ABSORPTIVE CAPACITY, STRATEGIC FLEXIBILITY AND INNOVATION PERFORMANCE ON SUSTAINABLE COMPETITIVE ADVANTAGE: AN INTERNATIONALIZATION PERSPECTIVE

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ABSTRACT

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In recent years, the investment of emerging economies has soared, and more and more emerging economies firms (EEFs) have embarked on the process of internationalization. The data points one of the major development trends of the global economy, once an emerging economy that has been invested heavily and hoped to reap rapid growth in profits by multinational companies, it has become a source of investment funds and a competitor with the United States and Europe in terms of foreign investment. The overseas development of EEFs is faced with many problems, how to maintain sustainable competitiveness is the primary problem faced by enterprises. In the era of the knowledge economy, knowledge absorptive capacity plays a vital role in the innovation and long-term development of enterprises. However, in the academic field, the exploration of EEFs' internationalization is still very few, many scholars have focused on absorptive capacity in recent years, mainly around the technology spillover effect of investment from developed countries to developing countries, while lacking theoretical basis and guidance on the use of absorptive capacity by emerging economies firms (EEFs). This study aims to explore the mechanism and effect extent of absorptive capacity on sustainable competitive advantage, noting the mediating roles of strategic flexibility and innovation performance, the moderating roles of environmental uncertainty.

The first objective of this study is to link absorptive capacity, strategic flexibility, innovation performance, and sustainable competitive advantage together into a complete framework. The second objective of the study is to apply the theory of absorptive capacity to a new study field. Data analysis was conducted by using IBM SPSS statistics 23 and IBM SPSS AMOS 23 to a sample of 404 Chinese overseas firms. Firstly, data analysis

tested the conceptual model by establishing the convergent and discriminant validity of variables and tested all proposed hypotheses by using IBM SPSS. Secondly, Covariance Based Structure Equation Model (CB-SEM) was applied to test the model fit by using IBM SPSS AMOS. This study applied SPSS to test all proposed hypotheses to explore the relationship between one dependent variable, two independent variables, two mediators, one moderator, and six control variables. The study found that the two dimensions of absorptive capacity have significant but different effects on sustainable competitive advantage, potential absorptive capacity has a significant impact on sustainable competitive advantage, however, realized absorptive capacity did not it; there are significant correlations among other variables; strategic flexibility has no significant mediating effect between potential absorptive capacity and innovation performance, the mediating effects of other variables are significant and positive; the moderating effects are significant but negative; among the control variables, only R&D intensity and industry category have a significant impact.

The results verify the mechanism of absorptive capacity affecting sustainable competitive advantages, providing a new theoretical basis for EEFs, expanding the application areas of absorptive capacity while enriching the connotation of internationalization theory. Also, from the perspective of enterprise management implication, it provides a theoretical basis for the improvement of overseas competitiveness of EEFs, points out the importance of cultivating and improving organizational absorptive capacity, and strengthening the strategic flexibility of organizational, which has a certain incentive effect on innovation. According to research data, innovation has a greater impact on corporate competitiveness, which means that innovation plays a very important role in sustainable competitiveness. At the same time, the impact of environmental uncertainties cannot be ignored, and a risk control system can be formulated to reduce various losses caused by this.

Keywords： absorptive capacity, strategic flexibility, innovation performance, sustainable competitive advantage, internationalization

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CHAPTER 1

INTRODUCTION

An overview of this dissertation is presented in Chapter One, which consists of six sections: the study's background, the significance of the research, the statement of the study, the objectives of the study, the scope, and the benefits of the study. The background provides information about enterprise internationalization and the development status of absorptive capacity. The statement of the problem points out new questions and gaps needed to fill in new changes. The importance of the study will be presented in the significance and benefits of the study, including academic contribution and practical contribution. Then the objectives and the scope are also addressed in the next section.

1.1 The Background of the Study

The internationalization of enterprises first originated during World War II. In the early 1990s, with the development of science and technology and the strengthening of global economic cooperation, the stage of capitalism in developed countries gradually shifted from domestic monopoly to international monopoly. Internationalized enterprises possess the advanced production and organization forms of modern enterprises and are carriers of global capital expansion. They lead the trend of economic globalization and made outstanding contributions to the growth of the world economy. In the process of economic globalization, international companies not only promote the globalization of trade and finance but also establish a global production value chain, playing the role of world production organizer. Since the 1990s, economic development has become faster and faster, and the world economy has prospered. The number of parent companies of multinational companies worldwide has expanded from 35,000 in

1990 to 81,000 in 2007 before the outbreak of the financial crisis. The foreign subsidiaries controlled by these parent companies also surged from 150,000 to 810,000.

According to the data shown by the United Nations Conference on Trade and Development (UNCTAD), in 2015, as companies struggled to find overseas opportunities to compensate for the slowdown in domestic growth, cross-border direct investment from emerging economies (EEs) was more than $ 400 billion. The data points one of the major development trends of the global economy, that is, once an emerging economy that has been invested heavily and hoped to reap rapid growth in profits by multinational companies, it has become a source of investment funds and a competitor with the United States and Europe in terms of foreign investment. According to statistics, the rapid growth of outward foreign investment from emerging economies is almost entirely driven by Asian countries. The foreign investment of Asian developing countries reached $ 440 billion in 2014, surpassing North America and Europe and becoming the world's largest foreign direct investment source. Among emerging countries in Asia, China and other countries have performed exceptionally well. Companies in these countries are actively seeking new opportunities to reduce the impact of domestic economic growth rate, expanding overseas markets, and encouraging companies to go abroad to open overseas markets. Statistics showed that the combined outward investment of mainland China and Hong Kong reached the US $ 266 billion in 2014, making China the second-largest foreign country after the United States. Zhan (2016), the investment director of UNCTAD, believes that the surge in foreign investment reflects China's significant global transformation. Zhan (2016) also analyzed that the slowdown in China's domestic economic growth has also stimulated Chinese companies to focus overseas, which is similar to other emerging countries such as Brazil.

Early Foreign Direct Invest (FDI) from developed countries to developing countries had a technology spillover effect where the investment is located. Generally, when developing countries receive foreign direct investment, local companies can learn advanced production technology and management experience from developed countries. However, in recent years, the trend of overseas investment has reversed, and investment from developing countries to developed countries has become increasingly active (Buckley et al., 2007), this change is particularly evident in the high-tech

industry. Luo and Tung (2007) pointed out that high-tech companies in emerging economies have gained advanced knowledge and rich research results through the internationalization of R&D, cooperation, mergers and acquisitions, which significantly improved the technological competitiveness of emerging economies. Through this learning capacity, enterprises could achieve the goal of catching up with companies of developed countries, improve innovation capacity, and keep competitive advantages. Chinese companies, especially high-tech companies, are establishing R&D centers worldwide to use the most advanced technology to enhance innovation and R&D. Obviously, with the rapid rise of the knowledge economy, how enterprises use external resources, especially knowledge resources, has become very important under this background. As a company's ability to process knowledge and information, absorptive capacity has received widespread attention from scholars at home and abroad.

The concept of "absorptive capacity" was first proposed by Cohen and Levinthal (1989) when analyzing the role of corporate R&D. After Cohen and Levinthal, economists' research on the effects of foreign direct investment has found that although FDI has obtained substantial economic returns from the investee country, local enterprises do not only provide cheap land and labor without any gains. In the production process, enterprises have gradually mastered advanced production technologies from developed countries and digested them internally. This is called the technology spillover effect. In the process of industrialization, developing countries can make use of foreign capital, introduce advanced technologies to utilize, digest, and absorb, and gradually reach the goal of catching up with developed countries.

However, the internationalization of enterprises in emerging economies has become the mainstream trend now. According to the development process of expanding while developing, enterprises must quickly adapt to environmental changes and absorb production technologies and management experience that are beneficial to their development if they want to maintain sustainable competitiveness in overseas markets. It has become a new problem for enterprises in emerging economies using the absorptive capacity to improve their core competitiveness.

In the complex and changeable external environment, the critical resource to maintain a competitive advantage is knowledge. The absorption and utilization of

external knowledge can help companies actively respond to opportunities and challenges (Baden-Fuller & Teece, 2019). However, due to environmental uncertainty, it's not the best strategic choice that relies solely on its internal resources to realize knowledge creation. Because external knowledge resources play a vital role in enterprises' development and competitiveness, absorptive capacity has become one of the most crucial research objects in the past two decades. The use of absorptive capacity by companies usually affects strategic choices and innovative behavior. Companies need to formulate flexible strategies to quickly adapt to changes in the environment and not adhere to traditional strategies. Simultaneously, absorptive capacity will enable companies to make new attempts and breakthroughs in R&D and innovation and bring new performance. Therefore, absorptive capacity could get different degrees of influence on strategic flexibility and innovation performance.

Emerging industrialized countries and developing countries began to be active in the field of foreign investment in the 1980s. Therefore, the FDI theory applicable to developed countries is no longer suitable for enterprises' internationalization in emerging economies. Given the fact that there are few studies on the absorptive capacity of emerging economies in the current literature, this study explores this subject and makes up for the gap in the relevant theoretical field. That is, when companies in emerging economies conduct overseas production and operation activities, how to use the absorptive capacity to form core competitiveness and maintain sustainable competitive advantage through the role of strategic flexibility and innovative performance is the value of this research.

1.2 The Significance of the Study

1.2.1 Theoretical Significance

In terms of academics, the current research results have been unable to adapt to the recent economic situation changes. It is necessary to combine past theories with new issues and do further research with corresponding research methods.

1) The study combines the absorptive capacity, innovation performance, strategic flexibility, and sustainable competitiveness to a complete action mechanism. Most of the previous research stayed on the relationship between some of

these concepts, and very few literatures explored the sustainable competitive advantage of enterprises as the final destination. For example, Pangarso, Astuti, Raharjo, and Afrianty (2020) study ‘Data of innovation ambidexterity as a mediator in the absorptive capacity effect on sustainable competitive advantage’. Now, it is a critical issue for the emerging economies to clear how to maintain a sustainable competitive advantage in opening the overseas market. This study fills the research gap of absorptive capacity in the internationalization of emerging economy enterprises and sorts out the previous scattered research on strategic flexibility, innovation performance and relevant variables in this study. It forms a new research framework and a complete route. The study explores the conduction mechanisms among these variables.

2) The study provides more prosperous theoretical outcomes for the internationalization of enterprises in emerging economies. With the increasing role and contribution of emerging economies in the development of the global economy, scholars need to address emerging economies' academic issues one by one. In the original application of absorptive capacity theory based on FDI, technology spillover from developed to developing countries was the major problem. For example, Ferencikova (2018) studies ‘Theoretical framework of SMEs’ Internationalization from Central and Eastern Europe:’; Jiang et al. (2020) investigates ‘The important influencing factors and performance of early internationalizing firms.’ Nevertheless, now it is transformed into emerging economies to cultivate internal core competitiveness and provide a solution method for internationalization theoretical guidance. The previous research on the internationalization of enterprises in developed economies is no longer applicable to emerging economies and cannot solve the new situations and new problems. Therefore, this study makes new theoretical contributions to how emerging economies' enterprises could take advantage of absorptive capacity to influence sustainable competitive advantages.

3) The study applies the theory of absorptive capacity to a new study field, how to use external knowledge to improve their internal competitive advantage through the mediating role of strategic flexibility and innovation performance in the process of internationalization of emerging economies enterprises, enriching the theory of internationalization and absorptive capacity of enterprises in emerging economies.

1.2.2 Practical Significance

1) From Firms Level:

(1) This study helps international enterprises improve their innovation capabilities and useful management implications for new product development. The effective way to improve performance after entering the overseas market is to acquire new knowledge and information through organizational learning and share and apply it within the organization to develop innovative technologies and products to improve performance. To this end, international enterprises would form a learning-oriented organizational culture within the organization by paying attention to employees' learning abilities, increasing investment in learning resources, encouraging new ideas and tolerance for errors.

(2) At the same time, enterprises will pay attention to the latest developments in the industry of the country where they are staying, and master advanced R & D technology and production management experience promptly to provide good conditions for improving adaptability, maintaining sustainable competitiveness, and reverse knowledge input to the home country. Firms build internal capabilities to internalize external knowledge to form core competitiveness and maintain a sustainable competitive advantage.

2) From the national level:

(1) Firms that master sustainable competitive advantage are conducive to improving the national economic level, shortening the gap with developed countries, and enhancing the impact of emerging economies on the international community.

(2) With the continuous development of the emerging economy and the deepening of the transformation, the government should pay attention to overseas enterprises' absorptive capacity, providing policy and financial support for enterprises engaged in new product development activities. International enterprises need to build appropriate contacts with different government departments and officials at all levels to obtain as much government support as possible, obtaining and maintaining a long-term competitive advantage.

1.3 The Statement of the Problem

Early theories of enterprise internationalization tended to answer: Why can enterprises enter overseas markets? Which overseas market do you choose? Which way to enter? Typical theoretical viewpoints are monopoly advantage theory, Uppsala model, eclectic theory, transaction cost theory, etc. Absorptive capacity was also proposed in the 1990s and is widely used in overseas direct investment research, explaining the technology spillover of developed countries well. The technology spillover makes developing countries learn advanced production technology and management methods. The emergence of these theories provides a good theoretical basis and guidance for enterprises' early internationalization process. However, the logic of enterprises' internationalization behavior is to enter overseas markets on the condition that a good match between their resources, host country environmental factors, and entry methods. Then enterprises must create and maintain a sustainable competitive advantage.

1) The process of enterprise internationalization has changed. In the early stage, the main body of enterprise internationalization was developed countries, and the internationalization process of developed countries was to create first and then expand. It has developed to a higher level in its own country and then began to expand overseas markets. The current trend of internationalization is the internationalization of enterprises from emerging economies. Different from developed countries, its internationalization process is expanding while developing. Therefore, the early internationalization theory cannot accurately explain companies' new problems from emerging economies.

2) Moreover, the application field of absorptive capacity has also shifted with the internationalization of enterprises. Absorptive capacity was proposed in the 1990s and is widely used in overseas direct investment research, explaining the technology spillover of developed countries well. The technology spillover makes developing countries learn advanced production technology and management methods. The emergence of these theories provides a good theoretical basis and guidance for enterprises' early internationalization process. However, in exploring overseas markets, enterprises from emerging economies have encountered many problems and

deficiencies of their capabilities, which force them to absorb and learn external knowledge quickly. The companies need to adapt to the challenges and competition in foreign markets under the external environment. How companies from emerging economies maintain useful operations and profitability in overseas markets is a new issue for leaders.

Therefore, the above two points are the main research gaps.

1.4 The Objectives of the Study

1) The first objective is to link absorptive capacity, strategic flexibility, innovation performance, and sustainable competitive advantage together into a complete framework. At the same time, it will explore the relationship between these variables and fill the gap in this area. This research will verify the positive correlation between absorptive capacity and sustainable competitiveness, the mediating effect of strategic flexibility and innovation performance, the negative moderating effect of environmental uncertainty on the absorptive capacity to innovation performance, and strategic flexibility to innovation performance.

2) The second objective of the study is to apply the absorptive capacity theory to a new study field. In the process of internationalization of emerging economies enterprises, it is a new study field on how to use external knowledge to improve their internal core competitive advantage; of course, in this process, it's also needed to consider other important influencing factors as the mediating role of strategic flexibility and innovation performance because the operation of the enterprise is overall. Although scholars start to be aware of some connections between absorptive capacity and competitive advantages, there are still many questions to be studied in this field. Absorptive capacity enables these enterprises from emerging markets to improve their technology continuously and open up overseas markets.

1.5 The Scope of the Study

China is the largest developing country in the world now. More and more Chinese enterprises have chosen to invest overseas for production and sales in recent

years. Statistics exhibit that China was the 2nd greatest overseas investor after the USA in 2014. The surge in foreign investment reflects China's significant global transformation. Therefore, selecting Chinese international companies as samples to study the behavior of emerging economies is representative.

Enterprises have always been the mainstay of technological innovation. As the national economy's pillar industries, manufacturing enterprises are a concentrated expression of my country's international competitiveness. They have become the main participants in Chinese enterprises' technological innovation and the primary technological innovation source. Simultaneously, research on the absorptive capacity of the service industry’s FDI has emerged early, and the service industry is also an important area of China's overseas investment, accounting for 78% of the investment share. Therefore, in terms of industry selection, the service industry and manufacturing are the sample's leading industry attributes in this study.

In summary, the study chooses Chinese international enterprises engaging in manufacturing and service industries as the research scope.

1.6 The Benefits of the Study

1) From the academic field's perspective, based on previous studies, related variables of this study can be integrated and connected to verify the interaction between variables and the weight of the effects. This research fills the theoretical gaps that emerging economies use the absorptive capacity to maintain sustainable competitive advantages. It is different from the internationalization process of developed countries and the early use of absorptive capacity in developing countries. The study provides more abundant theoretical support for the internationalization model of emerging economies expanding while developing.

2) From the perspective of international enterprises from emerging economies, enterprises can build core competitiveness and maintain a sustainable competitive advantage by internalizing external knowledge. Enterprises get rid of traditional imitations or follow strategies in products or services, continuously making breakthroughs and developments in critical technologies such as product structure,

performance, or production process, comprehensively enhancing competitiveness and expanding global markets.

3) From the perspective of emerging economies, the development of international companies can help domestic products enter the world market, which helps improve domestic production technology and the optimization of industries' ecological environment. The development of the economy will enhance the international status and political voice of emerging market countries. At the same time, it helps to urge the government agencies of emerging economies to pay attention to the cultivation of overseas enterprises' absorptive capacity and provide policy and financial support.

1.7 The Limitation of the Study

There are certain limitations to this study.

1) Due to the limitations of research time and budget, the data collection of the research can't cover all emerging economies enterprises. The questionnaire will be distributed among overseas companies in China, and the selection of industries will be limited to the manufacturing and service industries.

2) When a study from an international perspective, there is no consideration of cultural differences. Of course, cultural differences are very important. In contrast, given that the current scale on cultural differences does not closely match the research questions in this study, they have not been used temporarily. Future studies may want to improve new metrics to measure cultural elements' influence on ability absorption and sustainable competitive advantage.

3) The third point, maybe it is better to add up some qualitative research. In some related investigations, it is normal that qualitative research and quantitative research combine; however, there are not suitable items to be used. So, it can be discussed in future studies.

CHAPTER 2

LITERATURE REVIEW, THEORETICAL FRAMEWORK AND A PROPOSED MODEL FOR ANALYSIS

2.1 Emerging Economies

2.1.1 Concepts and Characteristics of Emerging Economies

Since the 1990s, with the development of economic globalization, some developing countries, such as Brazil, China, India, and other countries, have faced globalization's challenges. These countries opened up their markets and improved domestic market systems and measures, participating in globalization, and actively integrate with the international economy, seizing the development opportunities brought by economic globalization. Then the economy has achieved rapid growth. These developing countries are called emerging economies. The massive rise of emerging economies has attracted relevant departments' attention, such as government systems, international financial organizations, well-known magazines, and academia. The concept of emerging economies was first proposed by van Agtmael (2009), who worked on the World Bank in 1981. It refers to countries and regions that emerged from less developed countries, having rapid economic growth undergone reforms.

These countries' population accounts for about 80% of the world’s total population, and the entire economy accounts for only 20% of the world’s entire economy. However, the GDP of the “BRIC” countries (Brazil, Russia, India, China) contributed more than 50% in 2005. At present, there are many definitions and scope for emerging economies. The representative descriptions are shown in table 2.1. As shown in table 2.1, there are no recognized definitions for emerging economies currently, and the focus of various definitions is somewhat different; there are specific differences in a scope definition. But overall, the current definition of emerging

economies mainly focuses on their economic growth and marketization process. (M. Li & Yu, 2016)

Based on the above viewpoints, this study believes that emerging economies refer to countries and regions where the economy is growing rapidly. The market economy system is gradually improving, and the economy has a certain degree of openness. Overall, the characteristics of emerging economies are the market economy system is gradually improved, the economy develops faster, the development potential of international and domestic market is great, and it is the primary growth point of the world economy. Some studies, such as Euromonitor and Hoskisson, cover a broader range in a specific scope, but the complication is weaker. The BRIC countries are representative, but the field is relatively small. Among the G20 members, 11 countries including Brazil, Russia, India, China, South Africa, Mexico, Indonesia, Saudi Arabia, South Korea, Argentina, and Turkey, are representatives of emerging economies. (M. Li & Yu, 2016)

Table 2.1 Definitions and Scope of Emerging Economies

Author	**Definition**	**Scope**
Euromonitor (1992)	Eight criteria in 3 categories: static quantitative indicators (market size, purchasing power, population size); dynamic quantitative indicators (expected GDP growth rate); qualitative indicators (economic policy characteristics, political risks, external factors and threats)	69 international locations in 6 areas together with Central Europe, Southern Europe, Pacific, Central Asia, Africa, and the Middle East
U.S. Department of Commerce (1996)	Overseas markets with the most potential for U.S. companies and very important for U.S. economic	It frequently covers ten nations and areas and China

Author	Definition	Scope
	growth	
The Economist (1997)	Economic standards and financial standards, of which economic criteria include GDP, industrial production, consumer prices, trade balance, current account, foreign exchange reserves, financial measures include exchange rate levels (dollars and pounds), short-term interest rates, stock market	25 countries: China (including Hong Kong and Taiwan), India, Indonesia, Malaysia, Philippines, Singapore, South Korea, Thailand, Argentina, Brazil, Secret Service, Mexico, Venezuela, South Africa, Turkey, Czech Republic, Hungary, Poland, Russia
Hoskisson, Eden, Lau, and Wright (2000)	countries with low income, rapid growth, and economic liberalization as its main growth engine	51 nations listed in the IFI and thirteen nations in transition named via the European Bank for Reconstruction and Development in 1998, a whole of sixty-four countries
International Finance Corporation (1999)	fast-growing developing countries	Covers fifty-one growing international locations in Asia, Latin America, Africa, and the Middle East
Tridico (2007)	Countries with rapid economic growth, undergoing reforms, opening the domestic market to the global economy	44 countries, including 42 countries defined by the IMF and Spain and Ireland
Goldman Sachs Group (2005)	The GDP growth rate is estimated based on the three	BRICs; China, India, Brazil, Russia

Author	Definition	Scope
	indicators of labor force growth, capital stock, and technological growth	
Bilgili, Kedia, and Bilgili (2016)	developing countries with medium income	According to the UN's definition of developing countries (regions): 133 developing countries (regions) above medium income
Zhong, Huang, and Liu (2014)	A country with a market economy system or a country with a transitional economic system; the per capita income level is lower than that of developed countries, but it can maintain a high economic growth rate for a certain period; the various systems of the market economy are continually being improved; financial markets, especially capital markets, need to be improved	21 countries including China, India, Russia, South Africa, and so on

Resource: <Boao Forum for Asia Emerging Economies Development 2018 Annual Report>

According to data published by the IMF, the contribution rate of developed countries to world economic growth in 2007 was only 2.7%. However, the increasing rate of emerging and developing economies was 8%. On the list of the top 500

companies in the world in 2008, there are 35 Chinese companies and 7 Indian companies. After the global economic recession in 2008-2009, the global economy recovered. The strong growth of emerging markets led to the recovery of the global economy while developed economies struggled. Emerging economies became the main driver of economic growth. Table 2.2 shows the growth of GDP of major emerging economies from 2007 to 2017. (C. Li & Zhang, 2018)

Table 2.2 2010-2017 GDP Growth Rate of Major Emerging Economies

	2010	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Argentina	10.1	6.0	-1.0	2.4	-2.5	2.6	-2.2	2.5
Brazil	7.5	4.0	1.0	3.0	0.5	-3.8	-3.6	1.1
China	10.6	9.5	7.9	7.8	7.3	6.9	6.7	6.9
India	10.3	6.6	5.5	6.4	7.5	8.0	7.1	6.7
Indonesia	6.4	6.2	6.0	5.6	5.0	4.9	4.9	5.2
Korea	6.5	3.7	2.3	2.9	3.3	2.8	2.8	3.0
Mexico	5.1	4.0	4.0	1.4	2.3	2.7	2.3	2.0
Russia	4.5	5.1	3.7	1.8	0.7	-2.8	-0.2	1.8
Saudi Arabia	4.8	10.3	5.4	2.7	3.7	4.1	1.7	-0.7
South Africa	3.0	3.3	2.2	2.5	1.7	1.3	0.3	0.9
Turkey	8.5	11.1	4.8	8.5	5.2	6.1	3.2	5.1

Resource: <Boao Forum for Asia Emerging Economies Development 2018 Annual Report>

Compared with developed economies, emerging economies have the following characteristics in table 2.3. From the comparative analysis in table 2.3, it can be seen that most emerging economies belong to developing countries. Still, they are significantly different from most developing countries in terms of economic growth rate and domestic financial system construction so that they can be listed separately. In this study, China is selected as a representative of emerging economies to investigate how Chinese companies can use the absorptive capacity to maintain sustainable competitiveness in the process of internationalization.

Table 2.3 Comparison between Developed Countries and Emerging Economies

Dimensions	**Developed Countries**	**Emerging Economies**
Development Level of Economic	High	Low, Medium
Economic Status	Developed /Stable	Transition / Unstable (Economic / Political Reform)
Macroeconomic Structure	Developed / Stable	Less Developed
Market System	Developed	Less Developed
Market Conditions	Stable	Relatively Unstable
Market Infrastructure	Developed	Less Developed
Government Participation	Not High	Relatively High
Cultural resistance to the market economy	Low	Relatively High
Growth Rate	Low	High
Growth Potential	Small (mature market)	Large less developed market)

Resource: Bang, Joshi, and Singh (2016)

2.1.2 China - Representative in Emerging Economies

Fund (2016) shows that economic activity in 2017-2018 is expected to accelerate after a sluggish 2016. The main reason for enhancing the global economic outlook is the acceleration of growth expectations in emerging economies. Zhan (2016) said in an interview with the BBC that the rise of emerging economies has changed the world economic structure and injected new vitality into the world economy. They are increasingly playing a more critical role. The performance of BRICS countries has now exceeded expectations, and this is mainly because of China. Since the onset of the economic crisis, developed countries' economies have been hit hard and have been sluggish for many years. On the contrary, the economies of developing countries have recovered rapidly, especially China. As the largest contributor to the global economic recovery, China has contributed 30% rapid growth to the world economy and always maintained a high level of development speed and average value.

With the rapid improvement of China's economic strength, China is also seeking new cooperation methods and new cooperation projects internationally. The “One Belt One Road” project is an important part of the Chinese government's overseas economic expansion. The establishment of the Asian Investment Bank has provided vital financial support for the project. These new overseas projects and financial policies will jointly promote globalization, accelerate trade liberalization and regional cooperation, weaken trade barriers and protectionism, increase the vitality of the global economy, and change the world economic structure progressively. As an important representative of emerging economies, China has been committed to promoting emerging economies' group development. In the post-financial crisis era, the group development of emerging economies shows a trend of continuous weakening. The Chinese government is fully committed to promoting the “Belt and Road” initiative. The geographic distribution of emerging economies is positively related to the roadmap of the “One Belt One Road” project, which can be embodied to properly handle the different political demands and economic benefits of each other, with a political or economic preference to seek win-win development between China and the countries along the “Belt and Road” and promote the group development of emerging economies. As the Chinese economy transitions to a consumer-oriented and service-oriented economy, the economy remains active and stable. In the future, the Chinese economy will maintain its new standard

and become the mainstay of emerging economies. The development of the world economy is highly dependent on China, and China's economic policies will affect various aspects of international trade.

2.2 Enterprise Internationalization

2.2.1 The Concept of Enterprise Internationalization

From the perspective of strategic management, corporate internationalization is one of the geographical diversification strategies. It usually refers to the behavior of developing business across national borders and expanding markets. Hitt, Hoskisson, and Kim (1997) believe that the expansion of overseas business is a measure of its internationalization strategy. These businesses include many aspects, such as setting up branches overseas, developing research and development, and finding new overseas sales markets. The company's strategic goals for international operations are usually manifested in higher market share, better product quality, more efficient customer service, better reputation, lower cost, and a leading company in technology or product innovation. There are many aspects of stronger competitiveness in the market. To explain the dimension of internationalization, Hitt, Tihanyi, Miller, and Connelly (2006) proposed that the degree of internationalization can be reflected by two indicators, namely the depth of internationalization and the breadth of internationalization. The depth of internationalization represents the company's investment in specific overseas market resources. The range of internationalization represents the scope of the company's overseas market expansion. The academic community has widely recognized this view.

Some large multinational companies are pursuing rapid economic growth in international affairs. Simultaneously, the status quo of Latin American companies is more complicated, so this concept is no single and easy to understand. This is because it is necessary to study from the perspective of organizational management and consider the origin and development of the organization, which together affect the organization's internal knowledge system. The application of big data provides a good way to information management of organizations. (Rojas-Berrio, Robayo, Montoya, Rodríguez, & Piedrahita-Solórzano, 2016). Another study revealed three critical

characteristics of SMEs: market positioning, network layout, and risk attitude. The focus of internationalization theory lies in developing global markets, national efficiency, and export growth. Only the improvement of market position and market share can enable enterprises to have the right to decide on pricing and then earn more profits for themselves.

Therefore, this study explores the relationship and mechanism of absorptive capacity, strategic flexibility, innovation performance, and sustainable competitive advantage in the context of enterprise nationalization.

2.2.2 The Current Research of Enterprise Internationalization

The traditional multinational company theory and resource view believe that an enterprise's unique resources and capabilities are the foundation of its overseas expansion (P. Buckley & Casson, 2003). These resources and capabilities are usually established in the home country and can be used in international markets to gain greater benefits (Bartlett & Ghoshal, 1998). With the changes in the external environment and the growth of companies' internationalization, this static analysis point of view clearly can’t guide international companies in a dynamic environment to obtain sustainable competitive advantages. Many scholars have proposed that they should use organizational capabilities, especially dynamic capabilities, from a perspective to study the strategic behavior and source of competitiveness of the company's internationalization. Kogut and Zander (1993) analyzed enterprises' ability to internationalize by using the knowledge base and evolution theory and proposed that the knowledge of enterprises, innovation capability, transfer, and integration knowledge determine the boundaries of multinational enterprises. Madhok and Osegowitsch (2000) research on the international biotechnology industry found that technology flows both-way between leading and backward countries, and the number of multinational alliances in the industry remains at a high level, thus confirming the importance of the acquisition and allocation of knowledge as dynamic capabilities to the international competition of enterprises.

Knudsen and Madsen (2002) believe that knowledge accumulation and adjustment of information structure in the process of the international expansion of enterprises can make them more effectively respond to overseas markets, and the

performance evaluation of enterprise export strategies needs to combine short-term benefits and long-term effects to keep a balance between using current capabilities and exploring unknown areas. Tallman and Fladmoe-Lindquist (2002), based on the theory of capability-driven strategy, proposed that the internal capabilities of multinational companies and the dynamic management process of capabilities determine the choice of international system and performance, and the dynamic management of capabilities includes capability utilization and capabilities construct, which together promote the international development of the enterprise. Luo (2000) believes that the global expansion of enterprises relies on the interaction of three dynamic capabilities: capability ownership, capability allocation, and capability enhancement. Among them, capability ownership is the basis for companies to gain competitive advantage and international expansion; capability allocation is an essential means to make up for foreign operating disadvantages and seize emerging opportunities; capability enhancement is an inevitable link for companies to obtain sustainable development and create new resources. Griffith and Harvey (2001) focused on the complexity of international expansion and proposed that the effective allocation and coordination of resources inside and outside the organization can help companies take advantage of the correlation between different markets and gain global competitive advantage.

Sullivan Mort and Weerawardena (2006) found that absorptive capacity can promote new international firms to acquire market and technical knowledge and to identify and quickly utilize international market opportunities. Weerawardena, Mort, Liesch, and Knight (2007) then proposed that firms with an international perspective can build and develop learning, networking, and marketing capabilities, develop advanced knowledge-intensive products. Verdier, Prange, Atamer, and Monin (2010) further proposed that companies' process to enter the international market is not necessary to dependent on the path but may rely on the cultivation and reconstruction of individual and organizational capabilities to achieve radical and change of breaking framework. This point of view provides a theoretical basis for this study. As an important internal capability of an enterprise, absolute capacity can evolve into the core competitiveness of the enterprise, providing good conditions for developing overseas markets and maintaining sustainable competitive advantages.

