=3445

Group variable: iid — Number of groups=772

R-sq: within=0.6257 — Obs per group: min=1

between=0.8110 — avg=4.5

overall=0.7621 — max=8

corr(u_i, X)=0 (assumed) — Wald chi2(11)=7081.86

Prob>chi2 = 0.0000

In_totalturnover	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Born global	.0961334	.0466539	2.06	0.039	.0046935	.1875733
Ownership1						
2	.0794364	.0546767	1.45	0.146	-.027728	.1866007
3	-.1037023	.0741206	-1.40	0.162	-.248970	.0415713
4	.0006394	.0760023	0.01	0.993	-.1483224	.1496013
5	-.3518849	.186008	-1.89	0.059	-.7164539	.0126841
In_rd L1	.0399961	.0088591	4.51	0.000	.0226326	.0573596
In_totalasset L1	.4551781	.0136622	33.32	0.000	.4284006	.4819556
In_salecost L1	.1748022	.0130483	13.40	0.000	.149228	.2003765

In_financialcost L1	.0291583	.0063433	4.60	0.000	.0167257	.0415908
In_capitalintensity L1	-.0048936	.013084	-0.37	0.708	-.0305377	.0207506
In_inventoryintensityL1	.1216211	.0142378	8.54	0.000	.0937155	.1495266
_cons	4.456343	.0875916	50.88	0.000	4.284667	4.62802
Sigma_u	.37066127					
Sigma_e	.26996872					
rho	.65338798	(fraction of variance due to u_i)				

Breusch-Pegan Lagrangian multiplier test

Breusch and Pagan Lagrangian multiplier test for random effects

In_toatlturnover [iid,t] =Xb + u[iid] + e[iid,t]

Estimated results:

	Var	sd = sqrt(Var)
In_totalturnover	.9997073	.9998536
E	.0728831	.2699687
u	.1373898	.3706613

Test: Var(u) = 0

chibar2(01)= 2421.57

Prob> chibar2 = 0.0000

Fixed effects regression

Fixed-effects (within) regression Number of obs=3445

Group variable: iid Number of groups=772

R-sq: within=0.6311 Obs per group: min=1

between=0.7782 avg=4.5

overall=0.7365 max=8

corr(u_i, Xb)=0.4479 F(7,2666)=651.63

In_totalturnover	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]

Born global	.1715651	.0814958	2.11	0.035	.0117637	.3313665
Ownership1						
2	0	(omitted)				
3	0	(omitted)				
4	0	(omitted)				
5	0	(omitted)				
In_rd L1	.0477217	.0095712	4.99	0.000	.0289541	.0664894
In_totalasset L1	.3684153	.0160538	22.95	0.000	.3369361	.3998944
In_salecost L1	.2138098	.0180172	11.87	0.000	.1784807	.2491388
In_financialcost L1	-.0065436	.0066453	-0.98	0.325	-.0195741	.0064869
In_capitalintensity L1	-.0091734	.0153604	-0.60	0.550	-.0392929	.0209461
In_inventoryintensityL1	.1251093	.0171701	7.29	0.000	.0914413	.1587773
_cons	5.295822	.0943798	56.11	0.000	5.110757	5.480887
Sigma_u	.52925984					
Sigma_e	.26996872					
rho	.79353173	(fraction of variance due to u_i)				

F test that all u_i=0 : F(771, 2666)= 10.84 Prob>F =0.0000

Hausman test

--- Coefficients ----

	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	Fixed	.	Difference	S.E
borngloba l	.1715651	.0961334	.0754317	.072287
ln_rd L1.	.0477217	.0399961	.0077256	.0048592
ln_totalas~t L1.	.3684153	.4551781	-.0867628	.0100288
ln_salecost L1.	.2138098	.1748022	.0390075	.0138394
ln_financi~t L1.	-.0065436	.0291583	-.0357019	.0029966
ln_capital~y L1.	-.0091734	-.0048936	-.0042799	.0095794
ln_invento~y L1.	.1251093	.1216211	.0034883	.0112184

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(7) = (b-B)'[(V_b-V_B)^(-1)](b-B)

= 362.54

Prob>chi2 = 0.0000

B: Second part of Secondary data analysis results

Descriptive statistics

	Mean	Std. Err.	[95% Conf. Interval]	
Born global	.0887886	.0045053	.0799557	.0976214
In_totalasset	11.315347	.017746	11.28055	11.35014
In_rd	7.527408	.0185009	7.491135	7.56368
In_salecost	7.932504	.0191094	7.895039	7.969969
In_financialcost	6.630087	.0257044	6.579692	6.680482
In_capitalintensity	-1.59523	.0115844	-1.617942	-1.572518
In_leverage	3.702002	.0073822	3.687529	3.716476

N=3987

Correlation

	1	2	3	4	5	6
1. ln_totalasset	1.0000					
2. ln_rd	0.6218	1.0000				
3. ln_salecost	0.6851	0.5146	1.0000			
4. ln_financialcost	0.7235	0.3911	0.4774	1.0000		
5. ln_capitalintensity	0.1001	0.0145	0.0082	0.2398	1.0000	
6. ln_leverage	0.0963	0.0203	0.0960	0.4069	0.1059	1.0000

N=3987

Multicollinearity analysis

Variable	VIF	Sort VIF	Tolerance	R-Squared

ln_rd	1.69	1.30	0.5916	0.4084
ln_totalasset	3.95	1.99	0.2529	0.7471
ln_salecost	1.95	1.40	0.5127	0.4873
ln_financialcost	2.94	1.71	0.3403	0.6597
ln_capitalintensity	1.08	1.04	0.9247	0.0753
ln_leverage	1.34	1.16	0.7483	0.2517

Mean VIF 2.16

N=3987

Pooled logit regression

Logistic regression Number of obs = 3242

Wald chi2(21) = 35.10

Prob > chi2 = 0.0275

Log pseudolikelihood=-974.74997 Pseudo R2 = 0.0445

(Std. Err. adjusted for 724 clusters in id)