2.2.3 International Market Entry Mode

The economics believes that an enterprise's internationalization is just foreign direct investment, which is a stage in which an enterprise's economic relations with the outside world do not include exports (Z.-n. Yang et al., 2010). The organizational behavior believes that companies' internationalization in companies' action is consciously expanding their foreign markets (Wright & Etemad, 2001), including all forms of multinational operations. Strategic executives believe that a company's globalization means the expansion of companies that use their talents and internal resources to monetize international markets (Hitt et al., 1997). The knowledge and organizational learning ability believe that enterprise internationalization is how companies continuously acquire knowledge from foreign markets (Grant, 1996).

In general, the choice of a company's method of internationalization is mostly due to the interplay of several factors, such as the political, economic, and cultural environment of the host country, the macro-policy of the government and the size of the company, enterprise resources, product differentiation, market barriers, marketing channels and relationships with local suppliers, competitors, and governments (Tallman & Fladmoe-Lindquist, 2002). Shimizu and Hitt's (2004) research shows three main modes of internationalization for enterprises: export, contract, and investment. Kogut and Zander (1993) believe that the company's internationalization model is mainly divided into mergers and acquisitions, joint ventures, and overseas direct factory construction. Kim and Hwang (1992) divided the enterprise internationalization model into authorization, joint venture, and wholly-owned operation. Erramilli (1991) divided the enterprise internationalization model into a complete control model and a sharing model according to the control capabilities differences. Pan, Li, and Tse (1999) believe that the enterprise internationalization model can be divided into contractual cooperative operation and equity models. Also, these factors, including the international development of the parent company, the coordination of the international division of labor, and the design of the organizational structure, played an essential role in the successful expansion of the company's overseas markets. A study by Hill, Hwang, and Kim (1990) found that a company's choice of internationalization model is influenced by strategy, trade, and environmental variables. Kwon and Konopa Leonard (1993) analyzes the impact of the host country's tariff barriers, tax collection policies,

foreign investment restrictions, cultural environment differences on the choice of enterprises internationalization mode.

Based on the scholars' classification of this concept, this study summarizes the following three standard classification dimensions, as shown in Table 2.4.

Table 2.4 Classification of International Market Entry Modes

Criteria	**Enter Mode**		
Degree of ownership	Equity-based	Joint venture	Majority ownership
			Minority ownership
			50%-50% ownership
		Wholly owned subsidiary	Green-field investment
			Merger& acquisition
	Non-equity-based	exporting	Direct exporting
			Indirect exporting
		Contractual agreements	Licensing/franchising
			Turn-key project
			R&D contracts/joint marketing
Level of control	High level	Dominant shareholder, a wholly owned subsidiary	
	Medium level	Plurality shareholder, equal partner, contract management, franchise	
	Low level	Dispersive equity, small shareholder, nonexclusive nonrestrictive contracts	
Resource commitment	High level	Wholly owned subsidiary	
	Intermediate level	Joint venture	
	Low level	licensing	

Except for state-owned enterprises, all other Chinese private companies that have adopted any form of internationalization are within the scope of this study.

2.2.4 Internationalization of Emerging Economies Enterprises

With the acceleration of economic globalization and the continuous growth of emerging economies, international development has become an inevitable choice for emerging economies' growth. More and more emerging economies firms have begun to appear on the stage of the world economy. Internationalization strategy has become an inevitable choice for many emerging economies. Compared with multinational companies in developed countries, the ability to appear economies to international operations is relatively weak, and their internationalization and performance levels are low. Accenture and the Economist Intelligence Unit jointly published a report (2013) on Chinese companies' internationalization. According to the report, more than 60% of the surveyed companies ’international operations have not met their performance expectations in the past three years, while only 25% of companies that continue to expand internationally believe that they have the operational capabilities to implement overseas strategies (G. Li, Yang, & Gao, 2013). Improving the internationalization performance and sustainable competitive advantage of enterprises in emerging economies is the focus of current internationalization strategy research.

Due to the differences of region, institution, and culture, companies in emerging economies often face the inability to transfer valuable resources abroad, and some resources lose their original value or even become disadvantageous in overseas operations when expanding to overseas markets (Cuervo-Cazurra, Maloney, & Manrakhan, 2007). Whether it is possible to transform the organization's resources in time by acquiring new resources or resetting the original resources, it is the key for companies to overcome various resource dilemmas and successfully conduct international operations. As a multinational company from an emerging market, a company's internationalization will encounter "Liability of Foreignness" and face "ownership disadvantages" such as unclear specific advantages, lack of international operating experience, and insufficient global competitiveness. Compared with the home country's operation, its international process's environment is more complex and unpredictable. The enterprise's resources and capabilities depend on the domestic market are often no longer a source of corporate competitive advantage after encountering environmental changes. It may become an obstacle to prevent the company from further growth.

Therefore, companies must manage resources and capabilities dynamically and establish a capacity system that adapts to internationalization changes, and it could help companies keep a sustainable competitive advantage. The ability that enterprises need to emphasize in an international environment is such kind of power to integrate, establish and reconstruct the internal and external competence to cope with changes in the external environment (Teece, Pisano, & Shuen, 1997), which is considered to be the best characterization of the capabilities required for internationalization of companies. As an important part of dynamic capabilities, absorptive capacity plays a significant role in maintaining enterprises' sustainable competitive advantage. Although the importance of the absorptive capacity for corporate internationalization has been widely recognized, scholars also lack in-depth discussions on the mechanism of absorptive capacity. This study intends to conduct an exploratory analysis of the transmission mechanism and role of absorptive capacity on internationalization by summing up and learning from domestic and foreign research results on absorptive capacity.

2.3 Resource-based View and Dynamic Capability

The firm's resource-based view (RBV) is a theoretical framework; it aims to reveal how enterprises can play their carrier role to integrate scarce, precious, and irreplaceable resources and act on the competition and development of enterprises (Barney, 1991). The most significant value of RBV lies in that it can help companies determine which resources are important factors for business success. Simultaneously, the capability view can help companies determine which capabilities can allocate resources to supplement the resource base view in a complex external environment. According to a Warner (2013) perspective, due to nationalized enterprises' attributes and internal systems, they are challenging to respond to and adjust quickly when faced with a complex and changeable market environment. Therefore, international companies must have strategic flexibility and continuously integrate internal resource allocation and strategic direction according to external environment changes. Dynamic capability is one of the skills that multinational companies must master; it can adjust, change, expand, or shrink companies' strategic resources and development director at any time according to changes. The company's external knowledge and internal

strategic practice learning can complete the reallocation of resources and better match market changes. Dynamic capabilities provide a new source for the company's sustainable competitive advantage. It redistributes, integrates, and dispatches the company's resources to key points of strategic deployment. Competitive advantages usually only exist at a certain point in time, bringing short-term benefits to the organization, and cannot last for a long time. But dynamic capabilities can change this state. It can help companies continue to create new competitive advantages and achieve long-term sustainable competition. Helfat and Winter (2011) also caution that due to the different uncertainty and degree of changes in the external environment, dynamic capabilities are sometimes confused. Organizations cannot well grasp the boundaries between dynamic capabilities and operational capabilities. For example, the functions embodied by certain services cannot be distinguished well, and even these services themselves have dual roles, so operational functions and dynamic functions are always put forward together (Helfat & Winter, 2011). Even if there is a phenomenon of overlapping functions, researchers can still observe short-term and long-term performance improvements to distinguish operational functions and dynamic functions (Vanpoucke, Vereecke, & Wetzels, 2014).

The resource-based perspective emphasizes that an enterprise's resources and capabilities are the elements for creating and maintaining a competitive advantage and believes that an enterprise must effectively use its resources and capabilities to achieve excellent performance and excess profits (Todorova & Durisin, 2007). Later, with the more drastic environmental changes and the increasingly fierce competition situation, scholars believe that it is not enough to have static resources and capabilities but should absorb external knowledge effectively and combine the organization's capabilities and knowledge. Because the integration of internal knowledge and the absorption of external knowledge is critical to the enterprise's success, and the performance between industries and organizations will also vary due to the integration and absorption capabilities within the organization. Kogut and Zander (1993) pointed out that the knowledge possessed by an enterprise defines the enterprise's ability and operational boundaries. To prevent competitors from imitating and copying, most enterprises generally adopt a self-development strategy within the organization or absorption strategy from outside. Therefore, companies can develop two methods to help them

maintain a long-term competitive advantage, one is to obtain new knowledge from the outside, and the other is to integrate internal knowledge to develop new knowledge; and for these two methods, scholars are collectively referred to as absorptive capacity and integration capability. Through these two capabilities, organizations can have better dynamic capabilities, thereby creating lasting competitive advantages.

The core of dynamic capabilities has been implied in these arguments-organizational construction, integration, and reconstruction of the original capabilities to deal with possible changes at any time in the environment and keep long-term stable development. When companies face a lot of uncertainty in a dynamic environment, the value of resources as an enterprise's strategic assets will be eroded over time. Inspired by Leonard-Barton 's famous argument that "If an enterprise can't update its core capabilities by itself, then core capabilities will eventually become core rigidity," Teece, Pisano, and Shuen (1997) proposed in 1 9 9 4 that the ability to change capabilities-the concept of "dynamic capabilities," and in 1997 proposed a well-known dynamic capabilities framework, the enterprise's dynamic capabilities are summarized into three dimensions: organization and management procedures (process), location (location) and path (path). The elements of each dimension are described. The dynamic capabilities theory pursues rapid resource integration to obtain competitive advantages in a challenging environment; it has gradually developed and has become a new hot issue in strategic theory field (Leonard, 1992).

Although the research on absorptive capacity, integration capacity, dynamic capacity, and sustainable competitive advantage theory has gradually increased in recent years, most research focuses on the areas related to absorptive capacity and integration capacity. Most existing research on dynamic capacity is still at the stage of clarifying concepts and developing scales. A small number of applied studies in Taiwan have discussed dynamic capabilities and changes in the industrial environment. Kor and Mahoney (2005) first measured the construction of dynamic capabilities in terms of objective variables. In general, most studies are still in the theoretical derivation stage. There are not many empirical studies on dynamic capabilities and sustainable competitive advantage.

Similarly, there are relatively few articles on absorptive capacity and sustainable competitive advantage. Levinson and Asahi (1995) believed that absorptive capacity is

the foundation of learning. The better the absorptive capacity, the better it can help companies absorb and use knowledge and resources from the external environment. It will be beneficial to the rapid growth of the organization. At the same time, they also believe that absorptive capacity affects the learning in the organization and has a significant effect on learning between organizations. If an organization has a stronger absorptive capacity, it means the organization also possesses a stronger ability to control the external environment; the stronger its dynamic capabilities are, the greater the opportunity to introduce competitors' spillover knowledge company. Therefore, if you want to obtain knowledge outside the organization, you must focus on the organization's ability to collect and digest external knowledge or information and cultivate the ability to develop and use this knowledge or information; while emphasizing knowledge sharing within the organization, encourage members continuously pay attention to changes in the environment to expand the field of knowledge. Therefore, absorptive capacity is a critical factor for an organization to obtain updates of its dynamic capabilities.

2.4 Literature and Theories Review

2.4.1 Sustainable Competitive Advantage

1) Competitive Advantage

Porter and & Strategy pioneered research on competitive advantage in their book Competitive Strategy, published in 1980 (Dess & Davis, 1984). He later expanded on this in his 1985 Theory of Competitive Advantage, widely referred to by other researchers (Porter Michael, 1985). The basic premise of competitive advantage is the service or product an organization can offer its customers that exceed its cost of making or delivering it. By employing the term ‘competitive advantage’ as discussed above, the understanding of competition as a specific strategy will be confined to the search for sustainable competitive advantage as the core of business practice and strategic management theory (Porter, 2008).

Research on competitive advantage has new theoretical discoveries in the context of business companies. Competitive advantage is characterized as a business's capacity to offer extraordinary benefits within a competitive industry, never

at any time offered by competitors. Competitive advantage is an essential feature for a company to survive and develop in the market. Specifically, competitive advantage involves reduced business and operational costs, differentiation advantage, or a focused strategy. To Munguia et al. (2017), competitive advantage is seen as sustained above-average returns. Coyne (1986) suggested that competitive advantage is self-evident, and there is no need further to explain its exact meaning (Coyne, 1986). By having a competitive environment, organizations can master a unique technique or management system in the global market. Additionally, firms with a competitive edge in the market can sustain and maintain their market position for a long time (Kapferer, 2012).

Competitive advantage is a kind of capital and ability for a company to maintain a leading position in market competition. The scarcer resources are, the less likely it is to be imitated by competitors in the same industry, and the more they can bring enormous economic value to the company. (Kuncoro & Suriani, 2018).

In long term competitive advantage, through the competence construction of internal capabilities and the optimal allocation of resources, the company forms a sustainable competitive advantage. It provides customers with long-term, high-quality services that are different from competitors. The primary competence refers to a set of unique competence developed in a company in its main fields, such as quality, customer service, team coaching innovation, flexibility, and responsiveness so that it can surpass its competitors. (Kuncoro & Suriani, 2018).

2) Sustainable Competitive Advantage (SCA)

There are many literature studies on the definition of Sustainable Competitive Advantage (SCA). For example, Day and Wensley (1988) proposed unique resources and capabilities could help companies gain a competitive advantage. At the same time, they need to maintain a high degree of attention to changes in customer needs and competition among peers. Besides, sustainable competitive advantage comes from the core competitiveness of enterprises. Enterprises should concentrate external knowledge and internal resources on the cultivation of core competitiveness, to make adjustments and innovations timely under changes in the external environment.

Bocken and Geradts (2019) believe that there are two types of factors that determine the sustainable competitive advantage of an enterprise: one is the

difference and imitation of ability and knowledge, and the other is the irreplaceability of resources, ability, and knowledge. Companies must master and use these two capabilities to absorb external knowledge well and form their sustainable competitive advantage through innovation. This is a very important issue for the company's long-term operation. The continuous contribution of these two factors to competitive advantage is reflected in the interaction between the company and the environment. Zou (2003) believes that there are two manifestations of sustainable competitive advantage: one is the long-term accumulation of short-term advantages; the other is that a particular competitive advantage can exist for a long time without being replaced. Sustainable competitive advantage refers to having resources or capabilities that cannot be imitated and replaced for a long time. It is difficult for companies with such benefits to be overtaken by competitors because the scarcity and uniqueness of resources determine the competitive advantage; once form, it will bring high-quality products and services to the enterprise that is different from other competitors. Although constant competitors or potential entrants are trying to imitate or weaken their advantages in the external environment, the advantages of enterprises still exist. Therefore, a sustainable competitive advantage can be regarded as a long-term equilibrium state. In the alternating cycle of being imitated and constantly innovating, it can always occupy an advantageous position rather than an advantage at a certain point in time.

Coyne (1986) pointed out that sustainable competitive advantage has two essential characteristics: One is "dynamic," that is, sustainable competitive advantage is not static and immutable, and there is no advantage that can never be replaced over time. No matter what kind of market organization structure, such as perfect competition, oligopoly competition, monopolistic competition, competitive advantage is temporary and conditional. On the one hand, it could use new knowledge from the external environment to stimulate innovation and reform within the company, which will enable the company to adapt to the environment and create its competitive advantage actively. On the other hand, when a competitive advantage cannot bring more marginal benefits to the enterprise, another new competitive advantage should be found to replace it. This change of old and new competitive advantages can ensure the innovative vitality and self-transcendence of enterprises. The second is "continuity." The long-term accumulation of relative competitive advantage can form an absolute

competitive advantage. If the company has its competitive advantage at every point in time, then after these points in time are accumulated into a complete, long-term period, its sustainable competitive advantage will be formed, which is composed of short-term and uninterrupted advantages.

However, if the organization has the resources and capabilities that other competitors cannot replicate or surpass. In that case, the organization can maintain its competitive advantage and leading position for a long time. Also, Reed and Defillippi (1990) referred to sustainable competitive advantage as developing walls that make it difficult to duplicate the success of a firm. “Competitive advantage is the source for companies to maintain excellent performance and long-term development.” (Porter Michael, 1985), this sentence shows the importance of competitive advantage, and competitive advantage comes from the continuous innovation activities of the enterprise. Technological innovation, management innovation, and product innovation could strengthen the enterprise's core competitiveness and have uniqueness and high value in the fierce market competition. Jian, Liu, and He (2011) found that enterprises' source of sustainable competitive advantage is different from the past, and new changes have taken place. Different from relying solely on capital and tangible assets in the past, sustainable competitive advantages now rely more on intellectual capital to form. Once this advantage is formed, it is difficult to be imitated by peers, which ensures the company's long-term profitability and more market share.

The most important way for an organization to maintain a sustained competitive advantage is to appropriately execute each step in the value chain. Essentially, competitive advantage must have two characteristics simultaneously: one is to have better performance than competitors, and the other is to provide customers with real and more value to ensure the organization’s leading position (Kak & Sushil, 2002). The internal resources and capabilities of an organization play a crucial role in creating competitive advantages. Enterprises that want to create an unsurpassed competitive advantage (regardless of changes in the external environment) must make an impenetrable link between their competitive advantage and basic internal capabilities that competitors cannot imitate and master by competitors. The most critical part of competitive advantage also stems from the ability to be unable to replicate.

3) Complexity Theory

Due to the uncertainty, dynamic, and complexity of the various factors that companies face, the company's competitive advantage can only be maintained until its competitors successfully imitate or surpass. Under this circumstance, if any company wants to become a "longevity company," it is not enough to have a competitive advantage. The understanding of "sustainable competitive advantage" in traditional competitive strategic thinking primarily depend on a relatively stable market environment. From the predictability of industry, competition, and strategic positioning, sustainable competitive advantage is regarded as a sustainable competitive advantage that can exist or maintain for a long time. Due to the possibility of unexpected situations of technology or industrial structure, an enterprise can fall into a "dilemma" in a short time, so the company's existing competitive advantage is severely weakened or even completely lost. Therefore, it is impossible to evaluate a company's sustainable competitive advantage from a stable market environment in a dynamic environment. Only the use of complex theories and new thinking can better understand the issue of a company's sustainable competitive advantage.

Complexity theory has attracted widespread attention because of its profound insights into real things. Murray-Mann, the founder of Santafe institute, proposed that complexity refers to entangled together (multiple times) and simply refers to a one-time fold. He believes that the current environment and specific matters determine the complexity. It simplifies objects that are complex, difficult to distinguish, and deal with, to make them simple and easy to understand, and innovates the unsolvable parts to adapt to the current environment and strategic direction. Its essential feature is that companies can understand changes in the environment, identify risks and opportunities, and adjust internal resource allocation and strategic policies according to the company's expected goals. Such corporate mechanisms have the intelligence of self-regulation (Lu, 2004). Complexity theory shows sticking to the original models and methods; without innovation, people or organizations cannot stand out from the competition in a world full of changes and unknowns.

According to complexity theory, an enterprise's complexity consists of many aspects, such as execution efficiency, internal structure and rules, strategic decisions, and goals. Based on the understanding of complexity theory, the company's

competitive advantage at a particular time is not enough to support the company's long-term development and maintain its leading position. When the competitive advantage that has lasted for some time is imitated and replaced by competitors, the company must break this balance by itself, begin to use strategic flexibility and innovation to find the next competitive advantage, and form a sustainable competitive advantage in the dynamic cycle of constant alternation of balance and innovation. This cycle is the source of sustainable competitive advantage. Since the environment is continuously changing, the company's strategy should also be dynamic and change with the environment. In the alternation of the disappearance of advantages and strategic breakthroughs, enterprises have achieved long-term development and profitability through innovation. The following figure 2.1 shows the dynamic evolution model of sustainable competitive advantage of enterprises in a dynamic environment.

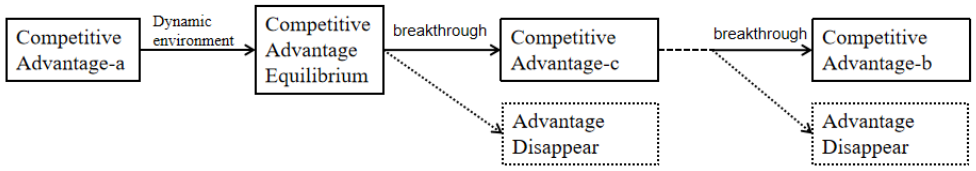

Figure 2.1 The Dynamic Evolution Model of Sustainable Competitive Advantage of Enterprises in Dynamic Environment

Resource: <Strategic Choice of Enterprises' Sustainable Competitive Advantages in Dynamic Environment> Lu (2004)

2.4.2 Strategic Flexibility

Due to the variability and complexity of the market environment, companies must master and skillfully use absorptive capacity and strategic flexibility. These two capabilities can enable companies to allocate resources and adjust strategies at the right time to deal with fierce competition and risks brought by uncertain factors. And when necessary, stop loss in time, reallocate resources to the most needed position, from passive response to active attack, and make innovative moves by the new market environment (Zhou & Wu, 2010).

Conceptually, Strategic flexibility is one of the company's strategic capabilities. It can adjust the company's internal resource layout and development direction in time

according to changes in the external environment and reduce the loss caused by environmental uncertainty (Bahrami, 1992). Strategic flexibility is the ability of an organization to continuously rethink its strategic portfolio, asset allocation, and investment strategy to promote the ability to deliberately adapt to and resist environmental changes according to the current environment (Sanchez, 1995).

Strategic flexibility, an essential dynamic task, has obtained a lot of interest from researchers in approach and organizational studies and is recognized as an important weapon and response to change the ineffective strategy of enterprises (Shimizu & Hitt, 2004) and overcome organizational inertia. Simultaneously, strategic flexibility can also help companies effectively respond to market opportunities and challenges, meet new market demands by developing new products and new industries, gain competitive advantages, and enhance product innovation capabilities. For example, Shimizu and Hitt (2004) agree that strategic flexibility helps organizations use inner and exterior assets and benefit from possibilities for innovation in exploratory learning. Verdu, Llorens Montes, and García-Morales (2005) observed that the method has a tremendous impact on product innovation and will increase adaptability to the environment.

Strategic flexibility is a concept that consists of multiple dimensions (very likely due to its polymorphous nature). Table 2.4 displays the dimensions of strategic flexibility that can be found in an article written by Setijono (2010). Comparing these dimensions with those proposed by various researchers, it may be apparent that the dimensions in Table 1 are the combination of the dimensions of flexibility in the areas of, e.g., manufacturing, organization, and flexibility in a general sense, etc. Due to its broad coverage, the dimensions as listed in Table 2.5 are preferable to be used.

Table 2.5 The Dimensions of Strategic Flexibility

Externally observable	**Internally observable**
Manufacturing process flexibility	Implement flexibility
Market flexibility	Management flexibility
Financial flexibility	Learning flexibility

Resource: Setijono (2010).

Strategic flexibility refers to a company's capability to discover altering elements in its surroundings and rapidly make investment sources in a new environment (Cottrell & Nault, 2004). Sanchez recommended that strategic flexibility relies upon on a company's potential to accumulate sources and offerings. Sanchez introduced that strategic flexibility consists of flexibility in sources and flexibility in collaboration. Strategic flexibility requires corporations to maximize and use their resources. Resource flexibility can be damaged down into three parts: Resource scope. The value and challenge of getting assets from one celebration to another. Resource flexibility is described as the herbal possession of support, and collaborative flexibility is a company's potential to collect assets (Ireland, Hitt, & Sirmon, 2003). The flexibility of collaboration can be divided into three parts: Identify the assets used via your organization; Identify and construct an organization's capacity to gather goal resources; Resources are discovered in the organizational gadget and used for centered merchandise (Sanchez, 1997). Since strategic flexibility impacts product innovation, some researchers have researched to get results. For example, Sánchez-Sellero, Rosell-Martínez, and García-Vázquez (2014) request and supply product improvements and offerings to groups that point out that strategic flexibility is higher desirable to practicable markets. However, some scientists agree that strategic flexibility does no longer continually leads to innovation. li, Liu, Duan, and Li (2008) pointed out that the flexibility of collaboration promotes internal improvements in the company; however, most research's flexibility correlates negatively with agency innovations. Most research proceed to exhibit an excellent correlation between strategic flexibility and product innovation.

The key to strategic flexibility lies in integrating new information about modifications in the inside state of affairs or the exterior surroundings of the corporation thru strategic administration mechanisms. Data integration requires the guide of fundamental corporation data and the processing of new records interior and backyard the company; its strategic flexibility is an organic enterprise knowledge system. Matusik and Heeley (2005) believe that the formation of sufficient resilience requires the development of supportive learning systems, especially the development of information collection functions and information processing functions, which helps

companies to perceive and tap environmental opportunities, determine the timing of change, and determine the required Various enterprise capabilities. Business intelligence refers to a company's ability to acquire (production), store, transfer, share, apply, and update new knowledge based on the original knowledge base. The degree of activity of the company's strategic learning mechanism determines the strength of the company's strategic flexibility, and the ability of corporate knowledge innovation is the decisive factor for the activity of the company's strategic learning mechanism. Therefore, the enterprise's knowledge innovation ability has basically affected the strength of the company's strategic flexibility.

Strategic flexibility emphasizes the flexible use and reconfiguration of resources and reflects dynamic types of enterprises' actions (Eisenhardt & Martin, 2000). Under normal circumstances, strategic flexibility has a strong impact on acquiring competitive advantages in a rapidly changing market. Simultaneously, strategic flexibility could contribute to developing new products (Kandemir & Acur, 2012) and the ability to innovate. Based on this literature, this study believes that strategic flexibility and sustainable competitive advantage are correlated and vital factors. Hence it appears as an intermediate variable in the conceptual framework.

With the continuous deepening of China's economic system reform, companies need to promptly understand new market opportunities and implement new product development strategies to meet market demand. The high performance of the new product has become a hot issue in current management research. In the context of an incomplete external resource environment, companies with greater flexibility and ability to cope with the environment can reduce the impact of environmental turmoil and improve the overall vitality and competitiveness, which is a powerful driving factor for companies to implement new product development strategies (Nadkarni & Herrmann, 2010). In this context, the importance of strategic flexibility is further emphasized. In particular, strategic flexibility is the company's ability to allocate and organize the resources, processes flexibly, and strategies of a company to react to dynamic environmental changes through internal coordination and changes (Dai, Goodale, Byun, & Ding, 2018).

A variety of options for adapting to dynamic product opportunities or changing production processes can also be one way to generate real strategic options for firms.

With various strategic options and alternative strategic options at hand, firms can minimize their risks and the impact of strategic changes. This is the key determinant of organizations' strategic flexibility (Nadkarni & Herrmann, 2010). Due to the existence of environmental uncertainty, the company's business will change accordingly. The value of firms' capability to be flexible in turning threats into opportunities and generating a variety of strategic options is also critical. Once the company has mastered the ability to adapt to environmental changes, it will make more choices and collocations from a strategic level to ensure its competitiveness and market share to the greatest extent and reduce competition from the same industry (Sanchez, 1995). With certain firms develop the ability to foresee future trends in this dynamic competitive landscape, they must also be flexible enough to modify their strategies to fit the environment, not only for survival but also to become a market leader. Sanchez (1997) extended the idea by suggesting that specific capability and resources will only lead to a temporary competitive advantage. Still, modifying product processes and continuously combining varied resources will yield the advantage of dynamic product opportunities and lead to a sustainable competitive advantage. In sum, strategic flexibility is the ability of firms to use their resources to modify their strategies, change their strategic direction, or generate as many strategic options as possible continuously not only to survive, but to become a market leader in that industry, thus attaining a sustainable competitive advantage.

2.4.3 Innovation Performance

Innovation performance includes all the benefits of the organization's innovation activities, including multiple aspects of measurement. It can be studied from two levels, the narrow-sense and the broad-sense (Hagedoorn & Cloodt, 2003). Predecessors have done many different researches on the evaluation of innovation performance. Ferraris, Devalle, Ciampi, and Couturier (2019), for example, propose that innovation performance includes product innovation, organizational innovation, process innovation, and strategic innovation.

Innovation performance can be regarded as the embodiment of innovation ability in the company's income. When the company goes from an innovative idea to the input of human resources and capital to produce innovative results, it finally brings

economic benefits to the company. This covers the entire process of new product development. In other words, the concept of innovation performance, in a broad sense, focuses on evaluating the economic benefits brought by innovation activities, including technological innovation, product innovation, marketing innovation, and so on (Rajapathirana & Hui, 2018). Y. Wei and Morgan (2004) proposed that innovation performance could create massive value for customers, thereby bringing greater market performance and profitability, so that companies can lead a sustainable competitive advantage. However, in the literature, the relationship between innovation performance and sustainable competitive advantage has not been specifically explored, and there are few empirical data to support this conclusion. Innovation can form an "isolation mechanism" for the company and external competitors, thereby protecting its profit margins and supporting its profit. (Lavie, 2006). Therefore, the competitive advantages are influenced by innovation performance and capacity.

In another case, innovation is mainly through developing new products, services, processes, or business methods to respond to opportunities or crises encountered by the organization. The process of innovation is transformed into a plan to develop new products, services, processes, or business models to achieve specific goals (Bason, 2010). The most noteworthy thing is that in an environment full of change and uncertainty, innovation is an important way to maintain and develop performance and create growth (Porter & Kramer, 2007).

Therefore, firms must create a distinction between themselves and their rivals through unique strategies. Making innovative and strategic changes in the organization helps them to enable companies to gain a competitive advantage by adopting different strategies from competitors. Innovation is an important factor in the success of an enterprise. It is reflected in the development of next-generation products and challenges and reorganizes traditional concepts in specific fields. This involves rethinking the objective market, consumer demand, and the entire value delivery method. Moutinho (2016) also redesigned businesses' strategies, ultimately focusing on bringing consumer value to the marketplace. According to past successes, if you want to win in a fiercely competitive environment, companies must learn to break the rules and innovate. Applying good innovations may ensure a sustainable competitive advantage and affect core competitiveness.

2.4.4 Absorptive Capacity

2.4.4.1 Definition of Absorptive Capacity

Absorptive capacity (Cohen and Levinthal (1990); Zahra and George (2002)) remains a strong and growing area of research across the field of management and organizational studies (Apriliyanti and Alon (2017); P. J. Lane, Koka, and Pathak (2006a); Volberda, Foss, and Lyles (2010)). Absorptive capacity does not burst out suddenly at a certain point in time; it is cumulative, which means that organizations need to make fixed investments in absorptive capacity. In the foreseeable future, it can improve the enterprise's core competitiveness more than investing in time. This means that companies must work hard to develop absorptive capacity in one period to make it easier to accumulate in the next period.

P. Lane and Lubatkin (1998) are the first scholars to make some new interpretations for the construct that Cohen and Levinthal (1989) proposed. These authors defined a new structure called relative absorptive capacity. Among them, the most significant difference between Cohen and Levinthal's structure is the introduction and strengthening of the external environment's analysis. Todorova and Durisin (2007) questioned whether knowledge absorption and knowledge transformation capabilities are two different sequential processes. Some scholars believe that transformation capability is not a stage after assimilation but an alternative process. Therefore, the absorptive capacity is defined as a company's ability to evaluate the value, acquire, absorb or transform, and use external knowledge. Todorova and Durisin (2007) believe that knowledge assimilation will directly lead to its development or application without prior knowledge conversion if the external experience is compatible with the company's cognitive model. Instead, the individual’s cognitive structure should be modified to adapt to concepts or situations that they cannot absorb. However, Zahra and George (2002) do not provide a clear theoretical definition of the construct. Absorptive capacity is divided into two components based on complementarity: Acquisition and assimilation belong to potential absorptive capacity; transformation and application belong to realized absorptive capacity.

2.4.4.2 Dimensions of Absorptive Capacity

Shenkar, Aranya, and Almor (1995) stipulate that the definition and division of a concept must meet two conditions: The structure can be accurately measured; simultaneously, the dimension of the structure must fully include all aspects to reflect all the characteristics of the structure.