Born global	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
Province 1						
2	.1832448	1.256666	0.15	0.884	-2.279776	2.646265
3	0	(empty)				
4	1.297531	1.323413	0.98	0.327	-1.296311	3.891374
5	1.834646	.7890278	2.33	0.020	.2881801	3.381112
6	1.747867	.783427	2.23	0.026	.2123786	3.283356
7	1.451392	.7920979	1.83	0.067	-.1010909	3.003876
8	1.398657	1.117501	1.25	0.211	-.7916044	3.588918
9	2.553539	1.04963	2.43	0.015	.4963025	4.610776

10	1.737072	1.079679	1.61	0.108	-.3790602	3.853204
11	1.04142	1.26832	0.82	0.412	-1.444441	3.527282
12	0	(empty)				
13	1.146921	.9061308	1.27	0.206	-.6290626	2.922905
14	1.122069	1.018195	1.10	0.270	-.8735562	3.117694
15	0	(empty)				
16	2.645329	1.103375	2.40	0.017	.4827533	4.807905
17	1.040387	1.386521	0.75	0.453	-1.677144	3.757918
18	0	(empty)				
19	0	(empty)				
20	1.28531	1.262802	1.02	0.309	-1.189738	3.760357
21	0	(empty)				
22	0	(empty)				
23	0	(empty)				
24	2.610026	1.267105	2.06	0.039	.1265456	5.093507
26	0	(empty)				
29	0	(empty)				
30	0	(empty)				
31	0	(empty)				
In_rd L1	.2570002	.1345042	1.91	0.056	-.0066231	.5206235
In_totalasset L1	-.1051526	.1649705	-0.64	0.524	-.4284889	.2181837
In_salecost L1	-.3199765	.1371924	-2.33	0.020	-.5888688	-.0510843
In_financialcost L1	.1172887	.1062585	1.10	0.270	-.0909741	.3255515
In_capitalintensity L1	-.1407368	.1532039	-0.92	0.358	-.4410109	.1595372
In_leverage L1	.0040362	.2111519	0.02	0.985	-.4098139	.4178863
_cons	-3.086967	1.829272	-1.69	0.091	-6.672275	.4983416

Pooled logistic regression

Logistic regression Number of obs = 3242

Wald chi2(21) = 35.10

Prob > chi2 = 0.0275

Log pseudolikelihood=-974.74997 Pseudo R2 = 0.0445

(Std. Err. adjusted for 724 clusters in id)

Born global		Odds ratio	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
Province	1						
	2	1.201108	1.509392	0.15	0.884	.1023072	14.10128
	3	1	(empty)				
	4	3.660249	4.844022	0.98	0.327	.2735389	48.97812
	5	6.262918	4.941616	2.33	0.020	1.333997	29.40346
	6	5.742343	4.498706	2.23	0.026	1.236616	26.66511
	7	4.269055	3.381509	1.83	0.067	.9038509	20.16354
	8	4.049756	4.525606	1.25	0.211	.4531172	36.19489
	9	12.85251	13.49038	2.43	0.015	1.642636	100.5622
	10	5.680687	6.133319	1.61	0.108	.6845044	47.14389
	11	2.833239	3.593453	0.82	0.412	.235878	34.03133
	12	1	(empty)				
	13	3.148484	2.852939	1.27	0.206	.5330913	18.59523
	14	3.071201	3.127081	1.10	0.270	.4174643	22.59421
	15	1	(empty)				
	16	14.08808	15.54444	2.40	0.017	1.62053	122.4747
	17	2.830312	3.924287	0.75	0.453	.186907	42.8591
	18	1	(empty)				
	19	1	(empty)				
	20	3.615787	4.566024	1.02	0.309	.3043011	42.96375
	21	1	(empty)				
	22	1	(empty)				

23	1	(empty)				
24	13.59941	17.23188	2.06	0.039	1.134901	162.9604
26	1	(empty)				
29	1	(empty)				
30	1	(empty)				
31	1	(empty)				
In_rd L1	1.293045	.17392	1.91	0.056	.9933988	1.683077
In_totalasset L1	.9001871	.1485043	-0.64	0.524	.6514928	1.243816
In_salecost L1	.7261661	.0996245	-2.33	0.020	.5549547	.9501986
In_financialcost L1	1.124444	.1194817	1.10	0.270	.9130413	1.384794
In_capitalintensity L1	.8687179	.1330909	-0.92	0.358	.6433857	1.172968
In_leverage L1	1.004044	.2120059	0.02	0.985	.6637737	1.518748
_cons	0456402	.0834883	-1.69	0.091	.0012655	1.645989

Random effects logit regression

Random-effects logistic regression — Number of obs = 3242

Group variable: iid — Number of groups = 724

Random effects u_i ~ Gaussian — Obs per group: min =1

avg=4.5

max=8

Integration method: mvaghermite — Integration points = 12

Wald chi2(21) = 31.56

Log likelihood = -304.13512 — Prob > chi2 = 0.0648

Born global	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Province 1						
2	5.468767	2.949203	1.85	0.064	-.3115656	11.2491
3	0	(empty)				
4	7.646973	2.93956	2.60	0.009	1.885541	13.4084
5	8.818231	2.176369	4.05	0.000	4.552626	13.08384

6	8.59345	2.200189	3.91	0.000	4.281159	12.90574
7	7.569469	2.127993	3.56	0.000	3.398679	11.74026
8	7.662254	2.67537	2.86	0.004	2.418626	12.90588
9	11.45937	2.650329	4.32	0.000	6.26482	16.65392
10	7.905229	3.227954	2.45	0.014	1.578555	14.2319
11	6.920099	3.302449	2.10	0.036	.4474177	13.39278
12	0	(empty)				
13	7.072869	2.272515	3.11	0.002	2.618822	11.52692
14	6.406118	2.695164	2.38	0.017	1.123693	11.68854
15	0	(empty)				
16	9.479024	2.636696	3.60	0.000	4.311195	14.64685
17	8.903183	3.370787	2.64	0.008	2.296563	15.5098
18	0	(empty)				
19	0	(empty)				
20	6.983	2.705414	2.58	0.010	1.680487	12.28551
21	0	(empty)				
22	0	(empty)				
23	0	(empty)				
24	9.773466	3.490837	2.80	0.005	2.931552	16.61538
26	0	(empty)				
29	0	(empty)				
30	0	(empty)				
31	0	(empty)				
In_rd L1	.454877	.2542178	1.79	0.074	-.0433807	.9531347
In_totalasset L1	-.352241	.4263248	-0.83	0.409	-1.187822	.4833402
In_salecost L1	-.2481399	.3114898	-0.80	0.426	-.8586488	.3623689
In_financialcost L1	.0512768	.2445388	0.21	0.834	-.4280105	.5305641
In_capitalintensity L1	-.1852088	.3635139	-0.51	0.610	-.8976828	.5272653
In_leverage L1	-.2480868	.5383416	-0.46	0.645	-1.303217	.8070433
_cons	-16.31194	4.478115	-3.64	0.000	-25.08889	-7.534996
/lnsig2u	4.340346	.1100242			4.124702	4.555989

sigma_u	8.759798	.4818948	7.864438	9.757094
rho	.9588889	.0043373	.9494948	.9665972

Likelihood-ratio test of rho=0: chibar2(01) =1341.23 Prob >= chibar2 = 0.000

Random effects logistic regression

Random-effects logistic regression — Number of obs = 3242

Group variable: iid — Number of groups = 724

Random effects u_i ~ Gaussian — Obs per group: min =1

avg=4.5

max=8

Integration method: mvaghermite — Integration points = 12

Wald chi2(21) = 31.56

Log likelihood = -304.13512 — Prob > chi2 = 0.0648

Born global		OR	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Province	1						
	2	237.1675	699.4552	1.85	0.064	.7322996	76810.680
	3	1	(empty)				
	4	2094.296	6156.309	2.60	0.009	6.589918	665573.7
	5	6756.301	14704.2	4.05	0.000	94.88128	481102.4
	6	5396.196	11872.65	3.91	0.000	72.32419	402616.7
	7	1938.11	4124.284	3.56	0.000	29.92455	125524.7
	8	2126.546	5689.297	2.86	0.004	11.23041	402674.2
	9	94785.27	251212.1	4.32	0.000	525.7471	1.71e+07
	10	2711.424	8752.354	2.45	0.014	4.847948	1516481
	11	1012.42	3343.467	2.10	0.036	1.564268	655255.5
	12	1	(empty)				
	13	1179.528	2680.495	3.11	0.002	13.71955	101409
	14	605.5383	1632.025	2.38	0.017	3.076192	119198.2
	15	1	(empty)				
	16	13082.41	34494.35	3.60	0.000	74.52952	2296400

17	7355.35	24793.31	2.64	0.008	9.939958	5442796
18	1	(empty)				
19	1	(empty)				
20	1078.148	2916.837	2.58	0.010	5.368168	216536.3
21	1	(empty)				
22	1	(empty)				
23	1	(empty)				
24	17561.54	61304.46	2.80	0.005	18.75672	1.64e+07
26	1	(empty)				
29	1	(empty)				
30	1	(empty)				
31	1	(empty)				
In_rd L1	1.57598	.400642	1.79	0.074	.9575468	2.593828
In_totalasset L1	7031106	.2997535	-0.83	0.409	.3048845	1.621481
In_salecost L1	.7802508	.2430402	-0.80	0.426	.4237343	1.436729
In_financialcost L1	1.052614	.2574051	0.21	0.834	.6518046	1.699891
In_capitalintensity L1	.8309308	.3020549	-0.51	0.610	.4075128	1.694293
In_leverage L1	.7802922	.4200637	-0.46	0.645	.2716565	2.241271
_cons	8.24e-08	3.69e-07	-3.64	0.000	1.27e-11	.0005341
/lnsig2u	4.340346	.1100242			4.124702	4.555989
sigma_u	8.759798	.4818948			7.864438	9.757094
rho	.9588889	.0043373			.9494948	.9665972

Likelihood-ratio test of rho=0: chibar2(01) = 1341.23 Prob >= chibar2 = 0.000

Fixed effects logit regression

Conditional fixed-effects logistic regression — Number of obs =58

Group variable: iid — Number of groups=12

Obs per group: min =2

avg =4.8

max =7

LR chi2 (6) =3.59

Log likelihood = -19.845211 — Prob > chi2 = 0.7321

Born global	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]
Province					
1	0	(empty)			
2	0	(empty)			
3	0	(empty)			
4	0	(empty)			
5	0	(omitted)			
6	0	(omitted)			
7	0	(omitted)			
8	0	(omitted)			
9	0	(empty)			
10	0	(empty)			
11	0	(empty)			
12	0	(empty)			
13	0	(empty)			
14	0	(omitted)			
15	0	(empty)			
16	0	(empty)			
17	0	(empty)			
18	0	(empty)			
19	0	(empty)			
20	0	(empty)			
21	0	(empty)			
22	0	(empty)			
23	0	(empty)			
24	0	(omitted)			
26	0	(empty)			
29	0	(empty)			
30	0	(empty)			

31	0	(empty)				
In_rd L1	.3373753	.4188692	0.81	0.421	-.4835933	1.158344
In_totalasset L1	-.9638174	1.318083	-0.73	0.465	-3.547213	1.619578
In_salecost L1	.5906863	.8899218	0.66	0.507	-1.153528	2.334901
In_financialcost L1	-.5622799	.7139759	-0.79	0.431	-1.961647	.8370872
In_capitalintensity L1	.5205965	1.059387	0.49	0.623	-1.555765	2.596958
In_leverage L1	-1.148801	1.725804	-0.67	0.506	-4.531315	2.233712

Fixed effects logit regression

Conditional fixed-effects logistic regression — Number of obs =58

Group variable: iid — Number of groups=12

Obs per group: min =2

avg =4.8

max =7

LR chi2 (6) =3.59

Log likelihood = -19.845211 — Prob > chi2 = 0.7321

Born global	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
Province						
1	0	(empty)				
2	0	(empty)				
3	0	(empty)				
4	0	(empty)				
5	0	(omitted)				
6	0	(omitted)				
7	0	(omitted)				
8	0	(omitted)				
9	0	(empty)				