According to the previous research viewpoints, absorptive capacity will be studied from a dynamic perspective or a process-oriented perspective (P. J. Lane, Koka, and Pathak (2006b); Zahra and George (2002)). Dynamic capabilities are divided into four different dimensions, which fully reflect the characteristics of dynamic capabilities and can be measured. The four dimensions are acquisition, assimilation, transformation, application (see Table 2.6).

Table 2.6 Dimensions of Absorptive Capacity

Dimensions	**Definition**	**Antecedents**
Acquisition	Acquisition capacity is a firm's ability to locate, identify, value, and acquire external knowledge critical to its operations.	P. Lane and Lubatkin (1998), Zahra and George (2002), Liao, Welsch, and Stoica (2003)
Assimilation	Assimilation capacity refers to a firm's ability to absorb external knowledge.	Szulanski (1996)
Transformation	Transformation capacity is a firm's capacity to develop and refine the internal routines that facilitate the transference and combination of previous knowledge.	Kogut and Zander (1993), Bosch, Volberda, and Boer (1999)
Application	Application capacity refers to the organizational ability that enable firms to incorporate acquired, assimilated, and transformed knowledge into their operations and routines.	P. Lane and Lubatkin (1998), Zahra and George (2002)

Resource: Camison and Fores (2010)

By defining two large functional blocks of absorptive capacity, it is easier to study their multiple premises and results and analyze the relationship between

them. Therefore, this distinction is very reasonable. In this sense, Zahra and George (2002) state that potential absorptive capacity can help companies maintain a competitive advantage; it improves company management's efficiency and flexibility. At the same time, it has a good ability to coordinate the allocation of resources and capabilities, the theoretical comparison and connection between the potential absorptive capacity and the realized absorptive capacity show that knowledge from external acquisition to internal transformation will go through multiple iterations before it can be successfully applied to enterprise knowledge to create value. In this sense, potential absorptive capacity and realized absorptive capacity are interrelated, and both are indispensable. Together, they constitute the overall process of absorptive capacity and contribute to transforming the company's external knowledge to internal capabilities.

In contrast to Cohen and Levinthal's definition, Zahra and George argue that the acquisition and application of absorptive capacity can be embodied in various ways and methods, and it is not a single model. This also promotes the development of enterprise innovation capabilities to a certain extent and is not limited to one process. They also pointed out that absorptive capacity is dynamic, not static. This study focused on these two dimensions of absorptive capacity-potential and realized-and explore how absorptive capacity affects the firm's sustainable competitive advantage, following Zahra and George (2002), and investigate the distinct contributions of Potential Absorptive Capacity(PAC) and Realized Absorptive Capacity(RAC) to firm performance

2.5 Relationship of Variables

2.5.1 Absorptive Capacity and Strategic Flexibility

Absorptive capacity has an important influence on strategic flexibility and various forms of innovation. The company uses the absorptive capacity to identify, absorb, and apply valuable, new, and external information essential to its ability to innovate (Cohen & Levinthal, 1990). Absorptive capacity can help companies continuously upgrade their existing knowledge system, add new content, and maintain knowledge updates' vitality (Zahra & George, 2002). This will help companies form a

benign, more flexible, and efficient cycle in resource allocation and innovation activities. Innovation is the foundation for an enterprise to maintain its competitiveness, and flexibility is an indispensable tool to innovate. (Zahra & George, 2002). This study explores how to increase strategic flexibility and make innovation performance, firms need to develop potential absorptive capacity (acquisition and assimilation of knowledge) and realized absorptive capacity (transformation and exploitation of knowledge).

Based on the relationship between absorptive capacity and strategic flexibility, the study implies the following hypothesis:

H1a: The potential absorptive capacity of emerging economics firms correlates positively with strategic flexibility.

H1b: The realized absorptive capacity of emerging economics firms correlates positively with strategic flexibility.

2.5.2 Absorptive Capacity and Innovation Performance

The cultivation and utilization of absorptive capacity is not the ultimate goal of an enterprise but as an enterprise tool. Absorptive capacity can bring new results and performance to the enterprise and increase products and services' value. For example, Cohen and Levinthal (1990) associated absorptive capacity with innovation capacity and innovation performance. The core principle that absorptive capacity can bring benefits to an enterprise is that the absorption and utilization of new knowledge can accelerate the occurrence and deepen of innovative behaviors, which will bring about the production of new knowledge and new products. These outcomes will help enterprises maintain their core competitive advantage in the future. (Zahra & George, 2002).

Higher absorptive capacity helps companies achieve excellent innovation performance, has first-mover advantage, rapid response to customers, and avoids being in a passive state and falling into a deadlock behind the market. The absorption and use of external knowledge help to stimulate the enterprise's awareness of innovation, develop new products and services that conform to market changes, and improve its competitiveness and innovation value. (Y.-S. Chen et al., 2009). Through access to collecting external knowledge firms may begin to question and reform the new

technique or production behind existing knowledge, thus expanding their problem-solving repertoire and improving the ability to transform and utilize new knowledge. The reform of the company's existing system and its optimization can improve efficiency and stimulate employees' consciousness of innovation and exploration spirit. (Smith, Collins, & Clark, 2005).

In business management, the communication and coordination between different departments help the diffusion and absorption of knowledge. The application of new knowledge will stimulate the enterprise's innovative behavior (Tsai, 2001). There are differences in the distribution and update of information in different departments of an organization to one degree or another. If each department's external knowledge can be shared and exchanged with other departments, then the departments can provide new information and creative ideas for each other. Therefore, absorptive capacity can handle new external knowledge and transfer the necessary knowledge for cross-organizational innovation activities to operate. The absorption and use of knowledge can help enterprises to improve their innovation performance.

At present, the research on the relationship between absorptive capacity and innovation performance is just emerging, with relatively few empirical data and theoretical basis, and it is still a new field worthy of serious exploration. (Fosfuri & Tribó, 2008). This study focuses specifically on examining how absorptive capacity translates into innovation performance.

H2a: The potential absorptive capacity of emerging economics firms correlates positively with innovation performance.

H2b: The realized absorptive capacity by emerging economics firms correlates positively with innovation performance.

2.5.3 Absorptive Capacity and Sustainable Competitive Advantage

The theory of absorptive capacity explores how companies can acquire and maintain their sustainable competitive advantage from the perspective of learning ability and pay attention to the company's external resources without contradicting resource-based theories. The theory believes that external resources are essential for an enterprise to obtain unique resources. If an enterprise wants to occupy unique resources dynamically, it must maintain its openness and continuous absorption of external

resources. The stronger the enterprise's absorptive capacity, the stronger the ability to master the external environment, the more able to identify the value of useful information from the outside world, and then absorb and apply knowledge in enterprise practice. This helps enrich the knowledge resources of enterprises and creates conditions for the integrated use of knowledge after it is acquired. The internationalization of R&D companies in emerging economies can complete the knowledge reverse transfer between local and home countries; it uses the absorptive capacity to improve the home company's innovation capability and performance, integrating the knowledge and resources of different economies (Hitt et al., 1997). Based on the internationalization of companies in emerging economies, this study believes that based on existing research, the relationship between absorptive capacity, strategic flexibility, innovation performance, and sustainable competitiveness can be discussed deeply.

Based on the above, the following hypothesis is implied:

H3a: The potential absorptive capacity of emerging economics firms correlates positively with the sustainable competitive advantage.

H3b: The realized absorptive capacity of the emerging economics firms correlates positively with the sustainable competitive advantage.

2.5.4 Strategic Flexibility and Innovation Performance

In a continuously changing environment, the company's strategic choices are affected by the organization's constraints and coordination of internal resources. Maintaining strategic flexibility to adjust corporate strategies in time is enough to become an important thing. Scholars have confirmed that in a rapidly changing and fiercely volatile market environment, strategic flexibility will bring competitive advantages to enterprises, enabling enterprises to quickly reallocate resources and develop innovation to meet the different demands of high-level product and service markets. Finally, strategic flexibility will promote corporate financial performance (Nadkarni & Herrmann, 2010).

H. Liu et al. (2013) also believes that strategic flexibility is the benefit to increasing the performance of new products and R&D. Firstly, as a dynamic capability that helps companies gain a competitive advantage in rapidly changing markets,

strategic flexibility can prompt companies to reallocate resources to consolidate their strength and adapt to market demands. From the perspective of strategic management, enterprises should learn how to find opportunities that match their resources and capabilities, and the greater the strategic flexibility, the more opportunities that companies can identify and evaluate, and thus the more beneficial the enterprise could carry out innovative activities and improve new product performance. Secondly, strategic flexibility can overcome organizational inertia, break rigid technical procedures, enable enterprises to develop new alternatives (K. Z. Zhou, Zhang, Sheng, Xie, & Bao, 2014). And provide enterprises with the advantages of absorbing and using the new internal environment of information enhances the absorptive capacity necessary for enterprises to carry out innovative activities (Matthyssens, Pauwels, & Vandenbempt, 2005).

Also, strategic flexibility can help companies quickly realize the combination of innovation and complementary assets (Z. Wei, Yi, & Guo, 2013), improve the adaptability of enterprises, help new products develop, and improve the performance of new products. Finally, judging from Chinese enterprises' practice, many manufacturing enterprises are generally small size and lack resources, then it would lead to a specific negative impact on the research and development of new products. High strategic flexibility enhances the rapid use capability of resources in an uncertain environment. The ability to carry out further actions enhances companies' willingness to abandon existing investments and pursue future innovation and development. Enterprises with a high degree of flexibility can coordinate resources by changing strategies and tactics, reconfiguring supply chains and value chains to more effectively deploy resources (J. Yang, Zhang, Jiang, & Sun, 2015), which makes enterprises tend to subdivide innovation functions and R & D interests, thereby improving new product performance.

In summary, although scholars' research on strategic flexibility and performance of new products is still in the ascendant, existing research not have a good answer to “Under a dynamic environment, can strategic flexibility promote the performance of new products of enterprises? Are there other key factors to make this process work?”

According to the previous study, the study implies the following hypothesis:

H4: The strategic flexibility of emerging economics firms correlates positively with innovation performance.

2.5.5 Strategic Flexibility and Sustainable Competitive Advantage

Strategic flexibility is defined as that in a challenging and competitive environment; companies can correctly judge opportunities and threats when opportunities come, companies can catch opportunities and create new value and performance; on the contrary, when facing threats, companies can make reasonable assessments and respond measures to reduce risks and losses. Strategic flexibility enables companies to take the initiative to react quickly to market changes when facing an uncertain market environment and to shape and change the environment to a certain extent. Companies with strategic flexibility can always master critical resources and competitive advantages in the industry. Strategic flexibility brings new value and industry standards to enterprises and explores new directions and rules in new changes. This is the basis and prerequisite for maintaining sustainable competitiveness (Eryesil, Esmen, & Beduk, 2015). In these types of businesses, the change mostly increases in a small and staged way. The main advantage of a company with strategic flexibility lies in its ability to quickly adapt to environmental changes. Through strategic adjustment and resource reallocation, companies can accumulate short-term competitive advantages to achieve long-term competitive advantages. At the same time, it can take advantage of opportunities to conduct protective activities and repair damage to respond to environmental changes.

Hence, a company's strategic flexibility impacts its sustainable competitive advantage, and this study implies the following hypothesis:

H5: The strategic flexibility of emerging economics firms correlates positively with the sustainable competitive advantage.

2.5.6 Innovation Performance and Sustainable Competitive Advantage

From the perspective of resource-based review, companies in the same industry often possess or control helpful resources that are different. If an enterprise has a unique resource that is difficult for its peers to imitate or obtain for a long period, this company has obtained a long-term monopoly of valuable resources and form long-term

competitive advantages, bringing rich value creation to the enterprise (J. Barney, 1991). In the era of a knowledge economy, innovation is an irreplaceable behavior and advantage (Prajogo & Ahmed, 2006). Innovation is a critical factor that enables companies to maintain vitality and sustainable competitive advantage, and it can continuously bring new growth points to company performance (Teece, 2007). Successful innovation will make it more difficult for external competitors to imitate so that companies can better maintain their advantages.

Therefore, the innovation performance of firms would affect their sustainable competitive advantages, and this study implies the following hypothesis:

H6: The innovation performance of the emerging economics firms correlates positively with the sustainable competitive advantage.

2.6 Moderator-Environmental Uncertainty

When an enterprise performs internal resource allocation, environmental uncertainty is an important variable. The current highly uncertain and rapidly changing characteristics of the global economic environment require companies to face changes in the external environment (Qi, Zhao, & Sheu, 2011). Environmental uncertainty includes the unpredictability of competitors, suppliers, customers, markets, product and technology changes, etc., including the variation of these factors and the degree of instability, governance mechanisms, and operations of enterprises. Environmental uncertainty is a contingent factor (Wong, Boon-itt, & Wong, 2011). Only under a good external environment, exploratory innovation and applied innovation can bring better performance to the enterprise and help improve its competitive advantage. As an external factor of the enterprise (Duncan, 1972), the enterprise cannot change the uncertain environment. The enterprise can only adapt to the external environment by understanding the external environment and maximizing the benefits by combining its capabilities.

With the fierce competition faced by enterprises, the life cycle of products is shortened. When the environmental uncertainty is higher, the flexibility of resources can reflect higher value, and enterprises can quickly invest resources into new fields. The resource demand for innovation activities can be satisfied better. On the one hand,

high environmental uncertainty restricts companies' access to resources. At this time, flexible resources can play their role better, helping companies overcome the obstacles of limited resources, relying on multi-purpose resources to develop new technologies and develop new products or services. On the other hand, enterprises need to carry out certainly applied innovations to maintain the existing market share and competition in a turbulent market environment. At this time, the enterprise's flexible resources can promote the enterprise's application innovation without cost pressure.

Environmental uncertainty limits the ability of enterprises to act in all aspects mainly and increases the risks. Enterprises need to pay special attention to new changes in the market or environment and promptly adopt suitable strategies according to environmental conditions. When the environment tends to be stable, companies can more accurately predict changes in environmental factors such as customer demand, industry competition, and technological changes. Few innovations need to be carried out from the original technology track; When the environment is uncertain, it is difficult for enterprises to predict changes in environmental factors, but they can recognize the degree and speed of environmental changes. When the uncertainty is very high, enterprises may not accurately capture new demand points arising from market changes. Therefore, enterprises may start more substantial innovations and explore new products to gain a new competitive advantage (C.-J. Chen & Huang, 2009). The resource-based theory points out that changes in strategy are inseparable from the use of resources and capabilities. If the use of resources and capabilities couldn’t be fully applied, the more time and cost enterprises will need to spend. Therefore, changes in the environment will prompt enterprises to increase their resource flexibility and create favorable conditions to gain a competitive advantage in the changing environment.

Coordination flexibility tends to find new resources or new uses. When environmental uncertainty is low, companies need to continue market development to more easily capture small changes in the environment. At this time, new uses and resources brought by coordination flexibility are difficult to perform effectively. When the environmental uncertainty is high, companies need to carry out more exploratory innovations, bring more resources, or discover more flexible use of resources (Sanchez, 1995).

Thus, according to the previous study about the influence brought by environmental uncertainty on innovation performance and strategic flexibility, the study implies the following hypothesis:

H7a: Environmental uncertainties negatively regulate the relationship between potential absorptive capacity and innovation performance.

H7b: Environmental uncertainties negatively regulate the relationship between realized absorptive capacity and innovation performance.

H7c: Environmental uncertainties negatively indicate the relationship between strategic flexibility and innovation performance.

2.7 Mediator - Strategic Flexibility and Innovation Performance

Through the elaboration of the relationship between variables in section 2.5, this study found that strategic flexibility and innovation performance might become mediators that affected the relationship level of other variables; however, the mediating effect existed or not, it was still necessary to be explored by empirical research. Therefore, this study proposed the following hypotheses for the mediating effect measurement of strategic flexibility and innovation performance:

H8: Strategic flexibility mediates the relationship between potential absorptive capacity and sustainable competitive advantage.

H9: Innovation performance mediates the relationship between potential absorptive capacity and sustainable competitive advantage.

H10: Strategic flexibility mediates the relationship between potential absorptive capacity and innovation performance.

H11: Innovation performance mediates the relationship between realized absorptive capacity and sustainable competitive advantage.

H12: Innovation performance mediates the relationship between strategic flexibility and sustainable competitive advantage.

2.8 Control Variable - Firm Size, Firm Age, Industry, Ownership, R&D Intensity, Overseas Experience

Based on previous studies, the relationship between absorptive capacity, strategic flexibility, innovation performance, and competitive advantage is affected more or less by the company's various attributes. Therefore, some of these factors will still be used as control variables in this study.

According to previous research literature, if the company size is significantly different, the results of the company's competitive advantage will be significantly different. As we all know, large companies' structure is more complicated than that of small companies, which provides a certain degree of support for developing competitive advantages such as innovation. At the same time, previous studies have found that thorough research on many companies of different sizes and different industries, the impact of scale and industry on the relationship between sustainable competitive advantage and organizational performance has a certain degree of influence because this research has targeted (Guimarães, Severo, & Vasconcelos, 2017).

Empirical evidence demonstrates that new and high technique firms invest more in riskier innovation activities (e.g., R&D) than incumbents. Hence, younger firms have a higher product innovation for surviving and growing. This suggests that a firm’s age and R&D intensity are inversely associated with a sustainable competitive advantage (Medase & Barasa, 2019).

Prior literature suggests that competitive advantage may be influenced by the type of ownership and overseas experience (Lewin, Massini, & Peeters, 2011). Accordingly, we included overseas experience and type of ownership as control variables in the analysis. This enables us to identify the relationship between absorptive capacity and sustainable competitive advantage more effectively. Auh and Menguc (2005) argue that different ownership forms of firms have different resources and capabilities leveraged to enhance their competitive advantage.

2.9 Conceptual Framework and Hypothesis Development

As proposed in the prior sections, the hypotheses of this study are grounded on the conduction mechanism between absorptive capacity and sustainable competitive advantage. Figure 2.2 presents the conceptual framework and the interrelationships between variables (potential absorptive capacity, realized absorptive capacity, strategic flexibility, innovation performance, sustainable competitive advantage, environmental uncertainty) are also presented, control variables include age, size, industry, ownership, overseas experience, R&D intensity. A total of hypotheses, as supported by related theories and several previous studies, are proposed.

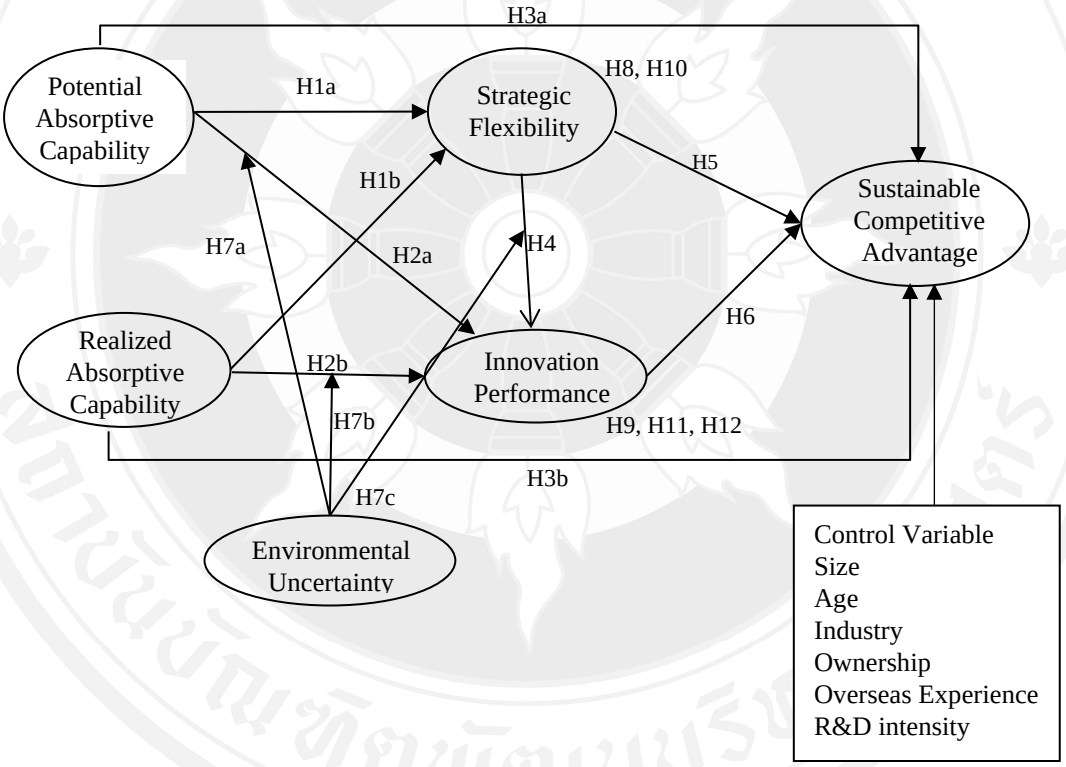

Figure 2.2 Conceptual Framework

H1a: The potential absorptive capacity of emerging economics firms correlates positively with strategic flexibility.

H1b: The realized absorptive capacity of emerging economics firms correlates positively with strategic flexibility.

H2a: The potential absorptive capacity of emerging economics firms correlates positively with innovation performance.

H2b: The realized absorptive capacity by emerging economics firms correlates positively with innovation performance.

H3a: The potential absorptive capacity of emerging economics firms correlates positively with the sustainable competitive advantage.

H3b: The realized absorptive capacity of the emerging economics firms correlates positively with the sustainable competitive advantage.

H4: The strategic flexibility of emerging economics firms correlates positively with innovation performance.

H5: The strategic flexibility of emerging economics firms correlates positively with the sustainable competitive advantage.

H6: The innovation performance of the emerging economics firms correlates positively with the sustainable competitive advantage.

H7a: Environmental uncertainties negatively regulate the relationship between potential absorptive capacity and innovation performance.

H7b: Environmental uncertainties negatively regulate the relationship between realized absorptive capacity and innovation performance.

H7c: Environmental uncertainties negatively indicate the relationship between strategic flexibility and innovation performance.

H8: Strategic flexibility mediates the relationship between potential absorptive capacity and sustainable competitive advantage.

H9: Innovation performance mediates the relationship between potential absorptive capacity and sustainable competitive advantage.

H10: Strategic flexibility mediates the relationship between potential absorptive capacity and innovation performance.

H11: Innovation performance mediates the relationship between realized absorptive capacity and sustainable competitive advantage.

H12: Innovation performance mediates the relationship between strategic flexibility and sustainable competitive advantage.

The study used abbreviations for all variables in diagrams and calculations for ease of use, as shown in Table 2.7 below.

Table 2.7 Abbreviation List

Variables	**Abbreviation**
Potential absorptive capability.	PAC
Realized absorptive capability.	RAC
Strategic flexibility.	SF
Innovation Performance. Technical Innovation. Marketing Innovation. Production Innovation.	IP IPTI IPMI IPPI
Sustainable competitive advantage.	SCA
Environmental uncertainty. Environmental dynamic. Environmental hostility.	EU ED EH

CHAPTER 3

RESEARCH METHODOLOGY

Chapter three contains essential information on research methodology. This empirical study aims to explain the effects of absorptive capacity on the sustainable competitive advantage of emerging countries in terms of internationalization, including strategic flexibility and innovation performance as two mediators, environmental uncertainty as a moderator, age, size, industry, ownership, overseas experience and R&D intensity as control variables. This chapter consists of 8 sections, showing the research design, sample plan, data acquisition method, construct measurement, control variables, back translation technique, analytical approaches, and pilot test.

3.1 Research Design

In this study, a quantitative method is applied to the study design. Quantitative methods are commonly used to measure and analyze causal relationships between components. Quantitative research is widespread and widely used in social science research related to marketing, economics, sociology, politics, etc. The quantitative information is collected through questionnaires.

A survey was conducted to test and confirm the proposed hypothesis. Measurement tools for variables were developed using previously validated scales. Rensis Likert developed the Likert scale as a "measure of attitude, personality, opinion, and emotion" (Likert, 1932). The Likert Scale's primary purpose is to measure the average of psychological attitudes in a scientific way. Quantitative research generally applies a five-point or seven-point Likert scale. For the topic, it is generally recommended to choose the five-point Likert scale. A specific response to something that strongly agrees, agree, undecided, disagree, or strongly disagree is the one with the most favorable attitude. The individuals with the most favorable attitudes will get the

highest points and the individuals with the least favorable attitudes will get the lowest points. The summarizing scale for all surveys is not created according to the specific Likert procedure but essentially created and checked according to the Likert scale's basic logic. First, the Likert scale considers the use of at least five answer categories; it provides researchers with a higher rating scale, if appropriate for these analyses when necessary, to get better results. It is also recommended the scale questionnaire consists of all components, control variables, and general characteristics.

According to previous studies, the draft questionnaire was initially written in English. The author introduced the translation technique to two language experts and asked them to translate the question into Chinese and then translate it again. Finally, there are two versions of the questionnaire (English and Chinese).

This study was conducted in two stages, the first stage pilot study and the second stage primary survey and received feedback from overseas Chinese companies. Some scholars, like Nieswiadomy, Lackey, and Wingate, recommended obtaining approximately 10 participants or 10% of the final study size. Regarding the final scope of the study, the final decision should be based on cost and time constraints and the size and variability of the population (Hertzog, 2008). The size of the main research sample is expected to be 396. Therefore, a quantitative pilot study was used to test the scale's reliability and validity with a sample of 40 enterprises from the Chinese Chamber of Commerce in Hongkong. Since the main test samples come from different countries, taking into account cost and time efficiency, the pre-test is conducted in Hong Kong. Hong Kong ranks first in the list of China's total overseas investment to be selected as the source of the pre-test samples. This step aims to verify the questionnaire's appropriateness and analysis tools and prepare the final measurements used in the primary test properly. Once the pilot test is complete, the primary test could be started and collect data to be analyzed in Chapter 4.

3.2 Back Translation Technique

Considering that the respondents of the questionnaire may be Chinese or foreigners, the Chinese version and the English version are need at the same time. So, a back-translation technique is necessary. The back-translation technique could minimize language errors as well as to improve translation accuracy. The English questionnaire version is prepared for non-Chinese persons in charge of overseas enterprises, and the Chinese questionnaire version is prepared for Chinese persons.

The English questionnaire was constructed from original measurements from previous studies. A back translation was employed, first, to translate the English questionnaire into Chinese by an expert. The expert passed an English professional test and got a degree that 'Qualification Certificate of Translation Proficiency the People's Republic of China,' translator Level II. Another independent translator, possessing the same certification, then translated the Chinese questionnaire into English (without having seen the original English version). Two different sets of input language questionnaires were then given. The comparison between the two sets of English questionnaires makes it possible to amend the Chinese questionnaire if some items or vocabulary were wrong.

On the other hand, if they are identical, the accuracy of such translation is confirmed, and the English and Chinese questionnaires are ready for the pilot test. After a careful comparison and discussion of translation, the survey was pretested with 40 enterprises before launch to test the instrument and correct any errors. All feedback from the pilot test was strictly obtained and adjusted.

3.3 Sampling Plan

3.3.1 Population and Sample Size

In statistics, a population is an entire pool from which a statistical sample is drawn. A population may refer to a whole group of people, objects, events, companies, or other things. Thus, a population could be described as an overall observation of subjects grouped by a common feature.

In this study, the population is Chinese enterprises doing business overseas. Based on the 2018 Statistical Bulletin of China's Foreign Direct Investment (FDI), by the end of 2018, more than 27,000 Chinese domestic investors established more than 40,000 foreign direct investment companies in 188 countries (regions) around the world, more than 80% countries (regions) around the world had Chinese investment. The geographical distribution of China's FDI is highly concentrated. As shown in Table 3.1, the top 20 countries (regions) make up 93.4% of the total so that the study will select enterprises from the top 20 countries (regions), 93.4% could represent Chinese overseas enterprises (P. s. R. o. C. M. o. Commerce, 2019).

At the end of 2018, 78% of China's FDI stock was concentrated in the service industry, amounting to $1545.79 billion, mainly distributed in leasing and business services, finance, wholesale and retail, information transmission and other fields. The secondary industry is $423.64 billion, accounting for 21.4% of China's foreign direct investment stock, of which manufacturing (excluding metal products, machinery, and equipment repairing) is $182.03 billion, accounting for 43% of the secondary industry. The stock of direct investment in the primary industry is $12.84 billion, accounting for only 0.6% of China's foreign direct investment (P. s. R. o. C. M. o. Commerce, 2019).

Therefore, based on the above data, the estimated number of the population can be obtained in this way:

43000*93.4% = 40162.

40162*78%+40162*24%*43% = 35022.

Then the population is 35022.

Table 3.1 The Top 20 Countries (Regions) of China's FDI Flow in 2018 (USD 100 Million)

No.	Country (Region)	Flow	% of Total
1	Hong Kong, China	868.7	60.7
2	America	74.8	5.2
3	The British Virgin Islands	71.5	5.0
4	Singapore	64.1	4.5
5	Cayman Islands	54.7	3.8
6	Luxembourg	24.9	1.7
7	Australia	19.9	1.4
8	Indonesia	18.6	1.3
9	Malaysia	16.6	1.2
10	Canada	15.6	1.1
11	Germany	14.7	1.0
12	Laos	12.4	0.9
13	Vietnam	11.5	0.8
14	United Arab Emirates	10.8	0.8
15	Sweden	10.6	0.7
16	Netherlands	10.4	0.7
17	Korea	10.3	0.7
18	United Kingdom	10.3	0.7
19	Macao, China	8.1	0.6
20	Cambodia	7.8	0.6
	Total	1336.3	93.4

Source: P. s. R. o. C. M. o. Commerce (2019).

The sampling size needs to be justified. Different scholars referred to different calculation methods for the appropriate size of the sample. In this study, the sample size is acquired from the simplified formula suggested by Yamane (1967). The equation is $= \frac{N}{1+N(e)^2}$; Where n is the target sample size, N is the known population size, based on the above data, N is equal to 35022, and e is the level of precision or acceptable sampling error (which is the 95% confidence level, and a 5% margin of error is employed in this study). Having applied the formula, the sample size is 396 respondents, and the study will collect 400 respondents for the convenience of calculation.

3.3.2 Sampling Method

The sample of this study is from Chinese overseas enterprises. At the end of 2018, 78% of China's FDI was concentrated in the service industry, amounting to $1545.79 billion, mainly distributed in leasing and business services, finance, wholesale and retail, information transmission and other fields. The secondary industry is $423.64 billion, accounting for 21.4% of China's FDI stock, of which manufacturing (excluding metal products, machinery, and equipment repairing) is $182.03 billion, accounting for 43% of the secondary industry. The stock of direct investment in the primary industry is $12.84 billion, accounting for only 0.6% of China's foreign direct investment stock (P. s. R. o. C. M. o. Commerce, 2019). Therefore, this study's sample selection mainly focuses on the service industry and the manufacturing industry. These two industries have a relatively large proportion of overseas investment, and the samples are representative. The manufacturing industry is a pillar industry of the national economy, and its technological innovation capability also marks a country's international competitiveness.

Chinese enterprises operating overseas usually join the local Chinese Chamber of Commerce, and the number and names of the enterprises will be recorded by the Commercial Section of the Chinese Embassy. The Chamber of Commerce's Chinese enterprises basically cover more than 95% of local Chinese companies and Business Directory of the Ministry of Commerce (C. M. o. Commerce, 2019), so samples will be generated from the above two organizations, they could complement each other.

The sample size of the major test was 400, The recovery time of the samples is expected to be within one month, and the collection of the questionnaire will be completed when there are 400 samples. 40 samples will be taken for the pilot test first to complete the questionnaire test and adjustment.