10	0	(empty)				
11	0	(empty)				
12	0	(empty)				
13	0	(empty)				
14	0	(omitted)				
15	0	(empty)				
16	0	(empty)				
17	0	(empty)				
18	0	(empty)				
19	0	(empty)				
20	0	(empty)				
21	0	(empty)				
22	0	(empty)				
23	0	(empty)				
24	0	(omitted)				
26	0	(empty)				
29	0	(empty)				
30	0	(empty)				
31	0	(empty)				
In_rd L1	.3373753	.4188692	0.81	0.421	-.4835933	1.158344
In_totalasset L1	-.9638174	1.318083	-0.73	0.465	-3.547213	1.619578
In_salecost L1	.5906863	.8899218	0.66	0.507	-1.153528	2.334901
In_financialcost L1	-.5622799	.7139759	-0.79	0.431	-1.961647	.8370872
In_capitalintensity L1	.5205965	1.059387	0.49	0.623	-1.555765	2.596958
In_leverage L1	-1.148801	1.725804	-0.67	0.506	-4.531315	2.233712

Fixed effects logistic regression

Conditional fixed-effects logistic regression Number of obs =58

Group variable: iid

Number of groups=12

Obs per group: min =2

avg =4.8

max =7

LR chi2 (6) =3.59

Log likelihood = -19.845211

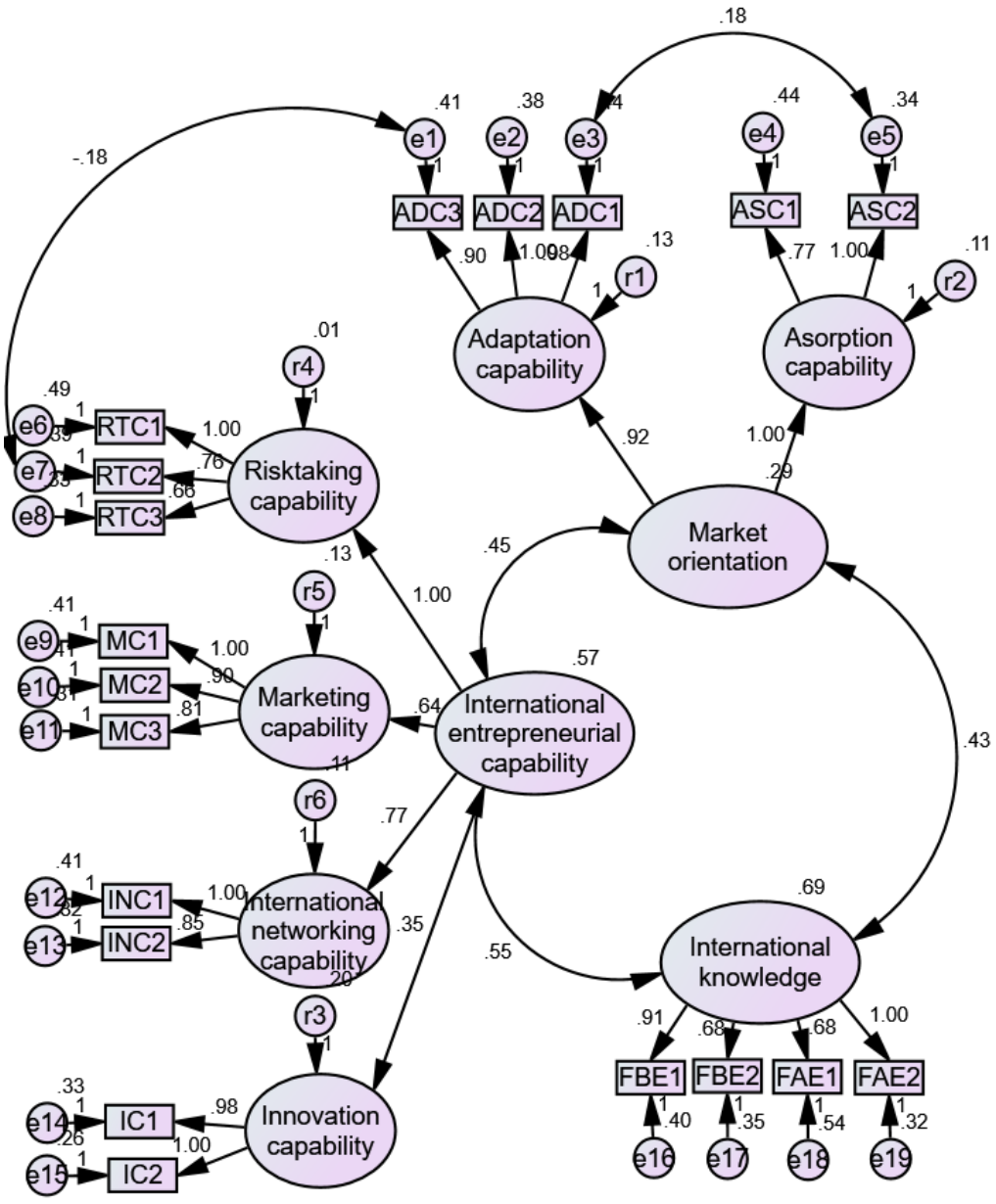
Prob > chi2 = 0.7321

Born global	OR	Std. Err.	z	P>|z|	[95% Conf. Interval]
Province					
1	1	(empty)			
2	1	(empty)			
3	1	(empty)			
4	1	(empty)			
5	1	(omitted)			
6	1	(omitted)			
7	1	(omitted)			
8	1	(omitted)			
9	1	(empty)			
10	1	(empty)			
11	1	(empty)			
12	1	(empty)			
13	1	(empty)			
14	1	(omitted)			
15	1	(empty)			
16	1	(empty)			
17	1	(empty)			
18	1	(empty)			
19	1	(empty)			
20	1	(empty)			
21	1	(empty)			
22	1	(empty)			
23	1	(empty)			

24	1	(omitted)				
26	1	(empty)				
29	1	(empty)				
30	1	(empty)				
31	1	(empty)				
In_rd L1	1.401265	.5869468	0.81	0.421	.6165639	3.184655
In_totalasset L1	.381434	.5027617	-0.73	0.465	.0288048	5.050957
In_salecost L1	1.805227	1.606511	0.66	0.507	.3155215	10.32844
In_financialcost L1	.5699082	.4069008	-0.79	0.431	.1406266	2.30963
In_capitalintensity L1	1.683031	1.782982	0.49	0.623	.2110279	13.42284
In_leverage L1	.3170166	.5471084	-0.67	0.506	.0107665	9.334453

Appendix 2: Entrepreneurship CFA SEM 21 AMOS results

A: Measurement model



Chi-Square=261.220; Prob=.000; GFI=.861; AGFI=.813
;CFI=.910; TLI=.890; RMSEA=.071

Notes for Model (Default model)

Computation of degrees of freedom (Default model)

Number of distinct sample moments: 190

Number of distinct parameters to be estimated: 49

Degrees of freedom (190 - 49): 141

Result (Default model)

Minimum was achieved

Chi-square = 261.220

Degrees of freedom = 141

Probability level = .000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	49	261.220	141	.000	1.853
Saturated model	190	.000	0		
Independence model	19	1501.712	171	.000	8.782

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.046	.861	.813	.639
Saturated model	.000	1.000		
Independence model	.275	.283	.204	.255

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.826	.789	.912	.890	.910
Saturated model	1.000		1.000		1.000

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.825	.681	.750
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	120.220	78.653	169.611
Saturated model	.000	.000	.000
Independence model	1330.712	1210.588	1458.269

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	1.528	.703	.460	.992
Saturated model	.000	.000	.000	.000
Independence model	8.782	7.782	7.079	8.528

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.071	.057	.084	.007
Independence model	.213	.203	.223	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	359.220	372.200	513.447	562.447

Model	AIC	BCC	BIC	CAIC
Saturated model	380.000	430.331	978.024	1168.024
Independence model	1539.712	1544.745	1599.514	1618.514

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	2.101	1.858	2.390	2.177
Saturated model	2.222	2.222	2.222	2.517
Independence model	9.004	8.302	9.750	9.034

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	112	120
Independence model	24	25

Estimates (born global - Default model)

Scalar Estimates (born global - Default model)

Maximum Likelihood Estimates

Regression Weights: (born global - Default model)

			Estimate	S.E.	C.R.	P	Label
Risktaking_capability	<--	International_entrepreneurial_capability	1.000				
Marketing_capability	<--	International_entrepreneurial_capability	.636	.091	6.999	***	
International_networking_capability	<--	International_entrepreneurial_capability	.774	.098	7.933	***	
Adaptation_capability	<--	Market_orientation	.922	.127	7.234	***	
Asorption_capability	<--	Market_orientation	1.000				

			Estimate	S.E.	C.R.	P	Label
Innovation_capability	<--	International_entrepreneurial_capability	.349	.077	4.543	***	
ADC3	<--	Adaptation_capability	.900	.120	7.519	***	
ADC2	<--	Adaptation_capability	1.000				
ADC1	<--	Adaptation_capability	.980	.127	7.736	***	
ASC1	<--	Asorption_capability	.775	.110	7.026	***	
ASC2	<--	Asorption_capability	1.000				
IC1	<--	Innovation_capability	.984	.232	4.245	***	
MC3	<--	Marketing_capability	.806	.118	6.836	***	
MC2	<--	Marketing_capability	.899	.133	6.761	***	
MC1	<--	Marketing_capability	1.000				
RTC3	<--	Risktaking_capability	.658	.078	8.406	***	
RTC1	<--	Risktaking_capability	1.000				
INC2	<--	International_networking_capability	.852	.108	7.894	***	
INC1	<--	International_networking_capability	1.000				
FBE2	<--	International_knowledge	.681	.071	9.532	***	
FAE1	<--	International_knowledge	.682	.083	8.176	***	
FAE2	<--	International_knowledge	1.000				
IC2	<--	Innovation_capability	1.000				
FBE1	<--	International_knowledge	.914	.084	10.881	***	
RTC2	<-	Risktaking_capa	.761	.08	8.651	***	

		Estimate	S.E.	C.R.	P	Label
--	bility	8				

Standardized Regression Weights: (born global - Default model)

			Estimate
Risktaking_capability	<---	International_entrepreneurial_capability	.991
Marketing_capability	<---	International_entrepreneurial_capability	.794
International_networking_capability	<---	International_entrepreneurial_capability	.870
Adaptation_capability	<---	Market_orientation	.805
Asorption_capability	<---	Market_orientation	.851
Innovation_capability	<---	International_entrepreneurial_capability	.510
ADC3	<---	Adaptation_capability	.653
ADC2	<---	Adaptation_capability	.703
ADC1	<---	Adaptation_capability	.669
ASC1	<---	Asorption_capability	.591
ASC2	<---	Asorption_capability	.733
IC1	<---	Innovation_capability	.663
MC3	<---	Marketing_capability	.656

			Estimate
MC2	<---	Marketing_capability	.646
MC1	<---	Marketing_capability	.683
RTC3	<---	Risktaking_capability	.658
RTC1	<---	Risktaking_capability	.734
INC2	<---	International_networking_capability	.711
INC1	<---	International_networking_capability	.723
FBE2	<---	International_knowledge	.692
FAE1	<---	International_knowledge	.610
FAE2	<---	International_knowledge	.829
IC2	<---	Innovation_capability	.710
FBE1	<---	International_knowledge	.769
RTC2	<---	Risktaking_capability	.679

Covariances: (born global - Default model)

			Estimate	S.E.	C.R.	P	Label
International_entrepreneurial_capability	<-->	International_knowledge	.553	.084	6.589	***	
International_entrepreneurial_capability	<-->	Market_	.449	.07	6.39	***	

			Estimate	S.E.	C.R.	P	Label
urial_capability	->	orientation		0	1		
Market_orientation	<-->	International_knowledge	.432	.068	6.352	***	
e1	<-->	e7	-.179	.037	-4.895	***	
e3	<-->	e5	.179	.040	4.508	***	

Correlations: (born global - Default model)

			Estimate
International_entrepreneurial_capability	<-->	International_knowledge	.884
International_entrepreneurial_capability	<-->	Market_orientation	1.119
Market_orientation	<-->	International_knowledge	.973
e1	<-->	e7	-.450
e3	<-->	e5	.461