3.4 Data Acquisition Method

The sample was selected using the non-probability sampling technique-convenience sampling. All questionnaires are distributed online. The software that will be used is "So jump." The author will contact directly or send emails to the Commercial Section of the Chinese Embassy and Chinese Chamber of Commerce in the top 20 countries (regions) and support to complete the survey. Chinese Chambers of commerce in 20 countries assisted in this study and a total of 400 enterprises participated in the questionnaires online. The respondents are the head of the Chinese overseas enterprise (institution), and they specifically filled out each questionnaire. The 20 countries (regions) include Hong Kong (China), America, The British Virgin Islands, Singapore, Cayman Islands, Luxembourg, Australia, Indonesia, Malaysia, Canada, Germany, Laos, Vietnam, United Arab Emirates, Sweden, Netherlands, Korea, United Kingdom, Macao (China), Cambodia. The contact information of the embassy and the Chinese Chamber of Commerce will be put in the appendix.

3.5 Construct Measurement

The study operated the survey by using measurement scales established and validated in prior studies. Then reliability and validity would be verified preliminarily at first. The instruments comprise quantitative questions and respondents' basic information. The measurement items of 6 main variables contain 85 items measured by the Likert scale; 10 choice questions complete the 6 control variables, and the respondents' basic information is completed in the last question. Therefore, the entire questionnaire consists of 96 items.

In this study, the measurement of absorptive capacity is mainly based on the research literature of Flatten, Engelen, Zahra, and Brettel (2011) and Jansen, Van Den

Bosch, and Volberda (2005). There are 22 items in total: Potential absorptive capacity (11 items); Realized absorptive capacity (11 items), as shown in the following table 3.2.

Table 3.2 Measurement of Absorptive Capacity

ABSORPTIVE CAPACITY				
Indicators	**Dimensions**	**Question**	**α**	**Adapted From**
Potential Absorptive Capacity	Acquisition	We search for relevant information concerning our industry every day.	.73	(Flatten, Engelen, Zahra, & Brettel, 2011).
		The employees were encouraged to use information sources within industry.		
		Our unit has frequent interactions with corporate headquarters to acquire new knowledge.	.83	(Jansen et al., 2005).
		Employees of our unit regularly visit other branches.		
		We have different manners to collect information.		
		Our unit periodically organizes special meetings with customers or third parties to acquire new knowledge.		
	Assimilation	Our management emphasizes cross-departmental support to solve problems.	.85	(Flatten et al., 2011).
		In our company there is a quick information flow.		

ABSORPTIVE CAPACITY				
Indicators	**Dimensions**	**Question**	**α**	**Adapted From**
		Our management demands periodical cross-departmental meetings to interchange new developments, problems, and achievements.		
		New opportunities to serve our clients are quickly understood.	.83	(Jansen et al., 2005).
		We quickly analyze and interpret changing market demands.		
Realized absorptive capacity	Transformation	Our employees can use collected knowledge flexibility.	.93	(Flatten et al., 2011).
		Our employees are used to absorb and prepare knowlege for further purposes and to make it available.		
		Our employees successfully link existing knowledge with new insights.		
		Our employees can apply new knowledge in their practical work.		
		Our unit regularly considers the consequences of changing market demands in terms of new products and services.	.83	(Jansen et al., 2005).

ABSORPTIVE CAPACITY				
Indicators	**Dimensions**	**Question**	**α**	**Adapted From**
		Our unit quickly recognizes the usefulness of new external knowledge to existing knowledge.		
		Our unit periodically meets to discuss the consequences of market trends and new product development.		
	Exploitation	Our management supports innovation activities.	.80	(Flatten et al., 2011).
		Our company regularly reconsiders technologies and adapts them accordant to new knowledge.		
		Our company can work more effectively by adopting new technologies.		
		We constantly consider how to better exploit knowledge.	.83	(Jansen et al., 2005).

Note: All items presented above were measured on a "1 = strongly disagree and 5 = strongly agree" scale.

In this study, the measurement of strategic flexibility refers to the literature of Fan, Wu, and Wu (2013), Miroshnychenko, Strobl, Matzler, and De Massis (2020), and Yang, Zhang, Jiang, and Sun (2015), a total of 12 items will be used to measuring by Likert five-point scale, as shown in the following Table 3.3.

Table 3.3 Measurement of Strategic Flexibility

STRATEGIC FLEXIBILITY		
Question	**α**	**Adapted From**
1. Sometimes we act as major agents of change in our industry.	.89	(Fan, Wu, & Wu, 2013).
2. Our new strategies cannot be predicted by competitors.		
3. We try to create new options for growth in technological areas.		
4. We attempt to use technology to establish new standards.		
5. Our strategic plans emphasize flexibility for managing unforeseen situations.	.83	
6. We consider an array of contingencies when developing strategies.		
7. We can take advantage of opportunities that arise from environmental change.		
8. We engage in planning that is typical of the ‘wait and see’ nature.		
9. Our organization can react in a modified and viable manner for new chagnges.	.87	(Miroshnychenko et al., 2020).
10. Each unit is permitted to break normal procedures, to maintain flexibility and dynamics.	.82	(Yang et al., 2015).
11. You have a very smooth communication mechanism.		
12. You actively change your strategies and structures to respond to external environments.		

Note: All items presented above were measured on a “1 = strongly disagree and 5 = strongly agree” scale.

According to previous studies of Prajogo and Ahmed (2006), Ferraris, Devalle, Ciampi, and Couturier (2019), Fan et al. (2013), Vidal, Lapiedra, and Chiva (2006), and Calik and Cetinguc (2017), the measurement of innovation performance is divided into three dimensions: technological innovation (7 items), product innovation (11 items) and marketing innovation (5 items), with a total of 23 items, as shown in the following Table 3.4.

Table 3.4 Measurement of Innovation Performance

INNOVATION PERFORMANCE			
Indicators	**Question**	**α**	**Adapted From**
Technical innovation	1. Developing new technologies. 2. Incorporating technologies into new products. 3. Facilitating new processes to improve quality and cost. 4. Increase in new services introduced. 5. Increase in the number of new products. 6. New products sales' share of total sales revenue. 7. Overall market competition for the products of a firm.	.93 .815 .814	(Prajogo & Ahmed, 2006). (Ferraris et al., 2019). (Fan et al., 2013).
Product innovation	1. Replacement of products being phased out. 2. Extension of product range within the main product field through technologically new products. 3. Extension of product range within the main product field through technologically improved products. 4. Development of environment-friendly products. 5. Opening of new markets abroad.	.772	(Vidal, Lapiedra, & Chiva, 2006).

INNOVATION PERFORMANCE			
Indicators	**Question**	**α**	**Adapted From**
	6. Opening of new domestic target groups. 7. Provide our clients with services that offer unique benefits superior to those of competitors. 8. Our firm actively carries out its work on developing existing products and creating new products. 9. We enhance the range of our products and services with not previously released products and services. 10. We try to acquire new products by differing technical specifications and functionality. 11.Our company sees creating new products and services as critical tools to reach success.	.903	(Calik & Cetinguc, 2017).
Market Innovation	1. Our company needs to make changes in the appearance, packaging, shape, and volume of our products. 2. Our company constantly looks for new ways of delivering. 3. The new marketing methods can promote products and service. 4. We make improvements in the manner of customer relationships to obtain customer satisfaction. 5. We will solicit customer opinions on product changes and upgrades.	.903	(Calik & Cetinguc, 2017).

Note: All items presented above were measured on a "1 = strongly disagree and 5 = strongly agree" scale.)

According to the studies of Salunke, Weerawardena, and McColl-Kennedy (2019) and Guimaraes, Severo, and Vasconcelos (2017), a total of 10 items are used for the measurement of sustainable competitive advantage, as shown in the following Table 3.5.

Table 3.5 Measurement of Sustainable Competitive Advantages

SUSTAINABLE COMPETITIVE ADVANTAGES		
Question	**α**	**Adapted From**
1. The company's innovations enable it to maintain leading position in the industry for a period of time. 2. The new changes we introduced have been appreciated by our customers giving us a distinct advantage for some time. 3. Our competitors could not easily match the innovations that we introduced. 4. The new products or services we introduced were a steppingstone for further development.	.84	(Salunke, Weerawardena, & McColl-Kennedy, 2019).
5. Key resources can explore market opportunities or against environmental threats through an increase in revenue and/or a reduction in spending. 6. Key resources are difficult for competitors to acquire. 7. Key resources are difficult for competitors to imitate. 8. Key resources are difficult to replace with another strategic equivalent. 9. The company's production and innovation activities follow the principles of environmental sustainability. 10. The company responsibly uses key resources in terms of economic, legal, ethics, and philanthropy.	.88	(Guimarães et al., 2017).

Note: All items presented above were measured on a "1 = strongly disagree and 5 = strongly agree" scale.

The measurement of environmental uncertainty is divided into two dimensions, namely environment dynamic and environmental hostility. Among these items, the environmental dynamic includes 11 items, and environmental hostility includes 7 items. All items refer to Wong, Boon-itt, and Wong (2011), Miller (1987), and Newkirk and Lederer (2006).

Table 3.6 Measurement of Environmental Uncertainty

ENVIRONMENTAL UNCERTAINTY			
Indicators	**Question**	**α**	**Adapted From**
Environmental Dynamic	1. The buyers may change their order sometimes one month.	.72	(Wong et al., 2011).
	2. We can't master suppliers' performance.		
	3. We can't predict the actions of competitors regarding marketing promotions.		
	4. The core production technologies often change.		
	5. Faster update of products or services in the industry.	.71	(Miller, 1987).
	6. Difficult to foresee the behavior of competitors in the industry.		
	7. Fast technology advance in the industry.		
	8. Difficult to foresee the change of customer demands in the industry.		
	9. Higher frequency of marketing strategy change in the company.		

ENVIRONMENTAL UNCERTAINTY			
Indicators	**Question**	**α**	**Adapted From**
	10. Larger mobility of technicians of the company. 11. Frequent change of top management officers in the company.	.86	(Newkirk & Lederer, 2006).
Environmental Hostility	1. Fiercer competition in quality and innovation in the industry. 2. Fiercer competition of price in the industry.	.74	(Miller, 1987).
	3. More enterprises exit from the industry. 4. Slower intervention speed of the government in the industry due to its relaxation in it. 5. More difficult to control the production cost of the com pany. 6. The faster obsolete technology of the company. 7. Smaller capacity of the market in the industry.	.77	(Newkirk & Lederer, 2006).

Note: All items presented above were measured on a "1 = strongly disagree and 5 = strongly agree" scale.

3.6 Control Variables

Generally, based on previous studies, there are several factors other than determined constructs in previous sections, which could be possible to influence variables. The effects of such factors are a concern in this study. Nevertheless, such effects are not specified in a formal hypothesis, given the previous study, e.g. Ma, Sun, Gao, and Gao (2019), the study selects the most representative factors as the control variables: age, size, industry, ownership, overseas experience, and R&D intensity of Chinese overseas international enterprises, which are shown in Table 3.7.

Table 3.7 Measurement of Control Variables

CONTROL VARIABLES	
Indicators	**Question**
Ownership	1. Nature of your company.
Age	2. Years of company establishment.
Overseas experience	3. Years your company has overseas businesses.
Industry	4. Industry involved by your company (main businesses): Service Industry: (1)-(5) Manufacturing Industry: (6)-(11).
Size	5. Accumulated overseas investment scale.
R&D intensity	6. R&D intensity (R&D investment/total corporate assets).

3.7 Pilot Test

A preliminary study is conducted before the actual data collection process. A pilot test allows the author to know whether there is any ambiguity and to ensure the clarity of instructions, word choices, sentences, or any other issues so that the questionnaire could be altered accordingly before the data collection process is fully operated. A reliability test is conducted to evaluate the degree to which the questionnaire is free from random error.

This study is quantitative, and all data are analyzed with specific data analysis software. Regarding the sample's appropriate size in the pilot test, the rule of 10% of the targeted sample, as suggested by Wolfe (2013), was followed. Therefore, 40 participants will take part in the pilot testing. In the pilot survey, the study will randomly select 40 samples from Chinese companies engaged in the service industry and manufacturing industry in Hong Kong and use SPSS to conduct reliability assessment through the Cronbach coefficient and construct validity by exploratory factor analysis. There are many Chinese companies in Hong Kong, and the No.1 place for overseas investment in mainland China is Hong Kong. Therefore, the data from Hong Kong could be represented in the pilot survey. As mentioned earlier, the pilot test's main purpose is to verify the instrument's usability, not for data analysis. All of the pilot test respondents were excluded from the actual data analysis. Once adjustments were made following the recommendations resulting from the pilot testing, the research tool proved to be effective for this study.

Since this study has deleted and modified the original scale, a small sample test on the initial scale is required to ensure the validity of the main survey. The study needs to analyze the small sample return questionnaire's reliability and validity, delete the items that do not meet the requirements, modify the dimensions, and finally get the main survey questionnaire.

Before forming a formal questionnaire, it is necessary to analyze the validity of related variables through a pilot test to purify the questionnaire items. The evaluation of measurement items mainly uses two indicators of validity and reliability (Wen, Zhang, & Hau, 2006). For the pilot data, 40 electronic questionnaires were distributed 40 by App “So jump” to Chinese companies investing in Hong Kong and conducted the statistical analysis.

3.7.1 Descriptive Characteristics of Respondents

Table 3.8 Descriptive Characteristics of Respondents

Description of the Samples (*N*=40)				
Item	**Options**	**Frequency**	**Percentage (%)**	**Accumulative Percentage (%)**
Q1: Nature of your company	Others	15	37.50	37.50
	Private enterprise	10	25.00	62.50
	State-own	15	37.50	100.00
Q2: Years of company establishment	3-5 years	9	22.50	22.50
	6-10 years	22	55.00	77.50
	11-15 years	9	22.50	100.00
Q3: Years your company has overseas businesses	3-5 years	13	32.50	32.50
	6-10 years	14	35.00	67.50
	11-15 years	13	32.50	100.00
Q4: Industry involved by your company (main businesses): Service Industry: (1)-(5) Manufacturing Industry: (6)-(11)	(1) Leasing and commercial services	4	10.00	10.00
	(2) Financial industry	4	10.00	20.00
	(3) Wholesale and retail industry	3	7.50	27.50
	(4) Information transmission	4	10.00	37.50
	(5) Other service industries	1	2.50	40.00
	(6) Computer	4	10.00	50.00
	(7) Automobile	6	15.00	65.00

Description of the Samples (*N*=40)				
Item	**Options**	**Frequency**	**Percentage (%)**	**Accumulative Percentage (%)**
	(8) Chemical	4	10.00	75.00
	(9) Special equipment	3	7.50	82.50
	(10) Metal products	2	5.00	87.50
	(11) Other manufacturing industry	5	12.50	100.00
Q5: Accumulated overseas investment scale	Under USD 0.5 million	7	17.50	17.50
	USD 0.50~3 million	8	20.00	37.50
	USD 3~15 million	9	22.50	60.00
	USD 15~50 million	10	25.00	85.00
	USD 50~100 million	3	7.50	92.50
	Over 100 million	3	7.50	100.00
Q6: R&D intensity (R&D investment/total corporate assets)	Less than 1%	14	35.00	35.00
	1%~3%	9	22.50	57.50
	3%~5%	17	42.50	100.00
Q7: Location of overseas agencies	Asian	40	100.00	100.00
	Expanding	9	22.50	22.50

Description of the Samples (*N*=40)				
Item	**Options**	**Frequency**	**Percentage (%)**	**Accumulative Percentage (%)**
Q8: Overseas operation scale of your company in the past three years	Remain	19	47.50	70.00
	Smaller	12	30.00	100.00

From the above table 3.8, we can see that in "Q1: Nature of your enterprise", "State-own" accounts for 37.5%, "Private enterprise" accounts for 25.00%, and "Others" accounts for 37.5%; in "Q2: Years" "of company establishment", the highest proportion is "6-10 years", accounting for "55.00%", followed by "11-15 years" and "3-5 years", each accounting for 22.5%; in "Q3: Years your company Among the “has overseas businesses”, 35% of the samples choose “6-10 years”, and the proportions of “3-5 years” and “11-15 years” both account for 32.50%; in “Q4: Industry involved by your company (main businesses), the largest proportion is "7: Automobile manufacturing industry", accounting for 15.00%; in "Q5: Accumulated overseas investment scale", the largest proportion is "USD 15-50 million", accounting for 25.00%, followed by "USD 3-15 million" accounting for 22.5%, "USD 0.5-3 million" accounting for 20.0%, ranking third; In "Q6: R&D intensity", more than 40% of the samples are 3%-5%, followed by "less than 1%" accounting for 35.00% and 22.5% of the samples is between "1%-3%"; In "Q7: location of overseas agencies", since the selected companies are all from Hong Kong, China, all sample groups are from Asian; In "Q8: overseas operation scale of your company in the past three years", "Remain" accounted for the largest proportion at 47.5%, followed by "Smaller" with a reduced ratio of 30%, and "Expanding" with the least proportion, only 22.5%.

Table 3.9 The Main Functions of Overseas Companies

Q9 Frequencies				
Item		**Responses**		**Cases%**
		N	**Percent**	
Q9: Main functions of the overseas layout of your company	(1) Regional/country offices	23	17.8%	57.5%
	(2) Design and R&D of products	18	14.0%	45.0%
	(3) Production of products	23	17.8%	57.5%
	(4) Overseas marketing	23	17.8%	57.5%
	(5) Overseas procurement	22	17.1%	55.0%
	(6) Financing	20	15.5%	50.0%

As shown as Table 3.9, in "Q9: Main functions of the overseas layout of your company", 23 companies selected "(1) Regional/country offices", accounting for 17.8% of the overall response ratio; 18 companies selected "(2) Design and R&D of products", accounting for 14.0%; 23 companies selected "(3) Production of products", accounting for 17.8%; 23 companies selected "(4) Overseas marketing", accounting for 17.8%; 22 companies selected "(5) Overseas procurement", accounting for 17.1% of the overall response rate; and 20 companies selected "(6) Financing", accounting for 15.5% of the overall response rate.

Table 3.10 The Main Reasons for Exploiting Overseas Markets

Q10 Frequencies				
Item		**Responses**		**Cases%**
		N	**Percent**	
Q10: Main reasons to exploit overseas markets for your company	(1) Contraction and intensifying competitiveness at the domestic market	20	14.7%	50.0%
	(2) Promotion of related national" going-out" policies	18	13.2%	45.0%
	(3) Demand increase of international markets or potential to be explored	21	15.4%	52.5%
	(4) Adapt to the demand of layout of the global supply chain	13	9.6%	32.5%
	(5) Diversified demand in investment	23	16.9%	57.5%
	(6) Seek overseas support in higher quality labor price, resource distribution, and technology	21	15.4%	52.5%
	(7) Get more preferential policies in investment and trade from host countries	20	14.7%	50.0%

It can be seen from Table 3.10 that for "Q10: Main reasons to exploit overseas markets for your company", there are 20 companies that choose "Contraction and intensifying competitiveness at the domestic market," accounting for 14.7% of the overall response ratio; 18 companies choose “Promotion of related national going-out policies,” accounting for 13.2%; 21 companies choose “Demand increase of international markets or the potential to be explored,” accounting for 15.4%; there are

13 companies that choose "Adapt to the demand of layout of the global supply chain," accounting for 9.6%; 23 companies choose "Diversified demand in investment," accounting for 16.9%; 21 companies choose “Seek for overseas support in higher quality labor price, resource distribution and technology,” accounting for 15.4%; 20 companies select "Get more preferential policies in investment and trade from host countries," accounting for 14.7% of the overall response ratio.

3.7.2 Reliability Assessment

A reliability test is conducted to evaluate the degree to which the questionnaire is free from random error. Regarding the measurement criterion of Cronbach's α coefficient, if the value is above the threshold value of 0.7, Hair, Black, Babin, and Anderson (2010) recommended good reliability. The Reliability of Potential absorptive capability is shown below in Table 3.11.

Table 3.11 Reliability of Potential Absorptive Capacity

Item-Total Statistics-PAC					
Item	**Scale Mean if Item Deleted**	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**	**Cronbach’s Alpha**
PAC11	37.900	64.349	.799	.933	0.941
PAC12	38.100	63.785	.747	.936	
PAC13	37.975	67.307	.677	.938	
PAC14	37.975	67.256	.681	.938	
PAC15	38.025	64.948	.794	.934	
PAC16	38.275	65.846	.833	.933	
PAC17	38.350	64.644	.763	.935	
PAC18	38.225	68.384	.659	.939	
PAC19	38.250	65.936	.732	.936	
PAC20	38.300	65.754	.716	.937	
PAC21	38.125	64.881	.810	.933	

Note: PAC: Potential Absorptive Capacity.

There is a total of 11 items used to measure the Potential Absorptive Capacity (PAC). The reliability of the scale is 0.941. The Cronbach's α value and the overall Cronbach's α coefficient after the item is deleted shown in Table 3.11. If any items were deleted, the Cronbach's alpha value of the scale would be reduced, so all items should be kept according to the criterion.

Table 3.12 Reliability of Realized Absorptive Capacity

Item-Total Statistics-RAC					
Item	**Scale Mean if Item Deleted**	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**	**Cronbach's Alpha**
RAC22	37.925	77.404	.865	.961	0.965
RAC23	37.900	79.426	.800	.963	
RAC24	37.900	78.605	.850	.961	
RAC25	37.825	77.430	.887	.960	
RAC26	37.875	80.112	.793	.963	
RAC27	38.275	79.384	.819	.962	
RAC28	38.300	78.523	.780	.964	
RAC29	38.150	78.849	.848	.961	
RAC30	38.125	77.804	.846	.962	
RAC31	38.350	77.618	.830	.962	
RAC32	38.125	78.522	.825	.962	

Note: RAC: Realized Absorptive Capacity.

A total of 11 items are used to measure the "Realized Absorptive Capacity" (RAC). The reliability of the scale is 0.965. The Cronbach's α value and the overall Cronbach's α coefficient after the item is deleted shown in Table 3.12. If any item were deleted, the Cronbach's alpha value of the scale would be reduced, so all items should be kept according to the criterion.

Table 3.13 Reliability of Strategic Flexibility

Item-Total Statistics-SF					
Item	**Scale Mean if Item Deleted**	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**	**Cronbach's Alpha**
SF33	40.825	86.507	.878	.952	0.958
SF34	40.700	87.190	.868	.952	
SF35	40.875	88.728	.790	.955	
SF36	40.800	87.446	.853	.953	
SF37	40.900	86.144	.844	.953	
SF38	41.100	88.297	.789	.955	
SF39	40.750	85.423	.908	.951	
SF40	40.825	86.558	.900	.951	
SF41	40.825	86.763	.863	.952	
SF42	41.175	87.635	.620	.962	
SF43	40.450	90.100	.705	.957	
SF44	40.275	94.461	.540	.961	

Note: SF: Strategic Flexibility.

There is a total of 12 items used to measure Strategic Flexibility (SF). The reliability of the scale is 0.958. The Cronbach's α value after the item is deleted and the overall Cronbach's α coefficient is shown in Table 3.13. Among them, after the SF42 item and SF44 items are deleted, the Cronbach's alpha value of the scale will increase. Therefore, according to the criterion, item SF42 and item SF44 could be deleted.

Table 3.14 Reliability of Innovation Performance-Technical Innovation

Item-Total Statistics-IPTI					
Item	**Scale Mean if Item Deleted**	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**	**Cronbach's Alpha**
IP-TI45	25.850	8.387	.483	.792	0.806
IP-TI46	25.800	8.728	.547	.781	
IP-TI47	26.075	8.122	.530	.783	
IP-TI48	25.900	7.733	.635	.762	
IP-TI49	25.875	8.420	.517	.785	
IP-TI50	25.825	7.584	.657	.758	
IP-TI51	25.875	9.343	.425	.799	

Note: IP-TI: Innovation Performance-Technical Innovation.

There is a total of 7 items used to measure the Innovation Performance-Technical Innovation (IPTI), and the reliability of the scale is 0.806. The Cronbach's α value and the overall Cronbach's α coefficient after the item is deleted shown in Table 3.14. If any item was deleted, the Cronbach's alpha value of the scale would be reduced, so all items should be kept according to the criterion.

Table 3.15 Reliability of Innovation Performance-Production Innovation

Item-Total Statistics-IPPI					
Item	**Scale Mean if Item Deleted**	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**	**Cronbach's Alpha**
IP-PI52	42.375	48.343	.841	.954	0.959
IP-PI53	42.275	47.794	.854	.954	
IP-PI54	42.550	49.690	.678	.960	
IP-PI55	42.350	50.490	.729	.958	
IP-PI56	42.225	46.692	.876	.953	
IP-PI57	42.200	47.446	.867	.953	
IP-PI58	42.325	48.635	.760	.957	
IP-PI59	42.225	47.461	.871	.953	
IP-PI60	42.275	51.025	.724	.958	
IP-PI61	42.425	49.174	.825	.955	
IP-PI62	42.275	47.333	.863	.953	

Note: IP-PI: Innovation Performance-Production Innovation

There is a total of 11 items used to measure the Innovation Performance-Production Innovation (IPPI). The reliability of the scale is 0.959. The Cronbach's α value and the overall Cronbach's α coefficient after the item is deleted shown in Table 3.15. After an item was deleted, the Cronbach's alpha value of the scale will be reduced, so all items should be kept according to the criterion.

Table 3.16 Reliability of Innovation Performance-Marketing Innovation

Item-Total Statistics-IPMI					
Item	**Scale Mean if Item Deleted**	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**	**Cronbach's Alpha**
IP-MI63	17.125	9.292	.672	.881	0.891
IP-MI64	17.100	9.887	.734	.869	
IP-MI65	16.950	8.562	.887	.831	
IP-MI66	16.950	9.126	.755	.862	
IP-MI67	17.175	9.225	.649	.888	

Note: IP-MI: Innovation Performance-Marketing Innovation

There is a total of 5 items used to measure the Innovation Performance-Marketing Innovation (IPMI). The reliability of the scale is 0.891. The Cronbach's α value after the item is deleted and the overall Cronbach's α coefficient is shown in Table 3.16. If any item was deleted, the Cronbach's alpha value of the scale would be reduced, so all items should be kept according to the criterion.

Table 3.17 Reliability of Environmental Uncertainty-Environmental Dynamic

Item-Total Statistics-EUED					
Item	**Scale Mean if Item Deleted**	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**	**Cronbach's Alpha**
EU-ED68	18.375	28.548	.548	.864	0.873
EU-ED69	18.325	26.994	.620	.859	
EU-ED70	18.325	31.199	.275	.880	
EU-ED71	18.425	29.892	.477	.868	
EU-ED72	18.250	29.885	.473	.868	
EU-ED73	18.150	28.182	.698	.854	
EU-ED74	18.150	26.900	.669	.855	
EU-ED75	18.225	27.307	.668	.855	
EU-ED76	18.275	28.820	.544	.864	
EU-ED77	18.225	26.794	.702	.852	
EU-ED78	18.275	28.410	.668	.856	

Note: EU-ED: Environmental Uncertainty-Environmental Dynamic

There is a total of 11 items used to measure the Environmental Uncertainties-Environmental Dynamic (EUED). The reliability of the scale is 0.873. The Cronbach's α value and the overall Cronbach's α coefficient after the item is deleted shown in Table 3.17. Among them, the Cronbach's alpha value of the scale will increase after the EU-ED70 item is deleted. Therefore, according to the criterion, the item EU-ED70 can be eliminated.

Table 3.18 Reliability of Environmental Uncertainty-Environmental Hostility

Item-Total Statistics-EUEH					
Item	**Scale Mean if Item Deleted**	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**	**Cronbach's Alpha**
EU-EH79	11.025	15.974	.785	.898	0.915
EU-EH80	11.125	16.471	.686	.909	
EU-EH81	11.225	16.846	.721	.904	
EU-EH82	11.225	16.128	.851	.891	
EU-EH83	11.200	16.882	.765	.901	
EU-EH84	10.900	16.810	.692	.907	
EU-EH85	11.000	16.154	.705	.907	

Note: EU-EH: Environmental Uncertainty-Environmental Hostility.

There is a total of 7 items used to measure the Environmental Uncertainties-Environmental Hostility (EUEH). The reliability of the scale is 0.915. The Cronbach's α value after the item is deleted and the overall Cronbach's α coefficient is shown in Table 3.18. If any item was deleted, the Cronbach's alpha value of the scale would be reduced, so all items should be kept according to the criterion.

Table 3.19 Reliability of Sustainable Competitive Advantage

Item-Total Statistics-SCA					
Item	**Scale Mean if Item Deleted**	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**	**Cronbach's Alpha**
SCA86	33.975	69.820	.813	.954	0.959
SCA87	33.975	69.563	.806	.955	
SCA88	34.075	69.917	.806	.955	
SCA89	33.975	66.487	.890	.951	
SCA90	34.200	68.882	.834	.954	
SCA91	33.900	66.451	.936	.949	
SCA92	34.100	69.221	.848	.953	
SCA93	33.975	67.666	.860	.952	
SCA94	34.225	65.974	.710	.962	
SCA95	33.575	71.840	.751	.957	

Note: SCA: Sustainable Competitive Advantage.

There is a total of 10 items used to measure the Sustainable Competitive Advantage (SCA). The reliability of the scale is 0.959. The Cronbach's α value after the item is deleted and the overall Cronbach's α coefficient is shown in Table 3.19. Among them, after the SCA94 item is deleted, the Cronbach's alpha value of the scale will increase. Therefore, according to the criterion, item SCA94 could be eliminated.

3.7.3 Validity Assessment

The validity analysis and evaluation methods of the pilot test mainly adopt exploratory factor analysis (EFA). The main index involved in exploratory factor analysis includes Factor loading, Communality, and Eigenvalues. The factor loading is the coefficient of each factor and the most crucial statistic in the factor analysis model. The link between the observed variable and the common factor is used to reflect the

relationship between the factor and other measured variables. The greater the absolute value of the factor loading, the greater the influence of the variable. Communality refers to the proportion of the observed variable variance determined by the common factor, which represents the variable variance that can be explained by the common factor. The greater the commonality, the higher the variable can be explained by the factor. The Eigenvalues can be regarded as an indicator of the influence of the principal component, representing the information of how many original variables can be explained on average after introducing the factor or principal component.

Factor analysis generally includes four steps: first, to judge whether the application of factor analysis method is appropriate according to a specific problem; second is to extraction, that is, to determine the number of factors and the method of obtaining factor solutions; third is the rotation of extracted factors; finally, the factor value will be calculated. The purpose of factor analysis is to simplify the data or discover the basic data structure. Therefore, the precondition for using factor analysis is that there should be strong correlations between variables. If the degree of correlation between variables is small, it is impossible to share common factors. The SPSS software provides several statistics to help determine whether the observed data is suitable for factor analysis. In the part of validity analysis, exploratory factor analysis was operated and combined with KMO test and Bartlett's test of sphericity is used to judge whether the items are suitable for factor analysis. The KMO test compares the value of the correlation coefficient and the coefficient of partial correlation between variables. When the KMO value is small, it indicates that the obvious variable is not suitable for factor analysis. The usual criterion is: KMO value above 0.9 is very suitable for factor analysis; above 0.8 is better; above 0.7 arithmetic in general, below 0.5 is unacceptable.

Table 3.20 The KMO and Bartlett's Test of Absorptive Capacity

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.759
Bartlett's Test of Sphericity	Approx. Chi-Square	1014.351
	df	231
	Sig.	.000

It can be seen from Table 3.20 that the factor analysis results show that the KMO value of the Absorptive Capacity Scale is 0.759, which is greater than the acceptance criterion of 0.7, and Bartlett's Test of Sphericity has a value of 1014.351(P <0.05), and it is significant, so it is suitable for analysis factor. After the principal component analysis, a total of 2 factors (see table 3.21) were extracted, they are potential absorptive capacity and realized absorptive capacity, and the cumulative % of Variance (Rotated) was 71.346%; the degree of commonality was both greater than 0.5; the coefficient of each factor was greater than 0.4, so it had better discriminant validity.