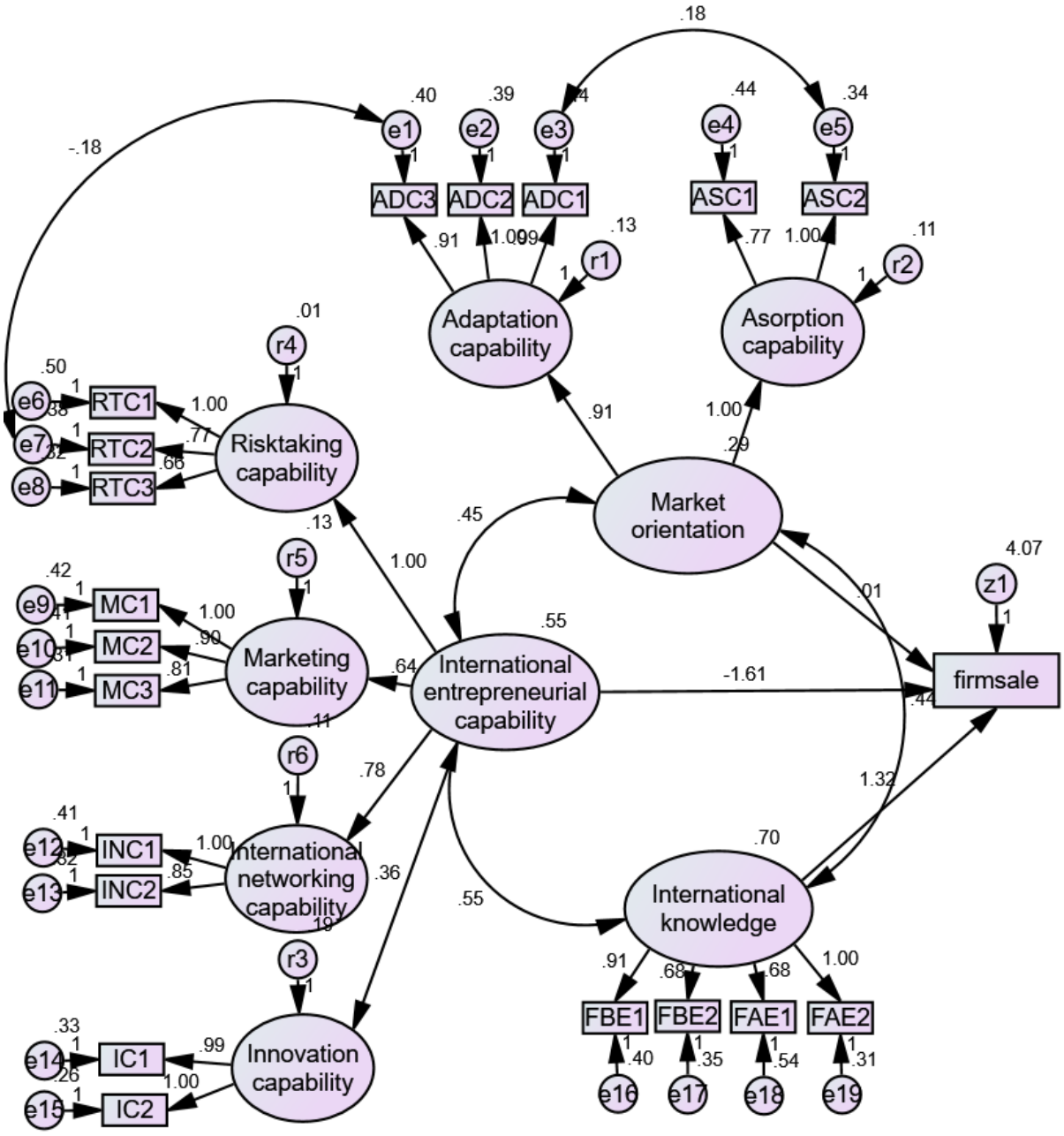
Variances: (born global - Default model)

	Estimate	S.E.	C.R.	P	Label
International_entrepreneurial_capability	.565	.107	5.282	***	
Market_orientation	.285	.067	4.260	***	
International_knowledge	.693	.110	6.320	***	
r4	.010	.038	.265	.791	
r5	.134	.04	3.19	.00	

	Estimate	S.E.	C.R.	P	Label
		2	3	1	
r6	.108	.047	2.307	.021	
r1	.132	.039	3.346	***	
r2	.108	.050	2.148	.032	
r3	.196	.062	3.160	.002	
e1	.407	.052	7.751	***	
e2	.383	.051	7.453	***	
e3	.444	.058	7.724	***	
e4	.441	.054	8.153	***	
e5	.339	.058	5.854	***	
e14	.327	.067	4.862	***	
e15	.261	.065	3.981	***	
e11	.312	.043	7.261	***	
e10	.409	.056	7.367	***	
e9	.415	.060	6.928	***	
e8	.326	.039	8.359	***	

	Estimate	S.E.	C.R.	P	Label
e6	.491	.064	7.725	***	
e13	.317	.047	6.683	***	
e12	.408	.063	6.463	***	
e19	.315	.050	6.362	***	
e18	.545	.064	8.498	***	
e16	.399	.054	7.366	***	
e17	.350	.043	8.073	***	
e7	.389	.048	8.092	***	

B: Structure model



Chi-Square=277.467; Prob=.000; GFI=.860; AGFI=.813
;CFI=.910; TLI=.891; RMSEA=.067

Notes for Model (Default model)

Computation of degrees of freedom (Default model)

Number of distinct sample moments: 210

Number of distinct parameters to be estimated: 53

Degrees of freedom (210 - 53): 157

Result (Default model)

Minimum was achieved

Chi-square = 277.467

Degrees of freedom = 157

Probability level = .000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	53	277.467	157	.000	1.767
Saturated model	210	.000	0		
Independence model	20	1523.803	190	.000	8.020

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.056	.860	.813	.643
Saturated model	.000	1.000		
Independence model	.265	.293	.218	.265

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.818	.780	.912	.891	.910
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.826	.676	.752
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	120.467	77.945	170.843
Saturated model	.000	.000	.000
Independence model	1333.803	1213.131	1461.913

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	1.623	.704	.456	.999
Saturated model	.000	.000	.000	.000
Independence model	8.911	7.800	7.094	8.549

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.067	.054	.080	.018
Independence model	.203	.193	.212	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	383.467	398.307	550.284	603.284
Saturated model	420.000	478.800	1080.974	1290.974
Independence model	1563.803	1569.403	1626.753	1646.753

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	2.242	1.994	2.537	2.329
Saturated model	2.456	2.456	2.456	2.800
Independence model	9.145	8.439	9.894	9.178

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	116	124
Independence model	26	27

Estimates (born global - Default model)

Scalar Estimates (born global - Default model)

Maximum Likelihood Estimates

Regression Weights: (born global - Default model)

			Estimate	S.E.	C.R.	P	Label
Risktaking_capability	<--	International_entrepreneurial_capability	1.000				
Marketing_capability	<--	International_entrepreneurial_capability	.643	.092	6.969	***	
International_networking_capability	<--	International_entrepreneurial_capability	.782	.099	7.883	***	
Adaptation_capability	<--	Market_orientation	.906	.125	7.220	***	
Asorption_capability	<--	Market_orientation	1.000				
Innovation_capability	<--	International_entrepreneurial_capability	.356	.078	4.572	***	
ADC3	<-	Adaptation_capability	.912	.121	7.51	***	

			Estimate	S.E.	C.R.	P	Label
		--			8		
ADC2	<---	Adaptation_capability	1.000				
ADC1	<---	Adaptation_capability	.989	.128	7.704	***	
ASC1	<---	Asorption_capability	.768	.109	7.043	***	
ASC2	<---	Asorption_capability	1.000				
IC1	<---	Innovation_capability	.989	.230	4.295	***	
MC3	<---	Marketing_capability	.806	.118	6.835	***	
MC2	<---	Marketing_capability	.902	.133	6.773	***	
MC1	<---	Marketing_capability	1.000				
RTC3	<---	Risktaking_capability	.664	.079	8.364	***	
RTC1	<---	Risktaking_capability	1.000				
INC2	<---	International_networking_capability	.854	.108	7.913	***	
INC1	<---	International_networking_capability	1.000				
FBE2	<---	International_knowledge	.676	.071	9.493	***	
FAE1	<---	International_knowledge	.683	.083	8.235	***	
FAE2	<---	International_knowledge	1.000				
IC2	<---	Innovation_capability	1.000				
FBE1	<---	International_knowledge	.914	.083	10.944	***	

			Estimate	S.E.	C.R.	P	Label
RTC2	<---	Risktaking_capability	.770	.089	8.646	***	
firmsale	<---	Market_orientation	.011	1.057	.010	.992	
firmsale	<---	International_entrepreneurial_capability	-1.614	.882	-1.829	.067	
firmsale	<---	International_knowledge	1.325	.701	1.890	.059	

Covariances: (born global - Default model)

			Estimate	S.E.	C.R.	P	Label
International_entrepreneurial_capability	<-->	International_knowledge	.548	.084	6.559	***	
International_entrepreneurial_capability	<-->	Market_orientation	.448	.070	6.388	***	
Market_orientation	<-->	International_knowledge	.435	.068	6.377	***	
e1	<-->	e7	-.181	.036	-4.966	***	
e3	<-->	e5	.178	.039	4.517	***	

Correlations: (born global - Default model)

			Estimate
International_entrepreneurial_capability	<-->	International_knowledge	.883
International_entrepreneurial_capability	<-->	Market_orientation	1.121

			Estimate
Market_orientation	<-->	International_knowledge	.972
e1	<-->	e7	-.460
e3	<-->	e5	.462

Variances: (born global - Default model)

	Estimate	S.E.	C.R.	P	Label
International_entrepreneurial_capability	.553	.106	5.215	***	
Market_orientation	.289	.067	4.289	***	
International_knowledge	.695	.110	6.341	***	
r4	.015	.038	.382	.702	
r5	.133	.042	3.181	.001	
r6	.107	.047	2.290	.022	
r1	.132	.039	3.374	***	
r2	.108	.051	2.131	.033	
r3	.194	.061	3.175	.001	
e1	.404	.052	7.710	***	
e2	.388	.052	7.506	***	
e3	.443	.05	7.70	***	

	Estimate	S.E.	C.R.	P	Label
		7	4		
e4	.443	.054	8.192	***	
e5	.336	.058	5.821	***	
e14	.325	.067	4.875	***	
e15	.262	.065	4.056	***	
e11	.312	.043	7.275	***	
e10	.408	.055	7.362	***	
e9	.416	.060	6.949	***	
e8	.325	.039	8.342	***	
e6	.498	.064	7.767	***	
e13	.315	.047	6.674	***	
e12	.409	.063	6.497	***	
e19	.314	.049	6.378	***	
e18	.542	.064	8.501	***	
e16	.398	.054	7.387	***	
e17	.353	.04	8.11	***	

	Estimate	S.E.	C.R.	P	Label
		4	9		
e7	.385	.048	8.041	***	
z1	4.069	.500	8.143	***	

Appendix 3 Research Questionnaire

A: English Version

Questionnaire: investigate the role entrepreneurship plays in the firms' decisions of becoming born global

Important Information to be Read before Completion of Questionnaire

The aim of the research is to investigate the role of entrepreneur attitude, entrepreneur proclivity played in firm's internationalisation decision making process. This will help researchers to clarify the importance of entrepreneurship in firm's internationalisation process and will lead to ways to make development easier in the future.

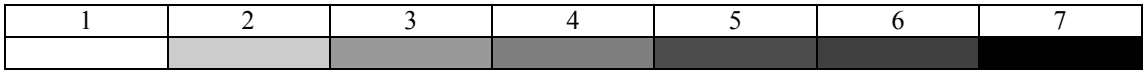
The questionnaire is designed to gather information about founder's thoughts on firm's international expansion activities. Even if your business does not trade internationally, or plan to, we are still interested in your views. Respondents are assured that no reference will be made to their names or to those of their company without explicit permission.

All details will be coded and combined and individual responses will be anonymous. The questionnaire should take approximately ten minutes to complete.

- It is important that all questions are answered by all respondents.

All questions should be answered and you should consider the whole scale to answer the questions. A sample scale is shown below.

Strongly disagree **Moderately**
Strongly agree



In each case you should write the number that you feel best describes your attitude towards the question. All details will be coded and combined and individual responses will be anonymous. The questionnaire should take approximately ten minutes to complete.

Thank you for your help in completing the questionnaire.