Table 3.21 Rotated Component Matrix of Absorptive Capacity

Rotated Component Matrix		
	Component	
	1	**2**
PAC11	.309	.825
PAC12	.332	.742
PAC13	.036	.884
PAC14	.161	.830
PAC15	.218	.874
PAC16	.625	.614
PAC17	.572	.562
PAC18	.494	.461
PAC19	.638	.472
PAC20	.653	.456

Rotated Component Matrix		
	Component	
	1	2
PAC21	.583	.603
RAC22	.810	.330
RAC23	.787	.292
RAC24	.812	.303
RAC25	.838	.304
RAC26	.786	.187
RAC27	.849	.146
RAC28	.821	.110
RAC29	.840	.226
RAC30	.805	.327
RAC31	.858	.145
RAC32	.796	.346

Note: 1) PAC: Potential Absorptive Capacity; RAC: Realized Absorptive Capacity
2) Extraction Method: Principal Component Analysis.
3) Rotation Method: Varimax with Kaiser Normalization.[a]
4) a. Rotation converged in 3 iterations.

Table 3.22 The KMO and Bartlett's Test of Strategic Flexibility

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.914
Bartlett's Test of Sphericity	Approx. Chi-Square	485.449
	df	66
	Sig.	.000

It can be seen from Table 3.22 that the KMO value of the Strategic Flexibility scale is 0.914, which is greater than the acceptable standard of 0.7, and the value of Bartlett's Test of Sphericity is 485.449(P<0.05), it is significant and suitable for factor analysis. After the principal component analysis, a total of 1 factor (see table 3.23) was

extracted, and the cumulative % of Variance (Rotated) was 70.003%; the commonality was greater than 0.5; the factor loading was greater than 0.4, so it has good discriminant validity.

Table 3.23 The Rotated Component Matrix of Strategic Flexibility

Rotated Component Matrix[a]	
	Component
	1
SF33	.909
SF34	.899
SF35	.836
SF36	.875
SF37	.877
SF38	.824
SF39	.923
SF40	.917
SF41	.893
SF42	.672
SF43	.745
SF44	.598

Note: 1) SF: Strategic Flexibility

2) Extraction Method: Principal Component Analysis.

3) a. 1 components extracted.

Table 3.24 The KMO and Bartlett's Test of Innovation Performance

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.748
Bartlett's Test of Sphericity	Approx. Chi-Square	895.433
	df	253
	Sig.	.000

It can be seen from Table 3.24 that the KMO value of the innovation performance scale is 0.738, which is greater than the acceptable standard of 0.7, and the value of Bartlett's Test of Sphericity is 895.433 (P<0.05), it is significant and suitable for factor analysis. After the principal component analysis, a total of 3 factors (see table 3.25) was extracted, and the cumulative % of Variance (Rotated) was 68.094%; the commonality was greater than 0.5; the factor loading was greater than 0.4, so it has good discriminant validity.

Table 3.25 The Rotated Component Matrix of Innovation Performance

Rotated Component Matrix[a]			
	Component		
	1	2	3
IP-TI45	-.034	.085	.797
IP-TI46	.111	.791	.243
IP-TI47	.002	.117	.802
IP-TI48	.154	.419	.591
IP-TI49	.183	.665	.288
IP-TI50	.180	.379	.610
IP-TI51	.173	.674	.109
IP-PI52	.816	.262	.158
IP-PI53	.845	.243	.056
IP-PI54	.715	-.026	.387
IP-PI55	.766	-.037	.207

Rotated Component Matrix[a]			
	Component		
	1	2	3
IP-PI56	.856	.376	.065
IP-PI57	.872	.265	-.027
IP-PI58	.826	.053	-.229
IP-PI59	.886	.209	.011
IP-PI60	.785	-.179	.202
IP-PI61	.822	.075	.083
IP-PI62	.871	.107	-.054
IP-MI63	.621	.186	.329
IP-MI64	.658	.176	.231
IP-MI65	.825	.408	.104
IP-MI66	.816	.253	.007
IP-MI67	.673	.387	-.153

Note: 1) IP-TI: Innovation Performance-Technical Innovation; IP-PI: Innovation Performance-Production Innovation; IP-MI: Innovation Performance-Marketing Innovation; Extraction Method: Principal Component Analysis.
2) Rotation Method: Varimax with Kaiser Normalization.[a]
3) a. Rotation converged in 5 iterations.

Table 3.26 The KMO and Bartlett's Test of Environmental Uncertainty

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.760
Bartlett's Test of Sphericity	Approx. Chi-Square	496.194
	df	153
	Sig.	.000

It can be seen from Table 3.26 that the KMO value of the environmental uncertainty scale is 0.760, which is greater than the acceptable standard of 0.7, and the value of Bartlett's Test of Sphericity is 496.194 (P<0.05), it is significant and suitable for factor analysis. After the principal component analysis, a total of 2 factors (see table 3.27) was extracted, they are environmental dynamic and environmental hostility, and the cumulative % of Variance (Rotated) was 56.696%; the commonality was greater than 0.5; the factor loading was greater than 0.4, so it has good discriminant validity.

Table 3.27 The Rotated Component Matrix of Environmental Uncertainty

Rotated Component Matrixa		
	Component	
	1	2
EU-ED68	.168	.769
EU-ED69	.375	.586
EU-ED70	-.090	.658
EU-ED71	.125	.732
EU-ED72	.080	.691
EU-ED73	.602	.458
EU-ED74	.662	.375
EU-ED75	.597	.331
EU-ED76	.737	.103
EU-ED77	.692	.355
EU-ED78	.510	.514
EU-EH79	.729	.185
EU-EH80	.741	.253
EU-EH81	.766	.119
EU-EH82	.827	.097
EU-EH83	.790	.047
EU-EH84	.760	.072
EU-EH85	.794	-.103

Note: 1) EU-ED: Environmental Uncertainty-Environmental Dynamic; EU-EH: Environmental Uncertainty-Environmental Hostility; Extraction Method: Principal Component Analysis.

2) Rotation Method: Varimax with Kaiser Normalization.[a]

3) a. Rotation converged in 3 iterations.

Table 3.28 The KMO and Bartlett's Test of Sustainable Competitive Advantage

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.902
Bartlett's Test of Sphericity	Approx. Chi-Square	416.315
	df	45
	Sig.	.000

It can be seen from Table 3.28 that the KMO value of the sustainable competitive advantage scale is 0.902, which is greater than the acceptable standard of 0.7, and the value of Bartlett's Test of Sphericity is 416.315 (P<0.05), it is significant and suitable for factor analysis. After the principal component analysis, a total of 1 factor (see table 3.29) was extracted, and the cumulative % of Variance (Rotated) was 74.387%; the commonality was greater than 0.5; the factor loading was greater than 0.4, so it has good discriminant validity.

Table 3.29 The Rotated Component Matrix of Sustainable Competitive Advantage

Rotated Component Matrix[a]	
	Component
	1
SCA86	.857
SCA87	.849
SCA88	.844
SCA89	.915
SCA90	.867
SCA91	.948
SCA92	.881

Rotated Component Matrix[a]	
	Component
	1
SCA93	.893
SCA94	.760
SCA95	.795

Note: 1) SCA: Sustainable Competitive Advantage

2) Extraction Method: Principal Component Analysis.

3) a. 1 components extracted.

According to the analysis of the reliability and validity of the pilot test, after eliminating 4 items that reliability value is not up to criterion, this study finally determined the scale used in the main survey, a total of 92 items, one item for basic information of the overseas companies, 10 items Multiple-choice questions that measure control variables and other information, and 81 Likert five-point scale items measure 6 variables. The measurement of absorptive capacity consists of 22 items (potential absorptive capacity 11 items; realized absorptive capacity 11 items); the measurement of strategic flexibility consists of 10 items; the measurement of innovation performance consists of 23 items (technical innovation 7 items; production innovation 11 items; marketing innovation 5 items); the measurement of environmental uncertainty consists of 17 items (environmental dynamic 10 items; environmental hostility 7 items); at last, the measurement of sustainable competitive advantage consists of 9 items.

3.8 Analytical Approaches

Path analysis is a form of multiple regression statistical analysis using to evaluate causal models by examining the relationships between a dependent variable and two or more independent variables. In this study, we need to verify and measure the relationship and weight between variables, so path analysis is a suitable analysis method.

Data analysis was conducted by using IBM SPSS statistics 23 and IBM SPSS AMOS 23. Firstly, data analysis tested the conceptual model by establishing the convergent and discriminant validity of variables and tested all proposed hypotheses by using IBM SPSS. Secondly, the Covariance Based Structure Equation Model (CB-SEM) was applied to test the model fit using IBM SPSS AMOS. This study applied SPSS to test all proposed hypotheses to explore the relationship between one dependent variable, two independent variables, two mediators, one moderator, and six control variables. The conceptual model shows the complications between the predicted hypothesis and the unpredicted relationship. The research objective aimed to test and confirm whether there is a connection between variables and how they influence each other. Also, pilot testing reported that data distribution of this study was normally distributed, testing the reliability and validity, adjusting questionnaires, deleting no useless items. So, the IBM SPSS statistic and AMOS are the most suitable technique to perform the structural equation model for this study.

CHAPTER 4

RESULT OF THE STUDY

The analysis of empirical data is presented in this chapter. The response rate is described in the first section followed by the characteristics of respondents. The second section presents the reliability and validity tests, analysis of correlation, structural equation modeling, moderating effect, and mediating effect. In the last section, the full results of hypothesis testing are presented, and the conclusion of data analysis is summarized.

4.1 Characteristics of the Respondents

In this study, a total of 456 questionnaires were collected with the help of the Chinese Chamber of Commerce in 18 countries (regions) by publishing questionnaires online, of which 404 were valid and used in the hypothesis testing process. From the number of usable responses returned, a response rate of 88.6% was achieved.

Table 4.1 The Descriptive Characteristics of Respondents

Item	**Option**	**n**	**%**	**Cumulative Percent**
Q1: Nature of your company	State-own	123	30.4	30.4
	Private enterprise	158	39.1	69.6
	Others	123	30.4	100.0
Q2: Years of company establishment	3-5 years	133	32.9	32.9
	6-10 years	144	35.6	68.6
	11-15 years	127	31.4	100.0
	3-5 years	151	37.4	37.4

Item	Option	n	%	Cumulative Percent
Q3: Years your company has overseas businesses	6-10 years.	131	32.4	69.8
	11-15 years.	122	30.2	100.0
Q4: Industry involved by your company (main businesses): Service Industry: (1)-(5) Manufacturing Industry: (6)-(11)	Leasing and commercial services.	38	9.4	9.4
	Financial industry.	29	7.2	16.6
	The wholesale and retail industry.	35	8.7	25.2
	Information transmission, software, and information technology services.	39	9.7	34.9
	Other service industries.	29	7.2	42.1
	Computer/communication and other electronic equipment manufacturing industry.	29	7.2	49.3
	Automobile manufacturing industry.	50	12.4	61.6
	Chemical raw materials and chemical products manufacturing industry.	39	9.7	71.3
	The special equipment manufacturing industry.	48	11.9	83.2
	The metal products manufacturing industry.	36	8.9	92.1
	Other manufacturing industries.	32	7.9	100.0
Q5: Accumulated overseas investment scale	Under USD 0.5 million.	70	17.3	17.3
	USD 0.50—3 million.	76	18.8	36.1
	USD 300—15million.	72	17.8	54.0
	USD 15—50million.	58	14.4	68.3

Item	Option	n	%	Cumulative Percent
	USD 50—100million.	69	17.1	85.4
	Over 100 million.	59	14.6	100.0
Q6: R&D intensity (R&D investment/total corporate assets）	Less than 1%	131	32.4	32.4
	1%~3%	139	34.4	66.8
	3%~5%	134	33.2	100.0
Q7: Location of overseas agencies	Asian	216	53.5	53.5
	Europe	93	23.0	76.5
	America	76	18.8	95.3
	Middle East	9	2.2	97.5
	Oceania	10	2.5	100.0
Q8: Overseas operation scale of your company in the past three years	Expanding	122	30.2	30.2
	Remain	154	38.1	68.3
	Smaller	128	31.7	100.0

From table 4.1, we can see: in "Q1: Nature of your enterprise", "State-own" accounted for 30.4%, "Private enterprise" accounted for 39.1%, and Others accounted for 30.4%. In "Q2: Years of company establishment", "6-10 years" accounted for the highest proportion of 35.6%, followed by "3-5 years", accounting for 32.9%; the least was "11-15 years", accounting for 31.4%. In "Q3: Years your company has overseas businesses", the largest proportion is "3-5 years", accounting for 37.4%, the second is "6-10 years", accounting for 32.4%, and the least is "11-15 years", accounting for only 30.20%. From the "Q4 company industry" distribution, the "Automobile manufacturing industry" accounted for the largest proportion, accounting for 12.4%. From the perspective of "Q5: Accumulated overseas investment scale", the largest proportion is "USD 0.5-3 million", accounting for 18.8%, followed by "USD 3-15 million", accounting for 17.8%, below "USD 0.5 million" accounting for 17.3%, ranking third. In "Q6: R&D intensity", the largest proportion is "1%-3%", accounting for 34.4%, followed by "3%-5%", accounting for 33.2%, and the least was "less than 1%",

accounting for 32.4%. In "Q7: location of overseas agencies," the sample group is mainly from Asia, Europe and America accounted for 53.5%, 23%, and 18.8%, respectively. In "Q8: overseas operation scale of your company in the past three years", "Remain" is 38.1%, "Expanding" is 31.7%, and "Smaller" is 30.2%. It can be seen that the development of overseas companies is relatively stable, without obvious progress or failure.

Table 4.2 The Responses of Q9 and Q10

Q9 & Q10 Frequencies				
Item	**Option**	**Responses**		**Cases%**
		N	**Percent**	
Q9[a]: Main functions of the overseas layout of your company (multi-choice)	(1) Regional/country offices.	221	18.2%	55.4%
	(2) Design and R&D of products.	183	15.1%	45.9%
	(3) Production of products.	198	16.3%	49.6%
	(4) Overseas marketing.	206	17.0%	51.6%
	(5) Overseas procurement.	200	16.5%	50.1%
	(6) Financing.	205	16.9%	51.4%
Q10[a:] Main reasons to exploit overseas markets for your company (multi-choice)	(1) Contraction and intensifying competitiveness at the domestic market.	196	13.6%	48.6%
	(2) Promotion of related national" going-out" policies.	213	14.8%	52.9%
	(3) Demand increase of international markets or potential to be explored.	226	15.7%	56.1%
	(4) Adapt to the demand of layout of the global supply chain.	186	12.9%	46.2%
	(5) Diversified demand in	197	13.7%	48.9%

Q9 & Q10 Frequencies				
Item	**Option**	**Responses**		**Cases%**
		N	**Percent**	
	investment.			
	(6) Seek overseas support in higher quality labor price, resource distribution, and technology.	206	14.3%	51.1%
	(7) Get more preferential policies in investment and trade from host countries.	217	15.1%	53.8%

Note: a. Dichotomy group tabulated at value 1.

It can be seen from Table 4.2 that in "Q9: Main functions of the overseas layout of your company", there are 221 companies that select "Regional/country offices," accounting for 18.2% of the overall response ratio; select “design and R&D of products” are 183 companies, accounting for 15.1%; 198 companies that choose "Production of products," accounting for 16.3%; 206 companies that choose "Overseas marketing" accounted 17.0% of the total response rate; 200 companies selected "Overseas procurement," accounting for 16.5% of the overall response rate; 205 companies selected "Financing," accounting for 16.9%. In "Q10: Main reasons to exploit overseas markets for your company", 196 companies selected "Contraction and intensifying competitiveness at the domestic market," accounting for 13.6% of the overall response ratio; "Promotion of related national "going-out" Policies” have 213 companies, accounting for 14.8%; “Demand increase of international markets or the potential to be explored” has 226 companies, accounting for 15.7% of the overall response ratio; “Adapt to the demand of layout of Global supply chain” has 186 companies, accounting for 12.9%; “Diversified demand in investment” has 197 companies, accounting for 13.7%; “Seek for overseas support in higher quality labor price, resource distribution and Technology” has 206 companies, accounting for 14.3%;

“Get more preferential policies in investment and trade from host countries” has 217 companies, accounting for 15.1% of the overall response ratio.

4.2 Data Analysis and Results of the Study

4.2.1 Reliability Assessment

Table 4.3 Reliability of Variables

Reliability Analysis			
Dimension	**Item**	**Cronbach Coefficient**	**Total**
PAC	11	0.927	0.940
RAC	11	0.953	
SF	10	0.908	
IP	23	0.934	
EU	17	0.968	
SCA	9	0.897	

Note: 1) PAC: Potential Absorptive Capacity; RAC: Realized Absorptive Capacity; SF: Strategic Flexibility.

2) IP: Innovation Performance; EU: Environmental Uncertainty; SCA: Sustainable Competitive Advantage.

This study conducted a reliability analysis of the six variables of potential absorptive capacity, realized absorptive capability, strategic flexibility, innovation performance, sustainable competitive advantage, and environmental uncertainty. As shown in Table 4.3, the Cronbach's Alpha value of potential absorptive capacity is 0.927; the Cronbach's Alpha value of realized Absorptive Capability is 0.953; the Cronbach's Alpha value of strategic flexibility is 0.908; the Cronbach's Alpha value of innovation performance is 0.934; the Cronbach's Alpha value of environmental uncertainty is 0.968; the Cronbach's Alpha value of the sustainable competitive advantage is 0.897; the Cronbach's Alpha values of all variables were greater than 0.7, and the overall reliability of the questionnaire is 0.940. According to the above

reliability evaluation criteria, the measurement items of the six variables have high reliability and good internal consistency.

4.2.2 Construct Validity

Factor analysis was used to test the construct validity of the overall questionnaire. Firstly, KMO and Bartlett's Test of Sphericity is required to determine whether the collected data is suitable for factor analysis. KMO is an indicator used to test the coefficient of partial correlation between various questions. The closer its value is to 1, the greater the correlation between these questions, and the better the effect of factor analysis. The Bartlett test is used to test whether the collected data comes from the multivariate normal distribution. When the significance p-value of Approx. Chi-Square (χ^2) is less than 0.05 and the KMO test coefficient is greater than 0.7. The questionnaire can be considered construct validity, the questionnaire design is reasonable, the feedback is effective, and factor analysis can be performed. Use SPSS 23.0 software to get KMO and Bartlett's Test of Sphericity of this questionnaire.

Table 4.4 The KMO and Bartlett's Test of Items

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.751
Bartlett's Test of Sphericity	Approx. Chi-Square	56605.509
	df	3240
	Sig.	.000

As shown in Table 4.4, The overall KMO of the scale is 0.751, which is greater than 0.7. The Bartlett test is significant, indicating that the sample data is suitable for further factor analysis. Principal component analysis (PCA) is used for the sample data to collect factors with eigenvalues greater than 1 and use the varimax to highlight the representative variables of common factors, keeping the factor whose absolute value of the factor loading exceeds 0.5 in the rotated component matrix. The results show that six main measurement variable dimensions can be extracted.

As shown in Table 4.5, among them, item PAC11-PAC21 measures potential absorptive capability, RAC22-RAC32 measures realized absorptive capability, item SF33-SF43 measures Strategic Flexibility, and item IPTI45~IPMI67 measure innovation performance, item EUED68~EUEH85 measure environmental uncertainty, item SCA86~SCA95 measure sustainable competitive advantage. This structure is consistent with the expected scale structure and has high validity.

Table 4.5 The Rotated Component Matrix of Items

Rotated Component Matrix[a]						
	Component					
	1	**2**	**3**	**4**	**5**	**6**
PAC11	**.660**	-	-	-	-	-
PAC12	**.669**	-	-	-	-	-
PAC13	**.628**	-	-	-	-	-
PAC14	**.702**	-	-	-	-	-
PAC15	**.707**	-	-	-	-	-
PAC16	**.733**	-	-	-	-	-
PAC17	**.631**	-	-	-	-	-
PAC18	**.657**	-	-	-	-	-
PAC19	**.638**	-	-	-	-	-
PAC20	**.615**	-	-	-	-	-
PAC21	**.708**	-	-	-	-	-
RAC22	-	-	-	-	-	**.673**
RAC23	-	-	-	-	-	**.713**
RAC24	-	-	-	-	-	**.770**
RAC25	-	-	-	-	-	**.706**
RAC26	-	-	-	-	-	**.720**
RAC27	-	-	-	-	-	**.704**
RAC28	-	-	-	-	-	**.657**
RAC29	-	-	-	-	-	**.712**
RAC30	-	-	-	-	-	**.773**
RAC31	-	-	-	-	-	**.694**
RAC32	-	-	-	-	-	**.733**
SF33	-	-	-	**.716**	-	-
SF34	-	-	-	**.671**	-	-

Rotated Component Matrix[a]						
	Component					
	1	**2**	**3**	**4**	**5**	**6**
SF35	-	-	-	**.604**	-	-
SF36	-	-	-	**.649**	-	-
SF37	-	-	-	**.584**	-	-
SF38	-	-	-	**.622**	-	-
SF39	-	-	-	**.693**	-	-
SF40	-	-	-	**.640**	-	-
SF41	-	-	-	**.698**	-	-
SF43	-	-	-	**.556**	-	-
IP-TI45	-	-	**.731**	-	-	-
IP-TI46	-	-	**.512**	-	-	-
IP-TI47	-	-	**.794**	-	-	-
IP-TI48	-	-	**.804**	-	-	-
IP-TI49	-	-	**.624**	-	-	-
IP-TI50	-	-	**.562**	-	-	-
IP-TI51	-	-	**.559**	-	-	-
IP-PI52	-	-	**.589**	-	-	-
IP-PI53	-	-	**.549**	-	-	-
IP-PI54	-	-	**.598**	-	-	-
IP-PI55	-	-	**.616**	-	-	-
IP-PI56	-	-	**.778**	-	-	-
IP-PI57	-	-	**.714**	-	-	-
IP-PI58	-	-	**.712**	-	-	-
IP-PI59	-	-	**.618**	-	-	-
IP-PI60	-	-	**.691**	-	-	-
IP-PI61	-	-	**.580**	-	-	-
IP-PI62	-	-	**.557**	-	-	-
IP-MI63	-	-	**.532**	-	-	-
IP-MI64	-	-	**.642**	-	-	-
IP-MI65	-	-	**.802**	-	-	-
IP-MI66	-	-	**.737**	-	-	-
IP-MI67	-	-	**.728**	-	-	-
EU-ED68	-	**.805**	-	-	-	-
EU-ED69	-	**.819**	-	-	-	-
EU-ED71	-	**.792**	-	-	-	-
EU-ED72	-	**.680**	-	-	-	-

Rotated Component Matrix[a]						
	Component					
	1	**2**	**3**	**4**	**5**	**6**
EU-ED73	-	**.697**	-	-	-	-
EU-ED74	-	**.825**	-	-	-	-
EU-ED75	-	**.830**	-	-	-	-
EU-ED76	-	**.830**	-	-	-	-
EU-ED77	-	**.810**	-	-	-	-
EU-ED78	-	**.689**	-	-	-	-
EU-EH79	-	**.714**	-	-	-	-
EU-EH80	-	**.828**	-	-	-	-
EU-EH81	-	**.835**	-	-	-	-
EU-EH82	-	**.847**	-	-	-	-
EU-EH83	-	**.817**	-	-	-	-
EU-EH84	-	**.707**	-	-	-	-
EU-EH85	-	**.720**	-	-	-	-
SCA86	-	-	-	-	**.711**	-
SCA87	-	-	-	-	**.491**	-
SCA88	-	-	-	-	**.786**	-
SCA89	-	-	-	-	**.798**	-
SCA90	-	-	-	-	**.695**	-
SCA91	-	-	-	-	**.503**	-
SCA92	-	-	-	-	**.785**	-
SCA93	-	-	-	-	**.801**	-
SCA95	-	-	-	-	**.570**	-

Note: 1) PAC: Potential Absorptive Capacity; RAC: Realized Absorptive Capacity; SF: Strategic Flexibility; IP-TI: Innovation Performance-Technical Innovation; IP-PI: Innovation Performance-Production Innovation; IP-MI: Innovation Performance-Marketing Innovation; SCA: Sustainable Competitive Advantage; EU-ED: Environmental Uncertainty-Environmental Dynamic; EU-EH: Environmental Uncertainty-Environmental Hostility ;

2) Extraction Method: Principal Component Analysis.

3) Rotation Method: Varimax with Kaiser Normalization.

4) a. Rotation converged in 7 iterations.

4.2.3 Correlation Analysis & Convergent Validity& Discriminant Validity

Table 4.6 Correlation Analysis

Variables	Mean	SD	PAC	RAC	SF	IP	EU	SCA
PAC	3.593	0.804	**1**	-	-	-	-	-
RAC	3.675	0.866	0.706**	**1**	-	-	-	-
SF	3.781	0.673	0.583**	0.610**	**1**	-	-	-
IP	4.081	0.501	0.552**	0.547**	0.519**	**1**	-	-
EU	1.830	0.745	-0.385**	-0.365**	-0.490**	-0.505**	**1**	-
SCA	3.860	0.585	0.550**	0.534**	0.484**	0.801**	-0.488**	1

Note: 1) *p value<0.05, **p value<0.01; The square root values of AVE are displayed in the parentheses.; CR：Composite reliability; α: Cronbach's Alpha.

2) PAC: Potential Absorptive Capacity; RAC: Realized Absorptive Capacity; SF: Strategic Flexibility; IP: Innovation Performance; SCA: Sustainable Competitive Advantage; EU: Environmental Uncertainty.

3) *. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Before hypothesis testing, the study conducted Pearson's correlation analysis method to test the correlation of each research variable. The analysis tool used for the test is SPSS 23, and the results are shown in Table 4.6. The correlation coefficient value between Potential Absorptive Capacity (PAC) and Realized Absorptive Capacity (RAC) is 0.796. It shows a significance value 0.01, which indicates that there is a significant positive correlation between Potential Absorptive Capacity (PAC) and Realized Absorptive Capacity (RAC). The value of the correlation coefficient between Potential Absorptive Capacity (PAC) and Strategic Flexibility (SF) is 0.583, and it shows a significant level of 0.01, which shows that there is a significant positive correlation between Potential Absorptive Capacity (PAC) and Strategic Flexibility (SF). The value of the correlation coefficient between Potential Absorptive Capacity (PAC) and Innovation Performance (IP) is 0.552, and it shows a significant level of

0.01, which shows that there is a significant positive correlation between Potential Absorptive Capacity (PAC) and Innovation Performance (IP). The value of the correlation coefficient between Potential Absorptive Capacity (PAC) and Environmental Uncertainty (EU) is -0.385, and it shows a significant level of 0.01, which indicates that there is a significant negative correlation between Potential Absorptive Capacity (PAC) and Environmental Uncertainty (EU). The correlation coefficient between Potential Absorptive Capacity (PAC) and Sustainable Competitive Advantage (SCA) is 0.550, and it shows a significant level of 0.01, which indicates that there is a significant positive correlation between Potential Absorptive Capacity (PAC) and Sustainable Competitive Advantage (SCA).

Table 4.7 Convergent Validity& Discriminant Validity

Variables	**α**	**CR**	**AVE**	**PAC**	**RAC**	**SF**	**IP**	**EU**
PAC	0.927	0.928	0.540	**(0.735)**	-	-	-	-
RAC	0.953	0.952	0.647	0.706**	**(0.804)**	-	-	-
SF	0.908	0.910	0.508	0.583**	0.610**	**(0.713)**	-	-
IP	0.934	0.922	0.648	0.552**	0.547**	0.519**	**(0.805)**	-
EU	0.968	0.964	0.611	-0.385**	-0.365**	-0.490**	-0.505**	**(0.782)**
SCA	0.897	0.901	0.512	0.550**	0.534**	0.484**	0.801**	-0.488**

Note: 1) *p value<0.05, **p value<0.01; The square root values of AVE are displayed in the parentheses.; CR：Composite reliability; α: Cronbach's Alpha.

2) PAC: Potential Absorptive Capacity; RAC: Realized Absorptive Capacity; SF: Strategic Flexibility; IP: Innovation Performance; SCA: Sustainable Competitive Advantage; EU: Environmental Uncertainty.

3) *. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

This study examined the reliability and validity of the variables in the conceptual model. First, Cronbach's α coefficient and composite reliability (CR) were introduced as the measurement criterion of reliability. If these values are above the

threshold value of 0.7, as Hair et al. (2010) recommended, the criterion of reliability was met. As shown in Table 4.7 that all coefficients were higher than 0.7. Second, the study used factor loading values and Average Variance Extracted (AVE) values to measure the convergent validity; if the two values are above 0.5 (Valentini & Damásio, 2016), the convergent validity was met. The results showed that all factor loadings and AVE values met the criterion. Third, the study compared the square root of AVE and correlation coefficients to judge the discriminative validity. If the square root of AVE is higher than the correlation coefficient between variables, it means that it has a good discriminant validity (Fornell & Larcker, 1981). Table 4.7 reported that the square root values of AVE are displayed in the parentheses and the corresponding indicators below the square root values of AVE are the correlation coefficients between variables. Therefore, as shown in Table 4.7, all the square roots of AVE are greater than the correlation coefficients between variables.

4.2.4 Structural Equation Modeling

Structural equation modeling (SEM) is a multivariate technique that can best be described as a combination of both factor analysis and path analysis. It is a statistical technique that allows the analyst to examine a series of dependence relationships between exogenous variables and endogenous variables simultaneously. It provides a method of dealing with multiple relationships simultaneously.

4.2.4.1 The test of Model Fitting

Measuring the degree of consistency between the hypothetical model and the observed data is the main purpose of model evaluation. As shown in table 4.8, the study examines the fit of the model from 8 indicators such as CMIN/DF, RMSEA, RMR, GFI, NFI, CFI, IFI, and TLI.

Table 4.8 The Results of Model Fitting

Index	**Standard**	**Results**	**Conclusion**
X^2	/	50.689	-
df	/	18	-
NC (X^2 / df)	(1,3)	2.816	√
RMSEA	<0.08	0.067	√
RMR	<0.05	0.019	√
GFI	>0.9	0.944	√
NFI	>0.9	0.944	√
CFI	>0.9	0.962	√
IFI	>0.9	0.963	√
TLI	>0.9	0.924	√

About the verification of model fitting, according to the standard proposed by Bagozzi and Yi (1988), it can be seen from the results in table 4.8 that, among the fitting indexes of the model in this study, all relevant indexes, such as the ratio of X^2 / df, RMSEA, GFI, IFI, NFI, IFI all reached a good level. Therefore, the model constructed in this study fits well and could be acceptable.

4.2.4.2 Path Analysis

In this study, AMOS 22.0 was used to perform structural equation model operations on the collected data and to analyze the running results. The significance test of the model is shown in the following Table 4.9:

Table 4.9 The Result of Path Analysis

Regression and Significance Test Results of Path								
X	→	**Y**	**Estimate**	***SE***	***z***	***p***	**Standard Estimate**	**Label**
PAC	→	SF	0.224	0.053	4.195	0.000	0.268	support H1a
PAC	→	IP	0.180	0.042	4.276	0.000	0.290	support H2a
PAC	→	SCA	0.088	0.036	2.433	0.015	0.122	support H3a
RAC	→	SF	0.308	0.050	6.207	0.000	0.396	support H1b
RAC	→	IP	0.107	0.039	2.725	0.006	0.185	support H2b
RAC	→	SCA	0.019	0.034	0.550	0.583	0.028	not support H3b
SF	→	IP	0.180	0.037	4.805	0.000	0.242	support H4
SF	→	SCA	0.158	0.036	4.366	0.000	0.176	support H5
IP	→	SCA	0.807	0.042	19.113	0.000	0.693	support H6
Ownership	→	SCA	-0.005	0.022	-0.252	0.801	-0.007	-
Age	→	SCA	0.033	0.021	1.556	0.120	0.045	-
Overseas Experience	→	SCA	-0.021	0.021	-1.000	0.317	-0.029	-
Industry	→	SCA	-0.012	0.005	-2.270	0.023	-0.065	-
Size	→	SCA	-0.011	0.010	-1.069	0.285	-0.031	-
R&D intensity	→	SCA	0.043	0.021	2.056	0.040	0.059	-

Note: PAC: Potential Absorptive Capacity; RAC: Realized Absorptive Capacity; SF: Strategic Flexibility; IP: Innovation Performance; SCA: Sustainable Competitive Advantage; EU: Environmental Uncertainty.