Section 1: Business Background – Please Answer all Questions Below

1. Name of your company_____, the establish year of your company_____

2. Name of the respondent_____, Position_____, contact number_____, age_____, and gender_____

3. What is the registration status of your company?

State-run

Collective

Cooperative

Limited liability

Joint stock limited liability

Hong Kong-Macao-Taiwan invested

Private

Sino-foreign joint ventures

Foreign-funded enterprise

Others

4. The main products or service provided by your company_____

5. The sales revenue last year_____

6. The percentage of foreign sales of total sales_____

7. The year of export_____

8. The number of employees_____

Section 2: Market Orientation

In international markets, do you agree with following statement? (1-7, strongly disagree/strongly agree)

Adaptation capability

ADC1. Our firm is able to price products effectively according to the changes in the market.

ADC2. Our firm is able to develop flexible processes to respond rapidly to changes and opportunities detected in the markets.

ADC3. Our firm is able to significantly modified products/packaging according to the needs of foreign markets.

Absorption capability

ASC1. Our firm is able to develop the new product or modify existing product by acquiring information from competitors.

ASC2. Our firm is able to learn, analyse and interpret useful information from the environment.

Section3: International entrepreneurial capability

Please indicate whether your firm is worse or better than your main competitors in the following areas in the international markets. 1-7, much worse/much better)

Risk taking capability

RTC1. Our firm believes it's best to explore the environment gradually, bold or aggressive actions will be taken when necessary.

RTC2. Compare to other firms, our firm inclines to take on projects with high risks.

RTC3. Compare to other firms, our firm has the readiness to meet new challenges.

Marketing capability

MC1. Compare to other firms, our firm is better at control and evaluate marketing activities.

MC2. Compare to other firms, our firm it better at building brand names.

MC3. Compare to other firms, our firm is better at differentiate firm products based on the knowledge of marketing tools.

International networking capability

INC1. Our firm has the technology-based link with customers and competitors.

INC2. Our firm has entrepreneurial collaborations with external partners.

Innovation capability

IC1. Our firm has committed to innovation and development.

IC2. Our firm has the ability to innovate by use knowledge from various sources to develop products efficiently and rapidly.

Section 4: International knowledge

Please indicate to what extent you agree or disagree with the following statements. 1-7, strongly disagree /strongly agree)

FBE1. Top management in our firm continuously communicates its mission to succeed in international markets to firm employees.

FBE2. Top management has sufficient experience in foreign direct investment (FDI).

FAE1. Our firm has sufficient language knowledge.

FAE2. Our firm has sufficient knowledge of foreign laws/norms/standards.

B: Chinese version

调查问卷

企业家精神在企业成为天生的国际企业决策中起到的作用

(填写问卷前请阅读以下重要信息）

本问卷的目的是研究企业家态度，企业家倾向在企业做出国际化战略决策过程中起到的作用, 这将帮助调查人员了解此企业家精神在企业的国际化金成中起到的作用, 并帮助企业探求一条未来发展的便捷之路。

本问卷旨在收集国际国内扩张有关阶段或业务进程中经理人的观点，即使你的企业没有开展国际贸易或尚无此计划，我们仍然对你的看法感兴趣。此次调查保证，未经受访者明确许可，不会在任何场合提及他们的姓名或他们公司的姓名。

- 每位受访者请确认并填写每一个问题。

所有问题 需全盘考虑作答, 样表如下：

强烈反对　　中立　　强烈同意

1	2	3	4	5	6	7

请填写你认为的最适宜的情况在对应的数字, 本问卷为编码不记名式, 填写问卷约需 10 分钟。感谢你的参与。

第一部分：公司及填写人背景—请回答以下所有问题

1. 公司名称_____，公司成立时间_____

2. 填写人姓名_____，职位_____，联系电话_____，

年龄_____，性别_____

3. 贵公司属于哪种注册类型_____

国有企业

集体企业

合作社

有限责任制企业

股份有限责任公司

港澳台投资公司

民营企业

中外合资企业

外资公司

其他

4. 贵公司主要提供的产品或服务是_____

5. 贵公司去年的销售收入为（2015）_____

6. 贵公司出口占总销售额的份额为_____

7. 贵公司开始出口业务的年份是_____

8. 贵公司职员总人数（截至 2015）_____

第二部分： 市场定位

在国际市场中，您在哪种程度上同意以下的观点？（1-7，十分反对/十分同意）

适应能力

ADC1：我们公司能够根据市场变化有效地定价产品。

ADC2：我们公司能够开发灵活的流程，以快速响应市场中发现的变化和机会。

ADC3：我们公司能够根据国外市场的需求大幅度改进产品/包装。

吸收能力

ASC1：我们公司能够通过从竞争对手那里获取信息来开发新产品或修改现有产品。

ASC2：我们公司能够从市场环境中学习，分析并解释有用的信息。

第三部分： 国际创业能力

在国际市场中，您在哪种程度上同意以下的观点？（1-7，十分反对/十分同意）

风险承受能力

RTC1：我们公司认为虽然逐步探索市场环境是正确的，但是在必要时还是需要采取大胆或积极的行动。

RTC2：与其他公司相比，我们公司更倾向于接手高风险的项目。

RTC3：与其他公司相比，我们公司更愿意迎接新的挑战。

营销能力

MC1：与其他公司相比，我们公司能够更好的控制和评估营销活动。

MC2：与其他公司相比，我们公司能够更好的打造属于自己的品牌。

MC3：与其他公司相比，我们公司能够更好的使用营销工具来区分公司产品。

国际网络能力

INC1：我们公司拥有与客户和竞争对手之间的技术联系。

INC2：我们的公司与外部合作伙伴有企业合作。

创新能力

IC1：我们公司致力于创新和发展。

IC2：我们公司有能力具有通过使用各种渠道获得的的知识进行创新，并高效快速地开发产品。

第四部分：相关国际经验

请说明您在多大程度上同意或不同意以下观点。 1-7，十分不同意/十分同意

FBE1：我们公司的高层管理人员会不断的向公司员工传达本公司的经营目标是在国际市场上获得成功。

FBE2：我们公司的高级管理层有足够的外国直接投资（FDI）经验。

FAE1：我们公司有足够的相关语言知识。

FAE2：我们公司对外国法律/规范/标准有足够的了解。

非常感谢您花费宝贵的时间参与这项研究。