It can be seen from the above table 4.9:

Hypothesis 1a: when Potential Absorptive Capacity (PAC) affects Strategic Flexibility (SF), the standard estimate coefficient value is 0.268>0, and this path shows a level of significance of 0.01 (z=4.195, p=0.000<0.01), thus indicating that Potential Absorptive Capacity (PAC) will have a significant positive effect on Strategic Flexibility (SF).

Hypothesis 2a: when Potential Absorptive Capacity (PAC) affects Innovation Performance (IP), the standard estimate coefficient value is 0.290>0, and this path shows a level of significance of 0.01 (z=4.276, p=0.000<0.01), which shows that it has a significant positive effect on Innovation Performance (IP).

Hypothesis 3a: when Potential Absorptive Capacity (PAC) affects Sustainable Competitive Advantage (SCA), the standard estimate coefficient value is 0.122>0, and this path shows a level of significance of 0.05 (z=2.433, p=0.015<0.01), which shows that Potential Absorptive Capacity (PAC) has a significant positive effect on Sustainable Competitive Advantage (SCA).

Hypothesis 1b: when Realized Absorptive Capacity (RAC) affects Strategic Flexibility (SF), the standard estimate coefficient value is 0.396>0, and this path shows a level of significance of 0.01 (z=6.206, p=0.000<0.01), which shows that Realized Absorptive Capacity (RAC) has a significant positive effect on Strategic Flexibility (SF).

Hypothesis 2b: when Realized Absorptive Capacity (RAC) affects Innovation Performance (IP), the standard estimate coefficient value is 0.185>0, and this path shows a level of significance of 0.01 (z=2.725, p=0.006<0.01), which shows that Realized Absorptive Capacity (RAC) has a significant positive effect on Innovation Performance (IP).

Hypothesis 3b: when Realized Absorptive Capacity (RAC) affects Sustainable Competitive Advantage (SCA), this path does not show significance (z=0.550, p=0.583>0.05), which means that Realized Absorptive Capacity (RAC) does not have a significant influence on Sustainable Competitive Advantage (SCA).

Hypothesis 4: when Strategic Flexibility (SF) affects Innovation Performance (IP), the standard estimate coefficient value is 0.242>0, and this path shows a level of significance of 0.01 (z=4.805, p=0.000<0.01), which shows that Strategic Flexibility (SF) has a significant positive effect on Innovation Performance (IP).

Hypothesis 5: when Strategic Flexibility (SF) affects Sustainable Competitive Advantage (SCA), the standard estimate coefficient value is 0.176>0, and this path shows a level of significance of 0.01 (z=4.366, p=0.000<0.01), which shows

that Strategic Flexibility (SF) has a significant positive effect on Sustainable Competitive Advantage (SCA).

Hypothesis 6: when Innovation Performance (IP) affects Sustainable Competitive Advantage (SCA), the standard estimate coefficient value is 0.693>0, and this path shows a level of significance of 0.01 (z=19.133, p=0.000<0.01), which shows that Innovation Performance (IP) has a significant positive effect on Sustainable Competitive Advantage (SCA).

When "Ownership" affects Sustainable Competitive Advantage (SCA), this path does not show significance (z=-0.252, p=0.801>0.05), which means that "Ownership" does not have an impact on Sustainable Competitive Advantage (SCA).

When "Age" affects Sustainable Competitive Advantage (SCA), this path does not show significance (z=1.556, p=0.120>0.05), which means that "Age" does not have an impact on Sustainable Competitive Advantage (SCA).

When "Overseas Experience" affects Sustainable Competitive Advantage (SCA), this path does not have a significant influence (z=-1.000, p=0.317>0.05), which shows that "Overseas Experience" does not affect Sustainable Competitive Advantage (SCA).

When "Industry" affects Sustainable Competitive Advantage (SCA), the standardized estimate coefficient value is -0.065<0, and this path shows a significant level at the 0.05 level (z=-2.270, p=0.023<0.05), which shows that "Industry" will have a significant negative effect on Sustainable Competitive Advantage (SCA).

When "Size" affects Sustainable Competitive Advantage (SCA), this path does not show significance (z=-1.069, p=0.285>0.05), which shows that "Size" does not have an impact on Sustainable Competitive Advantage (SCA).

When "R&D Intensity" affects Sustainable Competitive Advantage (SCA), the standardized estimate coefficient value is 0.059>0, and this path shows significance at the 0.05 level (z=2.056, p=0.040<0.05), which shows that "R&D Intensity" will have a significant positive impact on Sustainable Competitive Advantage (SCA).

4.2.5 Moderating Effect

This study will use the moderating effect method of Wen et al. (2006) to examine the moderating effects of Environmental Uncertainty (EU) between Potential Absorptive Capacity (PAC) and Innovation Performance (IP), Realized Absorptive Capacity (RAC), and Innovation Performance (IP), and Strategic Flexibility (SF) and Innovation Performance (IP). First, the study adopts Wen et al. (2006) suggestion to standardize the independent variable and moderator and calculate the product term of them. Then perform multiple stepwise regression; the test procedure is as follows: first, put the control variable and independent variable into the regression equation for the dependent variable; then put moderator into the regression equation; finally, add the product term of the independent variable and moderator to the regression equation.

Table 4.10 The Moderating Effect of EU on PAC and IP

	Model 1		**Model 2**		**Model 3 (H7a)**	
	β	***SE***	***β***	***SE***	***β***	***SE***
PAC	0.343***	0.026	0261***	0.026	0.254***	0.026
EU	-	-	-0.231***	0.028	-0.259***	0.031
PAC*EU	-	-	-	-	-0.044*	0.022
N	404		404		404	
R^2	0.304		0.405		0.411	
Adjust R^2	0.303		0.402		0.406	

Note: PAC: Potential Absorptive Capacity; IP: Innovation Performance; EU: Environmental Uncertainty.

It can be seen from the above table 4.10, for Model 1, its purpose is to study the influence of the independent variable (Potential Absorptive Capacity) on the dependent variable (Innovation Performance) without considering the interference of the moderator (Environmental Uncertainty). It can be seen from the above table that the independent variable (Potential Absorptive Capacity) is significant (*t=13.281,*

p=0.000<0.05). This means that the Potential Absorptive Capacity (PAC) will have a significant impact on Innovation Performance (IP).

Table 4.11 The Simple Slope Analysis of EU on PAC and IP

Simple Slope Analysis						
Environmental Uncertainty	**Coefficient B**	**SE**	***t***	***p***	**95% CI**	
Mean	0.256	0.026	9.696	0.000	0.205	0.308
High（+1SD）	0.201	0.040	4.975	0.000	0.122	0.280
Low（-1SD）	0.312	0.035	8.875	0.000	0.243	0.381

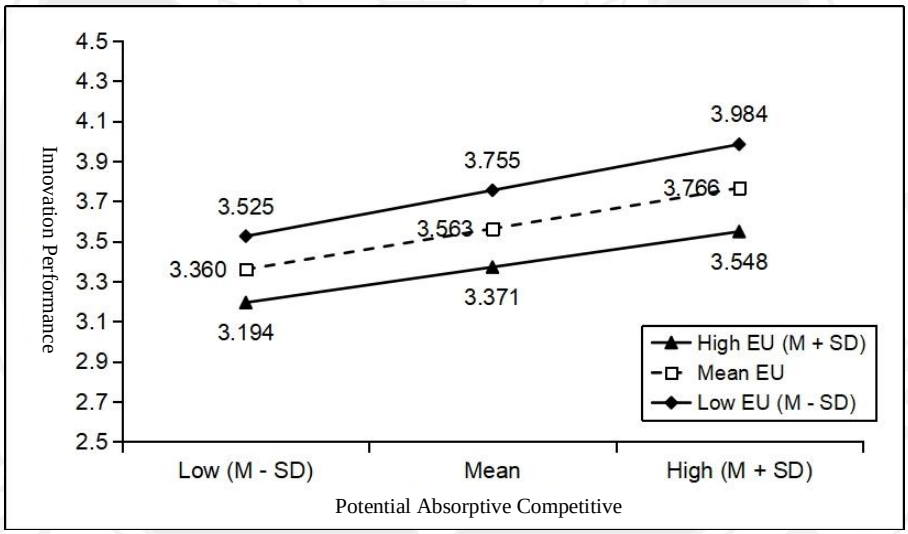

Figure 4.1 The Moderating Effect of EU on PAC and IP.

It can be seen from the above table 4.10 that the interaction term between Potential Absorptive Capacity (PAC) and Environmental Uncertainty (EU) is significant (*t=-2.041, p=0.042<0.05*). This means that when Potential Absorptive Capacity (PAC) affects Innovation Performance (IP), the level of the influence is significantly different when the moderator (Environmental Uncertainty) is at different levels. With the results of simple slope analysis as shown in figure 4.1, it can be seen that, specifically, the increase of Environmental Uncertainty (EU) will reduce the slope of the impact of Potential Absorptive Capacity (PAC) on Innovation Performance (IP). When Environmental Uncertainty (EU) is at a high level, the regression coefficient is 0.201, and when Environmental Uncertainty (EU) is at a low level, the regression coefficient is 0.312. In other words, environmental uncertainty negatively regulates the impact of Potential Absorptive Capacity (PAC) on Innovation Performance (IP), and this result supports hypothesis H7a.

Table 4.12 The Moderating Effect of EU on RAC and IP

	Model 1		**Model 2**		**Model 3 (H7b)**	
	β	***SE***	***β***	***SE***	***β***	***SE***
RAC	0.316***	0.024	0242***	0.024	0.237***	0.024
EU	-	-	-0.237***	0.028	-0.273***	0.030
RAC*EU	-	-	-	-	-0.060**	0.020
N	404		404		404	
R^2	0.300		0.407		0.420	
Adjust R^2	0.298		0.404		0.416	

Notes: RAC: Realized Absorptive Capacity; IP: Innovation Performance; EU: Environmental Uncertainty.

As can be seen from the above table 4.12, the moderating effect is divided into three models. For Model 1, its purpose is to study the influence of the independent variable (Realized Absorptive Capacity) on the dependent variable (Innovation Performance) without considering the interference of the moderator (Environmental

Uncertainty). It can be seen from the above table that the independent variable (Realized Absorptive Capacity) is significant (*t=12.665, p=0.000<0.05*). This means that Realized Absorptive Capacity (RAC) will have a significant impact on Innovation Performance (IP).

Table 4.13 The Simple Slope Analysis of EU on RAC and IP

Simple Slope Analysis						
Environmental Uncertainty	**Coefficient B**	**SE**	***t***	***p***	**95% CI**	
Mean	0.222	0.023	9.653	0.000	0.177	0.267
High（+1SD）	0.153	0.033	4.705	0.000	0.089	0.217
Low（-1SD）	0.291	0.030	9.569	0.000	0.231	0.350

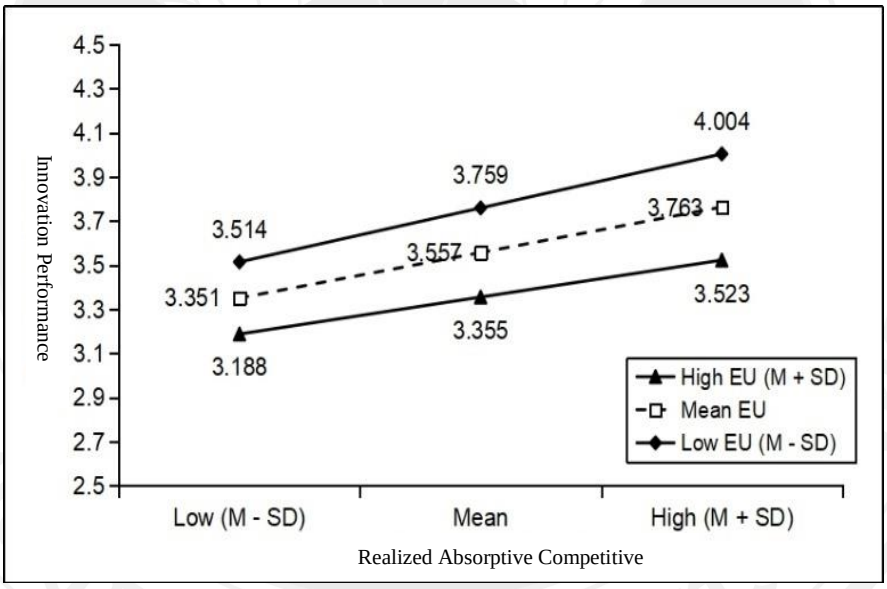

Figure 4.2 The Moderating Effect of EU on RAC and IP

It can be seen from the above table 4.12 that the interaction term between Realized Absorptive Capacity (RAC) and Environmental Uncertainty (EU) is significant (*t=-3.189, p=0.002<0.05*). It means that when Realized Absorptive Capacity (RAC) has an impact on Innovation Performance (IP) when the moderator (Environmental Uncertainty) is at different levels, the impact range has a significant difference. With the results of simple slope analysis, it can be seen as the figure 4.2

that, specifically, the increase of Environmental Uncertainty (EU) will reduce the slope of the impact of Realized Absorptive Capacity (RAC) on Innovation Performance (IP). When Environmental Uncertainty (EU) is at a high level, the regression coefficient is 0.153, and when Environmental Uncertainty (EU) is at a low level, the regression coefficient is 0.291. In other words, environmental uncertainty negatively regulates the impact of Realized Absorptive Capacity (RAC) on Innovation Performance (IP), and this result supports Hypothesis H7b.

Table 4.14 The Moderating Effect of EU on SF and IP

	Model 1		**Model 2**		**Model 3 (H7c)**	
	β	***SE***	***β***	***SE***	***β***	***SE***
SF	0.386***	0.032	0266***	0.034	0.271***	0.034
EU	-	-	-0.222***	0.031	-0.259***	0.032
SF*EU	-	-	-	-	-0.069***	0.020
N	404		404		404	
R^2	0.269		0.352		0.371	
Adjust R^2	0.268		0.349		0.366	

Note: SF: Strategic Flexibility; IP: Innovation Performance; EU: Environmental Uncertainty.

It can be seen from the above table 4.14 that the moderating effect is divided into three models. Model 1 includes independent variables (Strategic Flexibility). Model 2 adds a moderator (Environmental Uncertainty) based on model 1, and model 3 adds an interaction term (the product of independent variables and the moderator) based on model 2. For Model 1, its purpose is to study the influence of the independent variable (Strategic Flexibility) on the dependent variable (Innovation Performance) without considering the interference of the moderator (Environmental Uncertainty). It can be seen from the above table that the independent variable (Strategic Flexibility) is significant ($t=12.289, p=0.000<0.05$). This means that Strategic Flexibility (SF) will have a significant impact on Innovation Performance (IP).

Table 4.15 The Simple Slope Analysis of EU on SF and IP

Simple Slope Analysis						
Environmental Uncertainty	**Coefficient B**	**SE**	***t***	***p***	**95% CI**	
Mean	0.276	0.034	8.111	0.000	0.209	0.342
High （+1SD）	0.174	0.044	3.929	0.000	0.087	0.261
Low （-1SD）	0.378	0.046	8.152	0.000	0.287	0.468

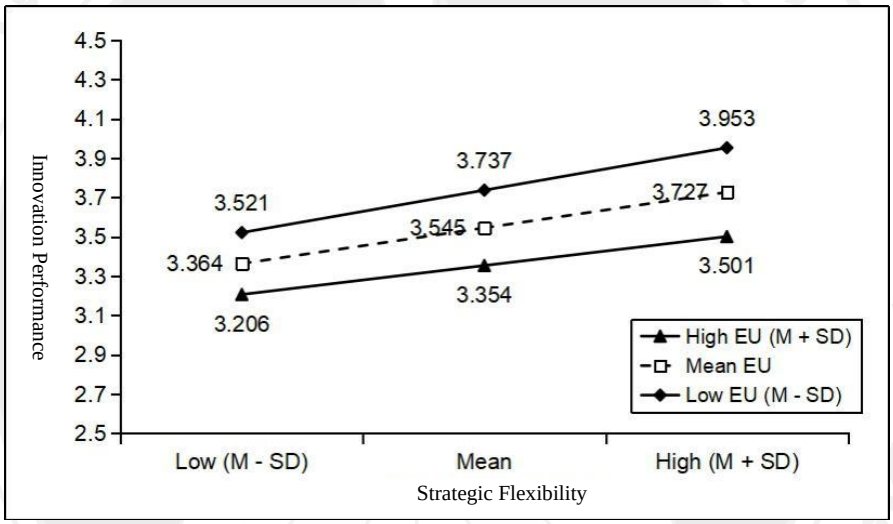

Figure 4.3 The Moderating Effect of EU on SF and IP

It can be seen from the above table 4.14 that the interaction term between Strategic Flexibility (SF) and Environmental Uncertainty (EU) is significant (*t=-3.402, p=0.001<0.05*). It means that when Strategic Flexibility (SF) affects Innovation Performance (IP), the magnitude of the influence is significantly different when the adjustment variable (Environmental Uncertainty) is at different levels. With the results of simple slope analysis, it can be seen as figure 4.3 that, specifically, the increase of Environmental Uncertainty (EU) will reduce the slope of the influence of Strategic Flexibility (SF) on Innovation Performance (IP). When Environmental Uncertainty (EU) is at a high level, the regression coefficient is 0.174, and when Environmental Uncertainty (EU) is at a low level, the regression coefficient is 0.378. In other words, environmental uncertainty negatively regulates the impact of Strategic Flexibility (SF) on Innovation Performance (IP), and this result supports Hypothesis H7c.

4.2.6 Mediating Effect

The effect is the degree of interaction between variables, which can be divided into direct effects and indirect effects. Direct effect means that a variable directly affects and changes another variable through itself changes, while indirect effect means that a variable affects the target variable by affecting other variables. The sum of the two effects is the total effects of the variable's effect on the target variable. The study used the path analysis function of AMOS 22.0, checking the "indirect, direct & total effects" to calculate the effect relationship between each latent variable.

The mediating effect refers to that the variable affects the target variable by influencing the mediator, and the mediator has a mediating effect on the variable and the target variable. This study used the Bootstrap Method to test the mediating effects. Therefore, based on the research model of this study, the following mediator hypothesis is proposed, shown in Table 4.16.

Table 4.16 Mediating Hypothesis

	Mediating Effect of Variables
H8	PAC→SF→SCA
H9	PAC→IP→SCA
H10	PAC→SF→IP
H11	RAC→IP→SCA
H12	SF→IP→SCA

Note: PAC: Potential Absorptive Capacity; RAC: Realized Absorptive Capacity; SF: Strategic Flexibility; IP: Innovation Performance; SCA: Sustainable Competitive Advantage.

Using the bootstrap function of AMOS 22.0, set the "Number of bootstrap samples" in 2000, "Percentile confidence intervals" is 95%, and use the maximum likelihood estimation method. If under the condition of significance, bootstrapping is within the 95% confidence interval and its estimated interval does not contain 0, then the hypothesis that the effects do not exist is rejected, that is, the hypothesis that the effect exists is valid. Data were calculated and sorted out in the following mediating effect report as Table 4.17.

Table 4.17 The Mediating Effect Analysis

Mediating Effect Report							
Hypothesis	**Relationship**	**Effect**	**Point Estimate**	**Bootstrapping**		**Two-Tailed Test**	**Result**
				Bias-Corrected 95% CI			
				lower	upper		
H8	PAC→SF→SCA	Total effect	0.165	0.043	0.291	0.008	Supported
		Direct effect	-0.074	-0.179	0.053	0.178	Rejected
		Indirect effect	0.239	0.071	0.366	0.003	Supported

Mediating Effect Report							
Hypothesis	**Relationship**	**Effect**	**Point Estimate**	**Bootstrapping Bias-Corrected 95% CI**		**Two-Tailed Test**	**Result**
				lower	upper		
H9	PAC→IP→SCA	Total effect	0.165	0.043	0.291	0.008	Supported
		Direct effect	-0.074	-0.179	0.053	0.178	Rejected
		Indirect effect	0.239	0.071	0.366	0.003	Supported
H10	PAC→SF→IP	Total effect	0.210	0.103	0.307	0.001	Rejected
		Direct effect	0.191	0.094	0.277	0.001	Supported
		Indirect effect	0.020	-0.007	0.060	0.138	Rejected
H11	RAC→IP→SCA	Total effect	0.266	0.155	0.398	0.000	Supported
		Direct effect	0.005	-0.067	0.066	0.935	Rejected
		Indirect effect	0.261	0.163	0.146	0.000	Supported
H12	SF→IP→SCA	Total effect	0.357	0.189	0.509	0.000	Supported
		Direct effect	0.158	0.034	0.291	0.004	Supported
		Indirect effect	0.199	0.081	0.332	0.000	Supported

Note: PAC: Potential Absorptive Capacity; RAC: Realized Absorptive Capacity; SF: Strategic Flexibility; IP: Innovation Performance; SCA: Sustainable Competitive Advantage.

It can be seen from Table 4.17:

The total effect and indirect effect of Potential Absorptive Capacity (PAC) in H8 and H9 are significant for Sustainable Competitive Advantage (SCA), the hypothesis is supported, and the direct effect is not significant, that is, Strategic Flexibility (SF) and Innovation Performance (IP) play a complete mediating effect in the influence of Potential Absorptive Capacity (PAC) on Sustainable Competitive Advantage (SCA).

The indirect effect of Potential Absorptive Capacity (PAC) on Innovation Performance (IP) in H10 is not significant, that is, Strategic Flexibility (SF) plays no mediating effect in the influence of Potential Absorptive Capacity (PAC) on Innovation Performance (IP).

The total effect and indirect effect of Realized Absorptive Capacity (RAC) on Sustainable Competitive Advantage (SCA) in H11 are significant, but the direct effects are not significant, that is, Innovation Performance (IP) plays a complete mediating effect in the influence of Realized Absorptive Capacity (RAC) on Sustainable Competitive Advantage (SCA).

The total effect, direct effect, and indirect effect of Strategic Flexibility (SF) on Sustainable Competitive Advantage (SCA) in H12 are significant, that is, Innovation Performance (IP) plays a part in the mediating effect in the influence of on Sustainable Competitive Advantage (SCA).

4.3 Conclusion

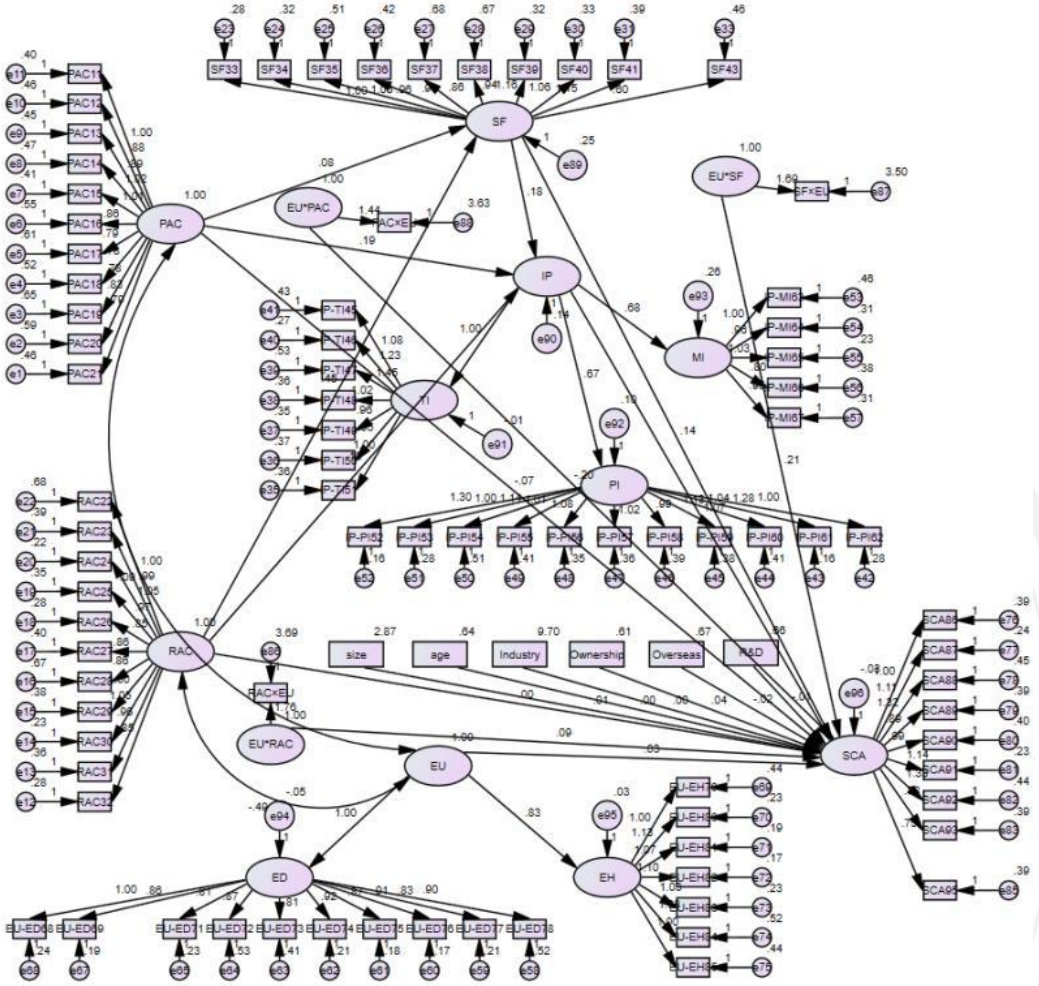

Figure 4.4 Structural Equation Modeling in Amos

Figure 4.4 shows the details about the Structural Equation Model of this study, it concludes the relationship of variables, a total of 12 hypotheses. In the Amos diagram, innovation performance included 3 dimensions (technical innovation, marketing innovation, production innovation); environmental uncertainty included 2 dimensions (environmental dynamic; environmental hostility). After simplification, the study got the final result shown in Figure 4.5.

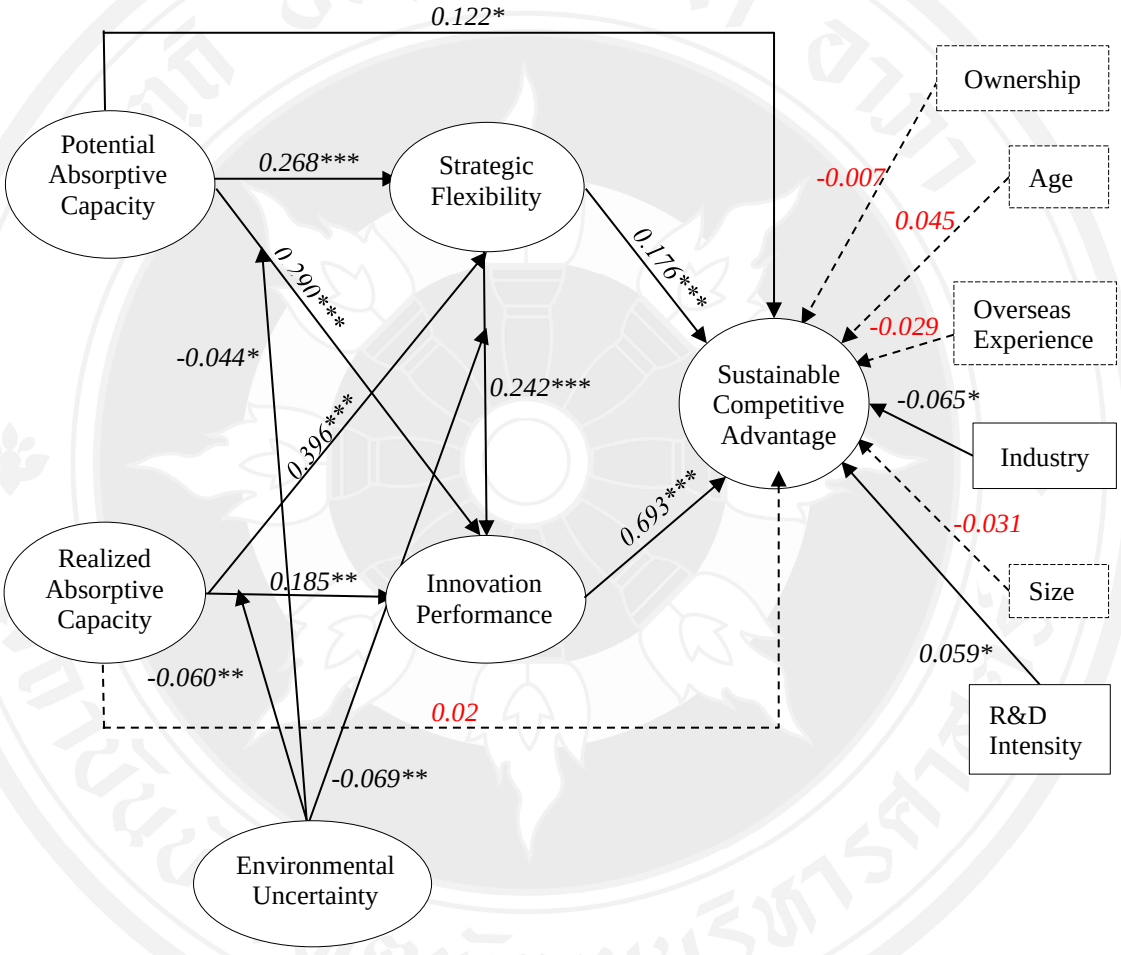

Figure 4.5 Final Result of Structural Equation Modelling

Note: Significant at: *: p<0.05; **: p<0.01; ***: p<0.001

A total of 12 hypotheses are shown from the above Figure 4.5, we can get the summary of proposed hypothesis testing as Table 4.18.

Table 4.18 Summary of Proposed Hypothesis Testing

Hypothesis	**Anticipated Effect**	**β**	**Sig.**	**Result**
H1a: The potential absorptive capacity of emerging economics firms correlates positively with strategic flexibility.	+	0.268	0.000	Accepted
H1b: The realized absorptive capacity of emerging economics firms correlates positively with strategic flexibility.	+	0.396	0.000	Accepted
H2a: The potential absorptive capacity of emerging economics firms correlates positively with innovation performance.	+	0.290	0.000	Accepted
H2b: The realized absorptive capacity by emerging economics firms correlates positively with innovation performance.	+	0.185	0.006	Accepted
H3a: The potential absorptive capacity of emerging economics firms correlates positively with the sustainable competitive advantage.	+	0.122	0.015	Accepted
H3b: The realized absorptive capacity of the emerging economics firms correlates positively with the sustainable competitive advantage.	+	0.028	0.583	Rejected
H4: The strategic flexibility of emerging economics firms correlates positively with innovation performance.	+	0.242	0.000	Accepted
H5: The strategic flexibility of emerging economics firms correlates positively with the sustainable competitive advantage.	+	0.176	0.000	Accepted
H6: The innovation performance of the emerging economics firms correlates positively with the sustainable competitive advantage.	+	0.693	0.000	Accepted

Hypothesis	Anticipated Effect	β	Sig.	Result
H7a: Environmental uncertainties negatively regulate the relationship between potential absorptive capacity and innovation performance.	-	-0.044	0.042	Accepted
H7b: Environmental uncertainties negatively regulate the relationship between realized absorptive capacity and innovation performance.	-	-0.060	0.002	Accepted
H7c: Environmental uncertainties negatively indicate the relationship between strategic flexibility and innovation performance.	-	-0.069	0.001	Accepted
H8: Strategic flexibility mediates the relationship between potential absorptive capacity and sustainable competitive advantage.	Complete Mediation			Accepted
H9: Innovation performance mediates the relationship between potential absorptive capacity and sustainable competitive advantage.	Complete Mediation			Accepted
H10: Strategic flexibility mediates the relationship between potential absorptive capacity and innovation performance.	-			Rejected
H11: Innovation performance mediates the relationship between realized absorptive capacity and sustainable competitive advantage.	Complete Mediation			Accepted
H12: Innovation performance mediates the relationship between strategic flexibility and sustainable competitive advantage.	Partial Mediation			Accepted

About control variables, the study includes 6 control variables, except "Industry" and "R&D intensity," others do not affect Sustainable Competitive Advantage (SCA).

About the moderator, environmental uncertainty negatively regulates the impact of Potential Absorptive Capacity (PAC) on Innovation Performance (IP), Realized Absorptive Capacity (RAC) on Innovation Performance (IP), and Strategic Flexibility (SF) on Innovation Performance (IP).

About the mediator, strategic flexibility and innovation performance both have a significant mediating effect, the results are summarized in Table 4.19.
The results of the Mediating effect hypothesis

Table 4.19 The Results of the Mediating Effect Hypothesis

Hypothesis	**Relationship**	**Result**	**Type**
H8	PAC→SF→SCA	Supported	Complete Mediation
H9	PAC→IP→SCA	Supported	Complete Mediation
H10	PAC→SF→IP	Rejected	—
H11	RAC→IP→SCA	Supported	Complete Mediation
H12	SF→IP→SCA	Supported	Partial Mediation

Note: PAC: Potential Absorptive Capacity; RAC: Realized Absorptive Capacity; SF: Strategic Flexibility; IP: Innovation Performance; SCA: Sustainable Competitive Advantage.

CHAPTER 5

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

This chapter is divided into 5 parts. The first section explains the main research findings based on the data analysis in Chapter 4 and points out the similarities and differences with the previous literature. The second section is the academic contribution of this research. The third section introduces the practical guiding significance and implication for enterprise management. The fourth section is the policy recommendations proposed by the governments of emerging economies, and the last section is the research limitations and future research directions.

5.1 Main Research Finding

5.1.1 Basic Information of Respondents

This study examined the influence of absorptive capacity on sustainable competitive advantage and provided a theoretical basis for EEFs to utilize absorptive capacity. Simultaneously, different from the areas of innovation and R&D, which are closely related to absorptive capacity, this study established a link between absorptive capacity and sustainable competitive advantage. Based on previous studies, strategic flexibility and innovation performance were used as mediators; environmental uncertainty was introduced as moderator, six control variables were also added，including the nature of the company, age, overseas experience, industry, size, and R&D intensity. These variables composed the conceptual model of this study and also represented the basic process of utilizing absorptive capacity by enterprises. In this study, a total of 12 research hypotheses were proposed, and the hypothetical relationship between each variable was separately elaborated. The relationship between variables should be thoroughly studied to provide a new theoretical basis for the internationalization of emerging economies.

First, this study used 10 multiple-choice questions to measure the basic characteristics of the sample enterprises, it was also the descriptive analysis part of this study. The 10 questions include the measurement of 6 control variables. Based on the results of data analysis, this study can draw the following conclusions. From the perspective of the nature of enterprises, in the 404 sample enterprises, the proportions of state-owned enterprises, private enterprises, and other enterprises are not much different. This reflects that there are many ways to internationalize enterprises in emerging economies. Enterprises of each nature can explore and try in the process of internationalization and give full play to their advantages. At the same time, their disadvantages can also be revealed and improved. In previous research results, the nature of the company has a significant impact on sustainable competitive advantage, but this view was not proven in this study. The reason may be that the sample size is not large enough to cover most emerging economies, so the data is not significant. But another reason is that although the nature of the company is different, the advantages and disadvantages are also different. It is not certain which type of company has an absolute impact on sustainable competitive advantage.

Judging from the length of time the company was established, 68.5% of the companies were under 10 years, and only 31.4% were over 11 years. This shows that many companies in emerging economies are newly established. The overseas operations of these new enterprises reflect flexibility and innovation. The development of the enterprises' business does not depend on age but is related to the ability to innovate and explore. Although in the literature of previous studies, the influence of company age on sustainable competitive advantage is significant, the data in this study does not reflect the significance. This may be due to the characteristics of Chinese companies. Most Chinese companies are not old enough. Compared with established capitalist countries such as Europe, America, and Japan, most companies in emerging economies are not too old.

In terms of overseas business experience, there are no extreme options. “3-5” years, “6-10” years, and “11-15” years total account for 30%, which is not much different from the percentage of the company's establishment time mentioned above. Therefore, the impact on sustainable competitive advantage is also insignificant, which is also different from previous research.

In terms of industry distribution, the most distributed industry is the Automobile manufacturing industry (12.4%), and other industries are less than 10%. Still, overall, the manufacturing industry accounts for 57.9%, which is higher than the service industry, and this is also in line with the actual situation of Chinese overseas companies. Many engineering companies' main business is infrastructure construction, such as building high-speed rail and dams in Southeast Asian countries. The influence of industry distribution on the sustainable competitive advantage of enterprises is significant, consistent with the results of the previous research.

The scale of overseas investment measures enterprise size. According to statistical information, companies with less than 15 million accounted for 54%, and the rest were evenly distributed, and no extreme items appeared. Combined with the above statistical information on the age of companies, most of the companies operating overseas in emerging economies are short-established and moderate in investment scale. Of course, there are also a small number of state-owned enterprises with strong economic strength. In this study, the size of the company has no significant effect on sustainable competitive advantage, this is inconsistent with the previous research viewpoints. The reason may be that most of the previous studies did not choose overseas companies but domestic companies.

Based on the previous literature, the study found that R&D has always been an important factor affecting absorptive capacity and innovation performance. In the data analysis of this study, R&D intensity as a control variable has a significant impact on sustainable competitive advantage. Companies with an R&D intensity of “0%-5%” account for 67.6%. This is in line with the actual situation of the survey. As an emerging economy, the R&D intensity of most companies in China R&D is about 2%, which shows that overseas companies’ R&D investment is significantly higher than that of domestic companies, and they valued the long-term development advantages that innovation brings to companies.

Judging from the geographical location of overseas investment, Asia is still the main investment destination, with investment companies accounting for 53% of the total. Due to geographical factors, China has invested more in countries along the “Belt and Road,” including Hong Kong and Macau, where the economy has developed earlier and has invested more in projects such as trading and infrastructure construction. In Europe and America, most enterprises are state-owned enterprises and high-tech companies, such as the Bank of China and Huawei Technologies. To a certain extent, the difference in geographical location can show the difference in the industry of investment enterprises.

From the perspective of the development of the company in the past three years, each option is evenly distributed, with a total of 69.8% expansion and remaining unchanged. This shows that most overseas companies are still making progress in their development, and there are no particular mistakes. This is a good phenomenon, which shows that emerging economy enterprises can actively adapt to the new market environment in overseas operations, do a good job of strategic adjustment and resource allocation, and innovate their products and services according to market needs, so as to maintain long-term competitive advantages.

Among the main functions of overseas companies, “regional/country offices “and “overseas marketing” have the most choices, 221 and 206. This shows that developing national markets is the main goal of the internationalization of emerging economies. The reason for opening up the international market is the increase of demand in the international market, and the growth potential is huge. The reasons for overseas operations are reflected in the 10th question. A total of 226 companies have chosen, accounting for the highest proportion (15.7%).

Among the positions of the respondents who fill out the questionnaire, more than 90% are managers, and the remaining 10% have directors, secretaries-general, and other positions. This is also in line with the relevant requirements of this research questionnaire, in order to increase the accuracy and authenticity of the questionnaire answers, this research questionnaire is marked to be filled out by the main leader in charge of the overseas company.

Finally, concerning the six control variables, the results showed that, except for the significant impact of industry and R&D intensity on sustainable competitive

advantage, it was the same with Medase and Barasa (2019) and Guimaraes et al. (2017). The impacts of absorptive capacity among different industries were different, and the greater the intensity of R&D, the greater the impact on sustainable competitive advantage. Other control variables (age, size, overseas experience, and ownership) did not affect sustainable competitive advantage. This is different from previous studies, and the reasons may be the scope of sample collection. There were not enough EEFs to be examined, and the role of these variables was not highlighted in this study.

5.1.2 The Discussion of Correlation Analysis

Before the path testing, this study used Pearson's correlation analysis with SPSS 23 software to test the correlation of the research variables. The results showed that there was a significant correlation between each variable. And environmental uncertainty has a significant negative correlation with potential absorptive capacity, realized absorptive capacity, strategic flexibility, and innovation performance, which means that the increase of environmental uncertainty will have a negative impact on these variables. All other variables have significant positive effects.

5.1.3 The Discussion of Path Analysis

Most previous studies did not separate potential absorptive and realized absorptive capacity but directly regarded absorptive capacity as a complete variable. However, some studies pointed out clearly that potential absorptive capacity and realized absorptive capacity had differences and connections. (Jansen et al., 2005) Therefore, to better explore the relationship between the two dimensions, in this study, they correspond to each variable to test whether there is a significant difference in the path analysis with other variables.

According to the hypothesis proposed in this research and the result of path analysis, the analysis details of each hypothesis as follow:

1) Potential absorptive capacity has a positive effect on strategic flexibility. Absorptive capacity has an important influence on strategic flexibility and various forms of innovation. Potential absorptive capacity included the acquisition and assimilation of knowledge, which can increase strategic flexibility, enable the strategies

to adapt to the changes in the internal and external environment and adjust resource allocation.

2) Realized absorptive capacity has a positive effect on strategic flexibility. Absorptive capacity, the foundation for an enterprise to maintain its competitiveness, helps companies form a benign, more flexible, and efficient cycle in resource allocation and innovation activities (Zahra & George, 2002). The result shows that transformation and exploitation of realized absorptive capacity can promote the increase of strategic flexibility. By comparing with potential absorptive capacity, it is found that the realized absorptive capacity has a greater impact on strategic flexibility (0.396) than the potential absorptive capacity (0.268), which means that in the practical operation of the enterprise, more attention should be paid to the two aspects (transformation and exploitation) of realized absorptive capacity on strategic flexibility. As for a reason for this difference, it may be related to the nature of potential absorptive capacity and realized absorptive capacity. The realized absorptive capacity more influences the practical operation and daily decision-making of the enterprise, which is closely related to the applicability of strategic flexibility. The potential absorptive capacity focuses more on the search for internal and external knowledge without involving the application level, so its influence coefficient is lower than that of realized absorptive capacity.

3) Potential absorptive capacity has a positive effect on innovation performance. The absorption and use of external knowledge help to stimulate the enterprise's awareness of innovation, develop new products and services that conform to market changes, and improve its competitiveness and innovation value (Chen, Lin, & Chang, 2009). The acquisition of new market information can effectively help enterprises to carry out innovative activities. The prior knowledge of enterprises provides a basic framework for overseas operations, and the subsequent company's absorption of external environmental knowledge can help companies break the original thinking method, add new ideas and concepts, enable companies to grasp changes in market demand promptly and make certain contributions to the company's internal strategy and product innovation. Besides, it can be seen from the standard estimate that potential absorptive capacity has a greater impact on innovation performance (0.290), which is higher than the other two variables (strategic flexibility and realized absorptive

capacity). This confirmed that absorptive capacity mainly affected innovation activities but not only. In future research, the study should explore the influence of absorptive capacity on other factors and make more theoretical contributions.

4) Realized absorptive capacity has a positive effect on innovation performance. In business management, the communication and coordination between different departments help the diffusion and absorption of knowledge, and the application of new knowledge will stimulate the innovative behavior of the enterprise (Tsai, 2001). In previous studies, the initial application of absorptive capacity is the enterprise's R&D behavior. On the whole, the relationship between absorptive capacity and innovation performance is inseparable. It enables overseas companies to stimulate various innovative behaviors only by absorbing new knowledge. In terms of the impact on innovation performance, the impact coefficient of realized absorptive capacity is lower than potential absorptive capacity. The previous literature did not make a specific comparative analysis on this issue. The reason may be that the transformation and exploitation represented by the realized absorptive capacity are limited to a certain extent by time, finance, and research level, and there is a certain loss and impact. Therefore, the efficiency of direct conversion is lower than the impact of potential absorptive capacity on innovation performance.

5) Potential absorptive capacity has a positive effect on sustainable competitive advantage, consistent with previous research results. Absorptive capacity is an important source of competitive advantage (Liao, Chen, Hu, Chung, & Yang, 2017). Through the comparison of path coefficients, it was found that the potential absorptive capacity has a significant impact on sustainable competitive advantage, but the weight is not large. However, it will have a greater effect on sustainable competitive advantage through the influence of strategic flexibility and innovation performance. This shows that the practical operation of an enterprise is interlocking, and the roles of each department and decision-making are mutual influence, not independent. If companies can make reasonable use of potential absorptive capacity, strategic flexibility, and innovation performance, the positive impact on sustainable competitive advantage will be more significant.

6) Realized absorptive capacity did not have an effect on sustainable competitive advantage, which means hypothesis H3b is not proven. According to

previous research literature, the influence of absorptive capacity on competitive advantage is significant, but few scholars have explored the influence of the two dimensions of absorptive capacity on sustainable competitive advantage. Therefore, the results could guide the operation of overseas companies. The focus should be on the cultivation of the potential absorptive capacity to increase sustainable competitive advantage, but attention should be paid to the ratio of resource allocation. If the ratio of realized absorptive capacity and potential absorptive capacity is unbalanced, it will inevitably have a certain impact on the overall operation of the company. Because the enterprise is a whole organization, the various elements influence each other. As for how to control the ratio between realized absorptive capacity and potential absorptive capacity, corresponding explorations will be made in future research.

7) Strategic flexibility has a positive effect on strategic innovation performance, which is consistent with previous research results. Liu, Jiang, Zhang, and Zhao (2013) believed that strategic flexibility is the benefit to increasing the performance of new products and R&D. Firstly, as a dynamic capability that helps companies gain a competitive advantage in rapidly changing markets, strategic flexibility can prompt companies to reallocate resources to consolidate their strength and adapt to market demands. The flexibility of strategy can provide good conditions for enterprise innovation, and the rapid and accurate acquisition of market information can bring new ideas and changes to enterprises. In the current research, the concept of innovation strategy combines the characteristics of two variables, strategic flexibility and innovation performance. It is a strategy for an enterprise to actively and continuously innovate in technology, products, organization, etc., following the changing environment and maintaining a unique advantage in fierce competition. This coincides with the needs of emerging economy companies seeking development in foreign markets.

8) Strategic flexibility has a positive effect on sustainable competitive advantage, which is consistent with previous research results. Strategic flexibility brings new value and industry standards to enterprises and explores new directions and rules in new changes. This is the basis and prerequisite for maintaining sustainable competitiveness (Eryesil, Esmen, & Beduk, 2015). Strategic decisions largely determine the company's practical operations and have a greater impact on production,

marketing, and development. Positive strategic decisions will promote product research and development, control costs, and expand market share. These behaviors directly determine the company's sustainable competitiveness and affect the formation and duration of advantages. Therefore, companies can focus on implementing innovative strategies to achieve the purpose of quickly adapting to the market and maintaining sustainable competitive advantage.

9) Innovation performance has a positive effect on sustainable competitive advantage, which is consistent with previous research results. After comparing all coefficients, it can be found that the impact of innovation performance on sustainable competitive advantage is still the largest (0.693), which fully illustrates the importance of innovation behavior. In this study, innovation has the greatest influence on sustainable competitive advantage. Therefore, if a company wants to maintain a sustainable competitive advantage, it must always maintain its innovation capabilities, re-allocate and adjust existing resources, pay attention to the latest developments in the industry, keep abreast of consumer demand changes, and upgrade product performance. Only in this way can we stand in a dominant position in the development of the industry and maintain long-term competitiveness.

5.1.4 The Discussion of Moderator - Environmental Uncertainty

Environmental uncertainty is a moderator in this study. In the analysis of the moderator, a multiple stepwise regression method was used to test the moderating effects of environmental uncertainty between variables. According to the results, firstly, the interaction term between potential absorptive capacity and environmental uncertainty, the interaction term between realized absorptive capacity and environmental uncertainty, and the interaction term between Strategic Flexibility (SF) and environmental uncertainty are all significantly proven. At the same time, when potential absorptive capacity, realized absorptive capacity, and strategic flexibility affect innovation performance, the change of environmental uncertainty has a significant negative difference in the impact. Therefore, it is assumed that the hypotheses H7a (Environmental uncertainties negatively regulate the relationship between potential absorptive capacity and innovation performance), H7b (Environmental uncertainties negatively regulate the relationship between realized

absorptive capacity and innovation performance), and H7c (Environmental uncertainties negatively indicate the relationship between strategic flexibility and innovation performance) are all significantly proven. According to previous literature on environmental uncertainty, environmental uncertainty has two dimensions, environmental dynamic and environmental hostility. The existence of environmental uncertainty is both an obstacle and an opportunity for the absorptive capacity and innovative behavior of enterprises. According to the data obtained in this study, when environmental uncertainty increases, it will have a negative impact on innovation performance. Therefore, as a company, an effective anti-risk mechanism should be established to prevent the negative impact brought by environmental uncertainty. This not only requires companies to quickly absorb knowledge of the new environment but also requires companies to form a good communication mechanism with stakeholders in the host country so that information can be communicated in time and resources can be effectively allocated.

According to previous literature, customs and trade restriction measures are the most prominent legal and regulatory challenges, followed by opaque or unfamiliar market access regulations, tax issues, and contract disputes. The longer a company operates overseas, the more familiar it is with the host country, region, and global laws related to its business operations, and therefore, the easier it is to deal with legal and regulatory challenges. EEFs' operating in different countries faced different challenges. In developed countries with mature regulatory frameworks, the main difficulty of EEFs is to establish effective mechanisms and structures to ensure compliance; however, in developing countries, although the relevant legal and regulatory frameworks have been improved, there are still challenges in a specific implementation. While in developing countries, only the United Arab Emirates (UAE) has a lower risk. As far as developing countries are concerned, the gap of the economic foundation and political risks between developing countries and developed countries is still very obvious, but in the future, as the investment demand of emerging economies increases, it will still be the most potential destination for overseas investment.

5.1.5 The Discussion of Mediating Effect

Strategic flexibility and innovation performance are mediators in this study. This study used the Bootstrap Method proposed by Preacher and Hayes (2004) to test

the effects of the two mediators. According to the corresponding relationship in the model, a total of 5 hypotheses (Hypothesis 8-Hypothesis 12) were proposed. Through the results of data analysis, it was found that in all hypotheses, the H10 is not proven, that is, the indirect effect of potential absorptive capacity on innovation performance is not significant, and strategic flexibility has no mediating effect in the influence of potential absorptive capacity on innovation performance. The hypotheses H8, H9, and H11 are all complete mediation, and H12 is a partial mediation. The four hypotheses are all significantly proven. According to this result, the relationship between strategic flexibility and other variables in the entire research framework is relatively weak, and the impact of potential absorptive capacity on innovation performance is more direct and obvious. In H3a and H3b, potential absorptive capacity had a significant impact on sustainable competitive advantage, but a small weight, and the impact of realized absorptive capacity on sustainable competitive advantage was insignificant, this result is a new find about the difference between potential absorptive capacity and realized absorptive capacity. In addition, this also shows another information that if enterprises want the absorptive capacity to have a better influence on sustainable competitive advantage, the mediation effects of strategic flexibility and innovation performance must be necessary, which can expand the degree of influence on sustainable competitive advantage and contribute to the improvement of sustainable competitive advantage. In H12, innovation performance was a partial mediating effect, which showed that strategic flexibility can directly influence sustainable competitive advantage, and the indirect influence through innovation performance was also proven. This result shows the different influent level of strategic flexibility and innovation performance on sustainable competitive advantage, it's a new find and rarely referred by previous studies.

5.1.6 The Comparison of Potential Absorptive Capacity & Realized Absorptive Capacity

In this research, the relationship between the two dimensions of absorptive capacity, potential absorptive capacity and realized absorptive capacity, and other variables were discussed separately, which was a highlight of this research. Based on previous studies, it pointed out that the differences and connections between the two do

exist. Therefore, this study specifically compares potential absorptive capacity and realized absorptive capacity to find out what kind of influence they have with strategic flexibility, innovation performance and sustainable competitive advantage. First, the similarity is that they have a direct and significant impact on strategic flexibility and innovation performance. The differences are divided into the following aspects: First, in the impact on sustainable competitive advantage, realized absorptive capacity is not significant, while potential absorptive capacity is significant. According to previous studies, if absorptive capacity was not divided into two dimensions but as a complete concept, the influence of absorptive capacity on sustainable competitive advantage is significant (Pangarso et al., 2020). This means that if enterprises wanted to improve sustainable competitive advantage, they need to focus on potential absorptive capacity more. Secondly, in the impact on strategic flexibility, realized absorptive capacity (0.396) is significantly higher than potential absorptive capacity (0.268), and in the impact on innovation performance, potential absorptive capacity (0.290) is significantly higher than realized absorptive capacity (0.185). This shows that in the actual business process of an enterprise, it is necessary to make full use of the acquisition and assimilation of potential absorptive capacity to improve innovation performance; for the improvement of strategic flexibility, the transformation and exploitation of realized absorptive capacity should be fully utilized. In this way, under the mediating effects of strategic flexibility and innovation performance, absorptive capacity can play a more obvious role in sustainable competitive advantage.

5.1.7 Conclusion

According to the objects of this research, the study explored how overseas companies in emerging economies could use the absorptive capacity to improve sustainable competitive advantage under the mediating effect of strategic flexibility and innovation performance, the moderating effect of environmental uncertainty and the influence of six control variables. According to the results of the research model and data analysis, the 12 hypotheses of this study were all verified. Hypothesis H3b was not proven, and the others were significantly proven. At the same time, this research had new findings. In the comparison of the two dimensions of absorptive capacity, it was found that potential absorptive capacity had a significant impact on sustainable

competitive advantage, while realized absorptive capacity was not significant. In addition, the direct impact of absorptive capacity on sustainable competitive advantage was not as good as under the influence of mediators, whose coefficients are larger. Among all path relationships, the largest coefficient is the impact of innovation performance on sustainable competitive advantage (0.693), which shows that innovation performance was the most important factor affecting sustainable competitive advantage among all variables in this study. In the analysis of the control variables, although the influence of control variables on sustainable competitive advantage was also proposed based on previous literature, due to the differences in the samples, most of the samples were from the countries where the scholar was located and not involved the overseas enterprises, so some research results were not consistent of previous studies.

The mediating effects of strategic flexibility on potential absorptive capacity and innovation performance were not significant. This result shows that the conceptual model is supported by empirical analysis and can constitute an effective operating mechanism. By observing the results of path analysis, this study found that under the influence of mediators, absorptive capacity can play a greater role in sustainable competitive advantage. It was seen that innovation performance had a significant effect on sustainable competitive advantage, and the coefficient was greater than that of other variables. This confirmed the previous research results that innovative behavior had a significant effect on absorptive capacity (Hong, Zheng, Deng, & Zhou, 2019) and sustainable competitive advantage (Kuncoro & Suriani, 2018), which means companies should focus on innovation strategy for overseas operations, innovation is a key factor to maintain competitiveness. Besides, environmental uncertainty, as a moderator, played a significant and negative role in the impact of other variables on innovation performance. This confirmed previous research and showed companies should try to minimize the negative impacts brought by environmental uncertainty.

5.2 Theoretical Contribution

First of all, through empirical analysis, this study verified the established model and hypothesis and further explored the relationship between the various variables in

the article. Most of the previous research stayed on the relationship of some of these concepts, and very few pieces of literature explored the sustainable competitive advantage of enterprises as the final destination. For example, Miroshnychenko et al. (2020) proposed “Absorptive capacity, strategic flexibility, and business model innovation: Empirical evidence from Italian SMEs”. Therefore, this paper incorporated the research results in the previous literature and combines absorptive capacity, sustainable competitive advantage, strategic flexibility, innovation performance, and environmental uncertainty into a model to form a relatively complete research framework. This framework generally summarizes the various variables related to the absorptive capacity of overseas companies. Focusing on the variables will help to explore the relationship between the variables and the weights of the variables, to make breakthroughs in theory. At the same time, the two dimensions of absorptive capacity, potential absorptive capacity and realized absorptive capacity are used as independent research individuals to explore their relationships with other variables. This study also proved that their relationship with certain variables is indeed significantly different. In most of the literature, absorptive capacity is usually measured as a complete concept, there is not much exploration of the differences and connections between dimensions. A more in-depth exploration of the two dimensions can help overseas companies better grasp the strategy. The exploration could help enterprises focus on the effective allocation of resources and also provided a more specific theoretical basis for subsequent scholars to conduct related research. This study fills the research gap of absorptive capacity in the process of internationalization of EEFs and sorts out the previously scattered research on strategic flexibility, innovation performance, and relevant variables in this study.

Second, the initial application field was limited to the research and development activities of enterprises. In terms of internationalization, absorptive capacity is mostly related to multinational corporations' technological spillover from developed countries to developing countries. However, the subject of this research is based on the new trend of corporate internationalization in recent years, which is companies from emerging economies overseas operating. The research on absorptive capacity does not stop at R&D; although R&D is still the main influencing factor of absorptive capacity, there are also other factors such as culture, laws, customs as a manifestation of absorptive

capacity on a broad view. Exploring the relationship between absorptive capacity and sustainable competitive advantage enriches the research scope of absorptive capacity and contributes to the study of sustainable competitive advantage. There are few studies on the two variables in the previous literature. The overseas enterprises of emerging economies need to form their advantages in the new market to achieve the purpose of long-term development. The research in this article provides a theoretical basis for this. In addition, in the process of finishing this study, it was found that the previous scholars had less developed the scale of sustainable competitive advantage, and the characteristics of sustainable competitive advantage were not obvious enough. Sustainable competitive advantage has the characteristics of the dynamic and static alternating, short-term and long-term combination. Therefore, in future research, the development and improvement of the sustainable competitive advantage scale can be one of the difficulties to be solved.

Third, enrich the connotation of internationalization theory. Most of the early mainstream nationalization theories were developed around developed countries, with certain basic research results. In recent years, as more and more companies in emerging economies have carried out internationalization strategies, scholars have begun to shift their research focus to the process of internationalization of companies from emerging economies. Most of the research focuses on the impact of national systems, cultural differences, and other factors on business operations. However, the topic of influencing sustainable competitive advantage through absorptive capacity proposed in this study is rarely involved in the current literature. Besides, factors such as strategic flexibility, innovation performance, and environmental uncertainty are introduced to enrich the dimensions of the research topic. This provides a new empirical basis for the internationalization theory of emerging enterprises, and at the same time adds a new research direction to the internationalization theory. So, the study provides richer theoretical outcomes for the internationalization of EEFs. With the increasing role and contribution of emerging economies in the development of the global economy, scholars need to address the academic issues surrounding emerging economies. The main object of globalization was multinational enterprises from developed countries, and there was very little research on EEFs. Now it transformed that emerging economies cultivate internal core competitiveness and provide solution methods for

internationalization theoretical guidance. Therefore, this study makes new theoretical contributions to EEFs in the process of internationalization.

5.3 Managerial Implication

1) Increasing the Absorptive Capacity

EEFs should pay attention to the cultivation of learning ability and absorptive capacity for the advanced technology and management models of local companies, combining the local market demands to innovate products and services in the fastest time and maintaining the competitive advantage. For most EEFs, the technical level of products and services is usually not better than that of multinational companies from developed countries. When they first entered foreign markets, EEFs should observe and learn more about the advanced technologies and management methods in the local industry so as to make up for their lack of technical capabilities. At the same time, attention should be paid to the innovation points in the products of the same industry, combined with the characteristics of local market demand, for example, searching for relevant information concerning the industry; employees from your department regularly visit other branches; employees are used to absorb new knowledge as well as to prepare it for further purposes and make it available, to transform and innovate EEFs' own products, which can not only make the company's products meet the local market demand, but also send the innovation points back to domestic companies to help domestic industrial upgrading. The improvement of enterprises' ability to absorb knowledge is inseparable from the learning ability of employees. For EEFs' overseas operating, they should effectively manage local employees, gradually realize the localization and internationalization of employees, and at the same time strengthen the training and improvement of their learning ability in human resource management. Generally speaking, in well-developed EEFs, there is usually a large pool of international talents, and employees are encouraged to actively integrate into local life and stimulate their enthusiasm for learning. This is a benefit to solve complex cross-cultural management and stimulate innovative activities.

2) Cultivate Innovation Capacity

Improve the innovation capabilities of overseas companies. For emerging economies, due to the long-term slow growth of technological innovation capabilities and low production efficiency, resource sharing, and supply will not be able to support the efficiency and sustainability of economic growth, leading to the lack of core competitiveness of emerging economies in the global economy, which directly affects the development. As the main body of independent innovation, emerging market countries can introduce financial measures to guide enterprises to increase research funding and give full play to the initiative of enterprises in innovation. For some emerging high-tech industries, the government should increase funding and policy support to help them improve competitiveness in the market. Besides, as an important executive body of the national innovation system and an organization with the highest scientific research efficiency, it is necessary to encourage enterprises to invest funds in universities to strengthen the transformation of scientific research results. Also, only basic research can create new ideas and technical fields. The successful experience of developed countries shows that only long-term sustained and stable support for basic research can achieve sustainable economic growth. Therefore, the driving force of economic development objectively requires that the development model of EEFs should be transformed to innovation driven. The EEFs should extend innovation from products and technologies to services and business models in all aspects of operations, thereby maintaining their sustainable competitive advantage in the international market. Innovation strategies can be reflected in many aspects, such as formulating standardized innovation processes and systems, establishing localized innovation teams, fully authorizing overseas innovation teams, and fostering innovative corporate culture. Finally, enterprises should adopt effective strategies to improve the innovation performance.

3) Strengthen the Collaboration Capabilities of EEFs

EEFs should establish internal communication and collaboration mechanisms to implement a flexible strategy in a complex market environment. Communication and collaboration within the company need to be completed by all departments. As an organization, the company's operation is a process involving multiple departments. The actions and decisions of any department will have a certain impact on other departments. Companies can improve the efficiency of internal communication and

collaboration by the following way: hold regular exchange meetings. In the meeting, different departments willfully communicate the problems encountered in operation, the obtained information, goals and tasks, etc., so as to improve the operating efficiency of the entire company; meanwhile, the information obtained from different channels should be shared fully, which provides a good environment for the creation of innovative behavior. In this situation, new ideas can be quickly transmitted between units and correct response strategies can be carried. Besides, in the entire process of overseas projects operation, EEFs must attach great importance to communication and participation with various stakeholders in the country where the investment is located, especially with important social organizations such as labor unions, religious groups, local and international non-governmental organizations, etc. They could cooperate on sustainable development, corporate goals and establish a multi-dimensional social support network for the long-term and sustainable operation of the projects. A good communication mechanism helps enterprises develop new product innovations and obtain new product performance, especially in a highly dynamic environment. Therefore, companies should accumulate resources with multiple uses and improve the utilization of these resource combinations and ensure that resources can flow and change in a short time to strongly improve the performance of new products.

4) Establish a Risk Resistance Mechanism

EEFs should establish a comprehensive mechanism of risk management and control. In the face of differentiated markets, different cultural environments, legal systems, and diverse product requirements, the development and management of the overseas business is more difficult than that in the domestic market. Due to factors such as poor information or resource allocation, it is usually difficult for EEFs to make overall management and coordination in the early stages of entering overseas markets. EEFs should study the background of investment destination countries and closely follow the local political and social situation. Simultaneously, strengthen the ability to identify, analyze and judge the social and environmental risks of investment projects, formulate and improve the strict risk management and control system, continuously assess the risks related to responsible operation and sustainable development and communicate with stakeholders on relevant progress when necessary. The formation of the anti-risk mechanism requires the joint efforts of many parties. The owner of

overseas enterprises should fully understand the various problems that may exist in the country's operations, consult professional institutions for solutions to these problems, and conduct anti-risk content training for company employees. At the same time, companies can also actively seek the help of local chambers of commerce or consulates by providing the latest information, regularly organizing anti-risk content training or meetings, etc.; the EEFs can understand risks and master measures of resisting risks.

5) Optimize the Organizational Structure of EEFs

According to Zahra and George (2002), the organizational decision-making process itself is an intensive process of knowledge transfer and absorption. Compared with centralized organizations, decentralized organizations emphasize the importance of ability and promote the assimilation of ideas and behaviors of the organization with the outside world. A decentralized organizational structure favors and encourages units and members to spontaneously participate in the absorption and accumulation of new knowledge. Because the final solution to a problem faced by the enterprise is completed by the decision-makers, the decision-maker must formulate a successful plan not only to manage and use existing knowledge but also to actively absorb new knowledge (including "individual" knowledge, also containing the knowledge of organizational attachment). And decentralization increases the number of decision-makers involved, and more employees in the organization have the motivation to selectively absorb new knowledge. While absorbing it, it also filters out irrelevant knowledge for the organization, thereby enhancing the ability to absorb knowledge. Therefore, a non-bureaucratic centralization of the organizational decision-making system enables the employees to have as much autonomy as possible, which helps to improve knowledge absorption capacity.

6) Make Full Use of the Functions of Professional Institutions

Seeking technical support and services from professional institutions. To deal with the changing international political and economic situation, EEFs need to use the certainty of compliance operations to deal with the uncertainty of the situation. In terms of business compliance, companies can choose to use local or international professional lawyers, accounting firms, and public relations companies. Some companies that are more mature in exploring overseas markets can also set up internal officers and send them to host countries to be proficient in local laws, lawyers, accountants, and public

relations teams for marketing and media. In dealing with community issues, it is also recommended that EEFs choose professional partners or train internal professional teams to understand better the needs of local communities in the host country and develop together with the community.

5.4 Policy Recommendations

In the process of internationalization, companies in emerging economies need to leave their home country to go to another country for developing business. This determines that the behavior of companies will be largely affected by national policies, which run through the entire process of business operations. For example, before a company goes abroad, the government can set up training institutions to train employees on information and culture of overseas countries to improve their adaptability for overseas life and work; Or the government can cooperate with domestic and foreign financial institutions to provide a short-term or long-term business loan to ease the pressure on corporate capital turnover. The study will elaborate on several national policy recommendations as the following details.

1) Strengthen Investment Planning and Project Guidance

The government departments of emerging economies should strengthen the operational guidance for sustainable development of key overseas projects and fields and guide domestic enterprises to balance economic, social, and environmental goals in overseas investment. The government supports the construction of consulting services and information services, guides, and mobilizes various think tanks to strengthen analysis and research in the political, economic, cultural, industrial, environmental, and other fields of the overseas countries. Meanwhile, the government could strengthen research on responding to risks, enhance sustainable development capabilities, strengthen external investment in the construction of an information service system, promote the effective integration and use of various information resources, and facilitate the development of constructive interaction between enterprises and stakeholders by providing information services. For example, based on the information from India's department of commerce (2010), the Indian Handloom Textile Industry Export Promotion Association specially compiled and published the "Indian Handloom Textile Industry Atlas" and CDs to increase its promotion to foreign markets through diplomatic agencies. The textile department of India issued the certification for products of members, organizing members to participate in domestic and international trade fairs; The "Russian Innovation and Development Strategy by 2020" states that supporting Russian high-tech enterprises to enter the international

market and increasing financial support for export and purchase of foreign high-tech enterprises; Significantly improve the effectiveness of the Russian federal government in formulating and implementing innovation policies, clarify the division of functions of the federal authorities, and determine the responsibilities of each agency in the implementation of innovation policies. Based on previous overseas business experience, the government should provide official guidance for the formulation of more systematic and comprehensive guidance for the sustainable overseas development of EEFs. Also, mandatory and incentive guidance for EEFs could be introduced to overseas operations and encourage companies to abide.

2) Continue to Optimize the Services of Consulates of Emerging Economies

As we all know, the primary responsibility of the embassy is to represent the home country to promote political relations between the two countries. The embassy also has consular functions, which can promote the relationship between the two countries and the communication between the two countries' people. Based on the functions and responsibilities of consulates, this study proposes that consulates of emerging economies can provide the following services and assistance to overseas companies.

First, the department of commerce should give full play to the negotiating role in commerce, trade, finance, and tariffs. Policy factors in the overseas operations of enterprises are very important influencing factors. The department of commerce should provide timely and effective information and convenient service for overseas enterprises and actively contact the host country's government in terms of financial support, economic cooperation, and administrative convenience as the strong support and guarantee. For example, the department can organize training programs and experience sharing conference on personal and enterprises' safety, public relations, and social responsibility; Organizing business and policy dialogue activities for overseas companies; Coordinating academic institutions and consulting agencies to study the macroeconomic and political situation and trends, the relationship between countries in the region, and the industries where investment is most concentrated. Knowledge outputs can be used as a public resource to enable EEFs to better understand the operating environment.

Second, the department of culture has mostly focused on culture, sports, communication of non-governmental organizations, and the construction of friendly city relations. The unimpeded cultural exchanges can help emerging economy companies learn more about overseas market information; at the same time, it can help corporate employees adapt to the overseas working and living environment more quickly and establish friendly relationships with local people. These behaviors are positively helpful to the business activities of enterprises overseas, and the influence of culture on the economy is a long time and subtle.

3) Provide Overseas Training for EEFs in Advance

In response to the problems of EEFs, the government needs to strengthen training and guidance to improve the ability and level of overseas operations. At the same time, the government could set up special funds to formulate short-term and mid-term training plans, clarify the responsibilities of various departments. Emphasis should be placed on the unique role of embassies, consulates, and think tanks in overseas business training; they could guide enterprises to increase their awareness of localized operation, environmental protection, and take social responsibilities, improve emergency response capabilities. The organization department can make training programs for the representative positions of each program according to the ability requirements and curriculum settings of different training objects. For example, training on the international security situation requires all employees of the company to understand and clarify international security statement, risks, and challenges faced by overseas companies; in terms of environmental protection and sustainable development, it is necessary to understand the environmental carrying capacity, pollutants types and prevention measures; in the direction of occupational health management, employees should be trained in occupational hazards and defense methods, cultivate a healthy lifestyle, and adapt to the local environment; in terms of cultural regulations, employees should be trained in local cultural customs and taboos, and comply with laws and regulations, integrating with the local culture.

4) Strengthen Legal Protection and Policy Incentives

The government establishes an overseas investment legal service plan, which is jointly formulated by the government's legal system, commerce, development and reform, judicial departments, lawyers’ associations, and foreign economic cooperation

associations. Meanwhile, government departments should increase the number of legal professionals, improve the business level, and establish a government legal advisory system for overseas investment. In the end, it will provide the government with high-quality consulting services and provide enterprises with convenient and efficient legal services. There are a large number of countries where overseas investment is located, different laws and religious beliefs are very different, the environment is complex, and the customs are different. The government should strengthen multi-faceted cooperation and exchanges with investment target countries, increase the collection and research of information related to overseas markets and laws, establish an overseas investment legal information database as soon as possible, further promote the government's overseas investment information disclosure, and reduce the costs of searching and risk.

5) Take Various Measures to Encourage Innovation

A very important aspect of improving the ability of innovation is to give play to the leading role of the government. As an emerging economy, the government must actively promote the full implementation of independent innovation. First, research funding affects the output of independent innovation. The government should strive to create a good innovation environment, and at the same time, mobilize the enthusiasm of scientific researchers by greatly increasing the proportion of scientific research funding. Lack of funds and financing difficulties are common problems faced by many small companies in achieving internationalization. To solve this problem, emerging economic countries can support and promote the development of corporate innovation capabilities and innovative behaviors through financial support, subsidies, and R&D funding. Providing special funds or subsidies is the most direct support for innovation and entrepreneurship.

Second, government agencies or organizations need to provide the necessary support and services for emerging economic enterprises. However, many countries in the world have established departments or organizations to promote innovation. For example, the Swiss "National Committee for Technology Innovation" (KTI) is a fund organization specifically responsible for the development of national technological innovation activities, organizing and funding the implementation of national innovation projects and enterprise innovation activities. Sweden has established the National Competitiveness Center, the Ministry of Innovation, and the Growth Policy Research

Institute to jointly promote entrepreneurship and innovation. In Brazil, an emerging economy country, the SME's support service center provides long-term project budget support and trade services, providing entrepreneurship courses and information consultation, and finds partners and financing institutions for SMEs. (Uyarra, Zabala-Iturriagagoitia, Flanagan, & Magro, 2020)

5.5 Limitations and Directions for Future Research

Despite the significant contributions that were provided by this study, some limitations have still existed. Due to the limitations of research time and budget, the data collection cannot cover all emerging economies enterprises. The questionnaire was distributed among Chinese overseas companies, and the selection of industries was limited to the manufacturing and service industries； Among the 20 countries and regions selected by the sample, the Cayman Islands and the British Virgin Islands cannot inquire enterprises information due to the policy protection, so questionnaires cannot be issued in the two regions. Simultaneously, when studying from an international perspective, the research did not consider cultural factors. Cultural factors are important elements in international research, while given that the current scale on cultural differences does not closely match the research questions, they have not been used temporarily. Besides, the measurement of variables can attempt to adopt different research methods. For example, the measurement of innovation performance can introduce financial calculation indicators. This is common in previous literature on innovation performance. Also, qualitative and quantitative research methods could be combined for new and more accurate research conclusions, which is a benefit exploration for the impact of the article topic.

In future research directions, the following suggestions will be noteworthy. First, "Dynamic capability theory" could be introduced to the research model, which will bring deeper explorations to the relationship between absorptive capacity and sustainable competitive advantage of EEFs. According to previous theories, it found that dynamic capability, absorptive capability, and sustainable competitive advantage were based on the resource-based view to a certain extent. Besides, there are few scales on sustainable competitive advantage in the previous literature. The introduction of

dynamic capability can not only enrich the dimensions of the research but also make contributions to the development of the sustainable competitive advantage scale.

Second, multi-dimensional analysis of improving absorptive capacity should be introduced in future research. According to previous literature, from the subjects of knowledge absorption, it can be divided into individuals and organizations; from the perspective of the source of knowledge absorption, it can be divided into internal prior knowledge and external communication networks; also, national policies have impacts on the effects of knowledge absorption, such as financial support and information consultation. Various factors that can affect the improvement of absorptive capacity should be included in the research system.

Finally, the difference between potential absorptive capacity and realized absorptive capacity requires more exploration and empirical analysis. This study found that the relationship between the two dimensions and some variables was significantly different. Therefore, a clear definition and distinction of these two dimensions can help guide EEFs to grasp key points in operations and match them with other organizational strategies and behaviors.

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APPENDICES

APPENDIX A

Questionnaire in English

Questionnaire

(Filled by the oversea agency of Chinese enterprises)

Dear responsible persons of respondents,

The questionnaire is related to my Ph.D. dissertation's contents, aiming at studying the effect of absorptive capacity, strategy flexibility, and innovation performance on keeping the sustainable competitiveness of international enterprises. The questionnaire will be conditional for enterprises' information, only for the dissertation's study, so please fill in at ease. Appreciate your support for my dissertation.

Two parts of the questionnaire take about 10-15 minutes to complete this questionnaire.

Part I: Basic information

1. Nature of your company:
   - ☐ State-own
   - ☐ Private enterprise
   - ☐ Others

2. Years of company establishment:
   - ☐ Less than 3 years
   - ☐ 3-5 years
   - ☐ 6-10 years
   - ☐ 11-15 years
   - ☐ 16-20 years
   - ☐ Over 20 years

3. Years your company has overseas businesses:

☐ Less than 3 years

☐ 3-5 years

☐ 6-10 years

☐ 11-15 years

☐ 16-20 years

☐ Over 20 years

4. Industry involved by your company (main businesses):

Service Industry: (1)-(5) Manufacturing Industry: (6)-(11)

☐ (1) Leasing and commercial services

☐ (2) Financial industry

☐ (3) Wholesale and retail industry

☐ (4) Information transmission, software and information technology services

☐ (5) Other service industries

☐ (6) Computer/communication and other electronic equipment manufacturing industry

☐ (7) Automobile manufacturing industry

☐ (8) Chemical raw materials and chemical products manufacturing industry

☐ (9) Special equipment manufacturing industry

☐ (10) Metal products manufacturing industry

☐ (11) Other manufacturing industries

5. Accumulated overseas investment scale:

☐ Under USD 0.5 million

☐ USD 0.50—3 million

☐ USD 3—15 million

☐ USD 15—50 million

☐ USD 50—100 million

☐ Over 100 million

6. R&D intensity (R&D investment/total corporate assets):

☐ Less than 1%

☐ 1%~3%

☐ 3%~5%

☐ 5%~10%

☐ More than 10%

7. Location of overseas agencies:

☐ Asian

☐ Europe

☐ America

☐ The Middle East

☐ Oceania

8. Overseas operation scale of your company in the past three years:

☐ Expanding

☐ Remain

☐ Smaller

9. Main functions of the overseas layout of your company(multi-choice):

☐ Regional/country offices

☐ Design and R&D of products

☐ Production of products

☐ Overseas marketing

☐ Overseas procurement

☐ Financing

10. Main reasons to exploit overseas markets for your company(multi-choice):

☐ Contraction and intensifying competitiveness at the domestic market

☐ Promotion of related national" going-out" policies.

☐ Demand increasing of international markets or potential to be explored.

☐ Adapt to the demand of layout of the global supply chain.

☐ Diversified demand in investment

☐ Seek for overseas support in higher quality labor price, resource distribution, and technology.

☐ Get more preferential policies in investment and trade from host countries.

Part II:

("1"- "5" represents the attitude change from "strongly disagree" to "strongly agree", "1" = strongly disagree， "2" = disagree， "3" = general， "4" = agree， "5" = strongly agree)

Section 1

Absorptive Capability	**1**	**2**	**3**	**4**	**5**
Potential Absorptive Capability (PAC)-Acquisition					
11. We search for relevant information concerning our industry every day.					
12. The employees were encouraged to use information sources within industry.					
13. Our unit has frequent interactions with corporate headquarters to acquire new knowledge.					
14. Employees of our unit regularly visit other branches.					
15. We have different manners to collect information.					
16. Our unit periodically organizes special meetings with customers or third parties to acquire new knowledge.					
17. Our management emphasizes cross-departmental support to solve problems.					
18. In our company there is a quick information flow.					
19. Our management demands periodical cross-departmental meetings to interchange new developments, problems, and achievements.					
20. New opportunities to serve our clients are quickly understood.					

Absorptive Capability	**1**	**2**	**3**	**4**	**5**
21. We quickly analyze and interpret changing market demands.					
Realized Absorptive Capability					
22. Our employees can use collected knowledge flexibility.					
23. Our employees are used to absorb and prepare knowlege for further purposes and to make it available.					
24.Your employees successfully link existing knowledge with new insights.					
25. Your employees can apply new knowledge in their practical work.					
26. Our unit regularly considers the consequences of changing market demands in terms of new products and services.					
27. Our unit quickly recognizes the usefulness of new external knowledge to existing knowledge.					
28. Our unit periodically meets to discuss the consequences of market trends and new product development.					
29. Our management supports innovation activities.					
30. Our company regularly reconsiders technologies and adapts them accordant to new knowledge.					
31. Our company can work more effectively by adopting new technologies.					
32. We constantly consider how to better exploit knowledge.					

Section 2

Strategic Flexibility	**1**	**2**	**3**	**4**	**5**
33. Sometimes we act as major agents of change in our industry.					
34. Our new strategies cannot be predicted by competitors.					
35. We try to create new options for growth in technological areas.					
36. We attempt to use technology to establish new standards.					
37. Our strategic plans emphasize flexibility for managing unforeseen situations.					
38. We consider an array of contingencies when developing strategies.					
39. We can take advantage of opportunities that arise from environmental change.					
40. We engage in planning that is typical of the ‘wait and see’ nature.					
41. Our organization can react in a modified and viable manner for new changes.					
42. Each unit is permitted to break normal procedures, to maintain flexibility and dynamics.					
43. You have a very smooth communication mechanism.					
44. You actively change your strategies and structures to respond to external environments.					

Section 3

Innovation Performance		**1**	**2**	**3**	**4**	**5**
Technical Innovation Performance	45. Developing new technologies.					
	46. Incorporating technologies into new products.					
	47. Facilitating new processes to improve quality and cost.					
	48. Increase in new services introduced.					
	49. Increase in the number of new products.					
	50. New products sales' share of total sales revenue.					
	51. Overall market competition for the products of a firm.					
Product Innovation Performance	52. Replacement of products being phased out.					
	53. Extension of product range within the main product field through technologically new products.					
	54. Extension of product range within the main product field through technologically improved products.					
	55. Development of environment-friendly products.					
	56. Opening of new markets abroad.					
	57. Opening of new domestic target groups.					
	58. Provide our clients with services that offer unique benefits superior to those of competitors.					
	59. Our firm actively carries out its work on developing existing products and creating new products.					

Innovation Performance		**1**	**2**	**3**	**4**	**5**
	60. We enhance the range of our products and services with not previously released products and services.					
	61. We try to acquire new products by differing technical specifications and functionality.					
	62. Our company sees creating new products and services as critical tools to reach success.					
Marketing Innovation Performance	63. Our company needs to make changes in the appearance, packaging, shape, and volume of our products.					
	64. Our company constantly looks for new ways of delivering.					
	65. The new marketing methods can promote products and service.					
	66. We make improvements in the manner of customer relationships to obtain customer satisfaction.					
	67. We will solicit customer opinions on product changes and upgrades.					

Section4

Environmental Uncertainty		**1**	**2**	**3**	**4**	**5**
Environmental Dynamic	68. The buyers may change their order sometimes one month.					
	69. We can't master suppliers' performance.					
	70. We can't predict the actions of competitors regarding marketing promotions.					
	71. The core production technologies often change.					
	72. Faster update of products or services in the industry.					
	73. Difficult to foresee the behavior of competitors in the industry.					
	74. Fast technology advance in the industry.					
	75. Difficult to foresee the change of customer demands in the industry.					
	76. Higher frequency of marketing strategy change in the company.					
	77. Larger mobility of technicians of the company.					
	78. Frequent change of top management officers in the company.					
Environmental Hostility	79. Fiercer competition in quality and innovation in the industry.					
	80. Fiercer competition of price in the industry.					
	81. More enterprises exit from the industry.					
	82. Slower intervention speed of the government in the industry due to its relaxation in it.					

Environmental Uncertainty		**1**	**2**	**3**	**4**	**5**
	83. More difficult to control the production cost of the company.					
	84. The faster obsolete technology of the company.					
	85. Smaller capacity of the market in the industry.					

Section 5

Sustainable Competitive Advantage	**1**	**2**	**3**	**4**	**5**
86. The company's innovations enable it to maintain leading position in the industry for a period of time.					
87. The new changes we introduced have been appreciated by our customers giving us a distinct advantage for some time.					
88. Our competitors could not easily match the innovations that we introduced.					
89. The new products or services we introduced were a steppingstone for further development.					
90. Key resources can explore market opportunities or against environmental threats through an increase in revenue and/or a reduction in spending.					
91. Key resources are difficult for competitors to acquire.					
92. Key resources are difficult for competitors to imitate.					
93. Key resources are difficult to replace with another strategic equivalent.					
94. The company's production and innovation activities follow the principles of environmental sustainability.					
95. The company responsibly uses key resources in terms of economic, legal, ethics, and philanthropy.					

96. Department:_____ Position:_____

Fax: _____ Email/Tel: _____

The questionnaire is over, thank you for your cooperation, and wish you a happy life! If you have any questions, please contact student Yuxia Kong, Address: National Institute of Development Administration, Bangkok, Thailand, Email: 18501357802@163.com.

APPENDIX B

Questionnaire in Chinese

调查问卷

（由中国企业海外机构填写）

尊敬的各位受访企业负责人，您好！

该调查问卷是本人博士毕业论文的相关内容，旨在研究吸收能力、战略柔性和创新绩效对保持国际化企业可持续竞争力的影响。问卷对企业信息严格保密，仅用于此论文研究，请放心填写。十分感谢您对本人博士论文的支持！

本问卷共分两大部分，约 15-20 分钟结束问卷。

第一部分：基础信息

1、贵企业属于：

☐ 国有企业

☐ 民营企业

☐ 其他

2、公司成立年限：

☐ 3 年以下

☐ 3-5 年

☐ 6-10 年

☐ 11-15 年

☐ 16-20 年

☐ 20 年以上

3、贵企业在海外开展业务年限：

☐ 3 年以下

☐ 3-5 年

☐ 6-10 年

☐ 11-15 年

☐ 16-20 年

☐ 20 年以上

4、贵企业所属行业（主营业务）：

服务业：(1)-(5)　制造业：(6)-(11)

- ☐ (1) 租赁和商务服务业
- ☐ (2) 金融业
- ☐ (3) 批发和零售业
- ☐ (4) 信息传输、软件和信息技术服务业
- ☐ (5) 其他服务行业
- ☐ (6) 计算机/通信及其他电子设备制造
- ☐ (7) 汽车制造
- ☐ (8) 化学原料及化学制品制造
- ☐ (9) 专用设备制造
- ☐ (10) 金属制品
- ☐ (11) 其他制造行业

5、累计海外投资规模：

- ☐ 50 万美元以下
- ☐ 50 万—300 万美元
- ☐ 300 万—1500 万美元
- ☐ 1500 万—5000 万美元
- ☐ 5000 万—1 亿美元
- ☐ 1 亿美元以上

6、研发强度（研发投入/公司总资产）：

- ☐ 小于 1%
- ☐ 1%~3%
- ☐ 3%~5%
- ☐ 5%~10%
- ☐ 10%以上

7、海外机构所在地：

- ☐ 亚洲
- ☐ 欧洲
- ☐ 美洲
- ☐ 中东
- ☐ 大洋洲

8、在过去三年中，贵公司的海外运营规模：

- ☐ 扩大
- ☐ 维持不变
- ☐ 有所收缩

9、企业海外分布的主要功能（可多选）：

- ☐ 区域/国别办事处
- ☐ 产品设计、研发
- ☐ 产品生产
- ☐ 海外营销
- ☐ 海外采购
- ☐ 项目融资

10、贵公司开拓海外市场的主要原因是（可多选）：

- ☐ 国内市场收缩、竞争加剧
- ☐ 相关“走出去”国家政策促进
- ☐ 国际市场需求增长或潜力有待发掘
- ☐ 适应全球供应链布局的需求
- ☐ 投资多样化需求
- ☐ 寻求海外更优劳动力价格、资源配置及技术支持
- ☐ 获得东道国更优惠的投资和贸易政策

第二部分：

（从 “1” 到 “5” 代表从 “非常不同意” 到 “非常同意” 的态度转变过程， “1” =非常不同意， “2” =比较不同意， “3” =-般， “4” =比较同意， “5” =非常同意）

第 1 节

吸收能力	1	2	3	4	5
潜在吸收能力					
11. 寻找与本行业相关的信息属于本公司的日常业务。					
12. 本公司管理层激励员工使用本行业内的信息源。					
13. 本部门经常与公司总部互动交流以获取新知识。					
14. 本部门员工定期拜访其他分支机构。					
15. 本公司通过非正式方式收集行业信息（例如，与同行业朋友共进午餐，与贸易伙伴交谈）。					
16. 本部门定期组织与客户或第三方的特别会议，以获取新知识。					
17. 本公司管理层强调通过跨部门支持解决问题。					
18. 本公司信息流动快。例如，如果某个业务部门获得了重要信息，它将立即将该信息传达给所有其他业务部门。					
19. 本公司管理层要求定期召开跨部门会议，以就新发展、新问题和新成就展开交流。					
20. 本公司可以快速获取为客户提供服务的新机会。					
21. 本公司可以对不断变化的市场需求做出快速分析和解释。					
实际吸收能力					
22. 本公司员工具有构建和使用所获取知识的能力。					
23. 本公司员工能够吸收新知识，并为下一步计划储备知识，使之随时可以使用。					
24. 本公司员工能够成功地将现有知识与新见解联系在一起。					
25. 本公司员工能够在实际工作中运用新知识。					
26. 本部门定期考虑在新产品和服务方面不断变化的市场需求的影响。					
27. 本部门能够迅速认识到新的外部知识对现有知识的有用性。					
28. 本部门定期开会讨论市场趋势和新产品开发的影响。					
29. 本公司管理层支持原创开发。					

吸收能力	1	2	3	4	5
30. 本公司会定期重新考虑技术方案，并根据新知识对它们进行调整。					
31. 本公司能够采用新技术提高工作效率。					
32. 本公司一直在考虑如何更好地利用知识信息。					

第 2 节

战略柔性	1	2	3	4	5
33. 本公司有时是行业变革的主要推动者。					
34. 本公司经常可以基于过去的行为提出旁人无法预测的策略。					
35. 本公司在多个技术领域不断努力，以便为发展创造多种选择。					
36. 本公司尝试使用技术建立新标准。					
37. 本公司的战略计划强调时刻保持警惕设，以便应对突发情况。					
38. 本公司在制定策略时会考虑一系列突发事件。					
39. 本公司能够利用环境变化创造机遇。					
40. 本公司从事的计划通常具有 “观望” 的性质。					
41. 如果情况有变，本公司可以迅速实现随机应变。					
42. 本公司允许各部门打破常规程序，以保持灵活性和动态性。					
43. 本公司的沟通机制非常顺畅。					
44. 本公司会主动更改策略和结构，以响应外部环境。					

第 3 节

创新绩效		1	2	3	4	5
技术创新	45. 本公司会开发新技术。					
	46. 本公司将技术整合到新产品中。					
	47. 本公司会开发新流程，以提高质量和成本。					
	48. 本公司会增加新服务。					
	49. 本公司会增加新产品数量。					
	50. 本公司新产品销售占总销售收入的份额增加。					
	51. 本公司产品的整体市场竞争力在增强。					
产品创新	52. 本公司替换正在被淘汰的产品。					
	53. 本公司通过技术性新产品扩展主要产品领域内的产品范围。					

创新绩效		1	2	3	4	5
	54. 本公司通过技术改进产品扩展主要产品领域内的产品范围。					
	55. 本公司开发环保产品。					
	56. 本公司开拓国外新市场。					
	57. 本公司增加国内新目标群体。					
	58. 本公司为本公司客户提供使其具备优于竞争对手的独特优势的服务。					
	59. 本公司本公司积极开展现有产品和新产品的开发工作。					
	60. 本公司通过从未发布过的产品和服务扩大本公司的产品和服务范围。					
	61. 本公司尝试通过不同的技术规范和功能获得新产品。					
	62. 本公司将创造新产品和服务视为实现成功的关键工具。					
市场创新	63. 更改产品的外观、包装、形状和体积对本公司而言非常重要。					
	64. 本公司不断寻找产品交付的新方法。					
	65. 本公司采用新的营销方式推广产品。					
	66. 本公司不断改善客户关系，以提高客户满意度。					
	67. 本公司不断评估客户和供应商的新想法，并尝试将其纳入产品开发活动。					

第 4 节

环境不确定性		1	2	3	4	5
环境动态性	68. 本公司客户通常会在一个月内更改订单。					
	69. 本公司供应商的表现很难预测。					
	70. 竞争对手在营销推广方面的行为很难预测。					
	71. 本公司工厂使用的核心生产技术经常变化。					
	72. 本行业的产品或服务更新很快。					
	73. 本行业竞争者行为很难预测。					
	74. 本行业的技术进步很快。					
	75. 本行业顾客需求的变化情况很难预测。					
	76. 本公司改变市场营销策略的频率越来越快。					

环境不确定性		1	2	3	4	5
	77. 本公司技术人员的流动性越来越高。					
	78. 本公司高层管理经常更换。					
环境敌对性	79. 本行业在产品质量和创新上的竞争越来越激烈。					
	80. 本行业价格竞争越来越激烈。					
	81. 退出本行业的企业越来越多。					
	82. 政府对本行业干预的速度越来越慢。					
	83. 本公司生产成本越来越难以控制。					
	84. 本公司技能的淘汰越来越快。					
	85. 本行业市场的容量越来越小。					

第 5 节

可持续竞争优势	1	2	3	4	5
86. 本公司采用的创新内容使公司能够在合理的时期内保持优越的市场地位。					
87. 本公司做出的新变更已得到客户的赞赏，使公司在一段时间内保持明显优势。					
88. 本公司竞争对手无法轻易达到公司所推出新产品或服务的优势。					
89. 本公司推出的新产品或服务是进一步发展的垫脚石。					
90. 本公司关键资源代表了开拓市场机遇，或帮助公司通过增加收入和/或减少支出抵御环境威胁的价值。					
91. 本公司关键资源无法被其他公司使用，竞争对手很难获得这些资源。					
92. 本公司关键资源很难被竞争对手模仿。					
93. 本公司关键资源很难被另一种战略资源取代。					
94. 本公司在生产过程和产品开发中使用关键资源时，坚持环境可持续性。公司还致力于为工人、社会和环境谋福利。					
95. 本公司负责任地在以下方面使用关键资源：经济（为社会提供商品和服务）；法律（在合法的前提下）；道德（尊重社会倡导或禁止的做法）；慈善事业（促进社会福祉或提高生活质量）。					

96. 部门：_____职务：_____

传真：_____ Email/电话:_____

问卷结束，感谢您的配合，祝您生活愉快！如有任何问题，请联系学生孔钰夏，地址：泰国曼谷国立发展管理学院，邮箱：18501357802@163.com

APPENDIX C

List of The Top 20 Countries (Regions)
Contact Information

List of the Top 20 Countries(regions) Contact Information

No.	Country (region)	Economic and Commercial Office of the Embassy of the People's Republic of China in local countries(regions) Email/Tel	Local Chinese Chamber of Commerce Email/Tel
1.	Hong Kong, China	mofcomhk@mofcom.org.hk; 25190199	info@hkcea.com. 00852 2827 2831
2.	America	us@mofcom.gov.cn; +1 (202) 6253348	contact@cgccusa.org; (646)-928-5129
3.	The British Virgin Islands	gb@mofcom.gov.cn; 0044 20 7087 4949	mhuang@cccb.org.uk; +44 (0) 203 411 8189
4.	Singapore	sg@mofcom.gov.cn. 0065-64121900	joy.yang@cea.org.sg. +65 6513 1763
5.	Cayman Islands	jm@mofcom.gov.cn/chineseembassy jm@gmail.com. 1876-9273871-308	No official contact information
6.	Luxembourg	be@mofcom.gov.cn. 0032-(0)2-7751724	No official email. +32 2675 7865
7.	Australia	au@mofcom.gov.cn. +61-2-62283963	sgccca@cccaau.org. (02) 9261 1197
8.	Indonesia	0062-21-5761051(fax,no email); 0062-21-5761048	info@perpit.or.id. 021-39831368
9.	Malaysia	my@mofcom.gov.cn; 0060-3-42513555	sec@mccc.my +603-9223 1188
10.	Canada	ca@mofcom.gov.cn; 1-613-2368828	xuqiang@ccpit.org; 416 363 0599
11.	Germany	de@mofcom.gov.cn;	info@chk-de.org

No.	Country (region)	Economic and Commercial Office of the Embassy of the People's Republic of China in local countries(regions) Email/Tel	Local Chinese Chamber of Commerce Email/Tel
		0049 30 88668262	+49 30 20917522
12.	Laos	la@mofcom.gov.cn. 00856-21-353572	Official website. +85621 520423
13.	Vietnam	vn@mofcom.gov.cn. 0084-24-37338367	vietchina@qq.com; 0084-4-37368950
14.	United Arab Emirates	ae@mofcom.gov.cn. 00971-2-4474742	Same as Commercial Office of the Embassy
15.	Sweden	se@mofcom.gov.cn; 0046-8-7318404(fax)	Official website excels
16.	Netherlands	nl@mofcom.gov.cn. 0031-70-5115559	info@dccc.nl; 0031 70 326 2598
17.	Korea	kr@mofcom.gov.cn; 0082-2-2253-7521-3	ccpitkr@ccpit.org; 02-3783-8405
18.	United Kingdom	gb@mofcom.gov.cn; 0044 20 7087 4949	mhuang@cccb.org.uk; +44 (0) 203 411 8189
19.	Macao, China	00853-28787191(fax). 00853-28787358	acmmcc@macau.ctm.net; (853) 28576833
20.	Cambodia	cb@mofcom.gov.cn. 00855-23-721149	office@cambochina.com; 078672340

BIOGRAPHY

NAME Miss Yuxia Kong

ACADEMIC BACKGROUND

Master of Business Administration, 2017
Siam University, Bangkok, Thailand;
Bachelor of Economics, 2013
Ludong University, Yantai, China;

EXPERIENCES

Teller,
China Merchants Bank, China;
Lecturer,
Nanshan University, China;