Location Choice and Resource Mobilization - Insights from the Internationalization Process of Chinese Pharmaceutical Biotech Companies Companies

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- Insights from the Internationalization Process of Chinese Pharmaceutical Biotech Companies
Companies

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Declaration

The candidate affirms that the submitted work is her own and that proper citations have been made when referencing the work of others.

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Abstract

The rapid development of emerging market multinational firms (EMFs) in global markets has reshaped the global economic landscape. While substantial research exists, theoretical frameworks derived from studies on developed market multinational firms (DMFs) exhibit limitations in explaining the distinct behaviors of EMFs. This dissertation focuses on the internationalization of Chinese pharmaceutical enterprises, attempting to provide new evidence for explaining the behaviors of EMFs that are different from those of DMFs.

To answer research questions of "Why do Chinese pharmaceutical enterprises choose developed markets as the first batch of international host countries?" and "To enter developed markets, how do Chinese pharmaceutical enterprises mobilize resources?", the dissertation employs a case study methodology. Data were collected through structured questionnaires and interviews with key personnel from sample enterprises and analyzed by the thematic analysis method.

Key findings reveal a push-pull model in location selection and a capability-based framework for resource mobilization. Location decisions are shaped by the interplay of domestic push factors (e.g., low margin, intense competition, policy restrictions, limitations of domestic resources) and foreign pull factors (e.g., competitive benefits, advantageous policies, advanced technology and R&D resources, advantageous policies). In resource mobilization, Chinese biopharmaceutical firms acquire new products and tech via direct sales and licensing for market expansion. Resource used in cooperation focuses on getting funds, sales channels, and market knowledge. Emerging markets transcend the incremental development stages stipulated by traditional theories, directly posing challenges to the markets of developed countries, and reconfigure institutional and relational resources, which enriches the connotations of internationalization theory but also offers new perspectives and research directions for Resource-Based Theory. For managerial implications, enterprise managers can optimize their internationalization strategic decisions based on the theoretical models and practical suggestions proposed in this study.

Keywords: *Internationalization, Chinese Pharmaceutical Biotech, Emerging Market Multinational Firms*, *Location Choice, Resource Mobilization*

1. Introduction

The study of firm internationalization has spanned over half a century, forming a theoretical system dominated by developed-country multinational corporations (MNCs). With the rise of developing countries, the most striking new feature of emerging market firms (EMFs) is that they often internationalize rapidly, which to some extent is contradicted traditional internationalization theories that suggest a slow and gradual process (Wang et al., 2020). Therefore, the internationalization trajectories of developing-country firms are now reshaping the boundaries of traditional theories. The research on the theory of enterprise internationalization has undergone three paradigm transformations: the linear expansion model led by the Product Life Cycle Theory in the 1960s (Vernon, 1966), the OLI Eclectic Paradigm based on the resource-based view in the 1980s (Dunning, 1988), and the Institutional Entrepreneurship Theory that emerged in the early 21st century (Peng, 2002). This evolutionary trajectory reflects the shift in the academic community's explanation of the motivations for internationalization from economic rationality to institutional embedding. Within the research context of developed-country MNCs, the Uppsala Model proposed by Johanson and Vahlne (1977) has long dominated. Its core assumption is that firms gradually reduce market uncertainty through knowledge accumulation along a sequential path. However, this theoretical framework struggles to explain the frequent “leapfrog internationalization” phenomenon of EMFs. Unlike the “forward expansion” of 20th-century European and American MNCs relying on ownership advantages, EMFs represented by Chinese pharmaceutical biotech firms exhibit “reverse breakthrough” characteristics—companies such as B enterprise and Innovent have chosen developed markets under FDA/EMA regulatory systems as their first international destinations, which directly contradicts the incremental internationalization stage theory proposed by Johanson and Vahlne (1977), creating a significant theoretical paradox.

In the context, the existing theoretical system has formed three main schools of thought around the debate whether the internationalization of enterprises in

developing countries requires new explanations: one view is that developing countries are not a new phenomenon, and the existing theoretical model based on transnational corporations in developed market countries can fully explain the internationalization behavior of developing countries (Dunning et al., 2008). The Eclectic Theory (OLI Paradigm) represented by Dunning (1988) posits that firm internationalization results from the dynamic alignment of Ownership advantages (O), Location advantages (L), and Internalization advantages (I). Grounded in the practices of European and American MNCs, this theory implicitly assumes a progressive investment logic from developing to developed countries. However, this path is essentially the result of the matching between location advantages and enterprise capabilities. Rugman (2013) upholds the explanatory power of the OLI Paradigm. It holds that the internationalization of emerging market enterprises is still essentially the result of the dynamic matching of OLI. Panel data analysis reveals that the Transnationality Index (TNI) of EMFs is significantly lower than that of developed-country counterparts, proving that their internationalization is still in the primary stage and follows the traditional internationalization path from advantage accumulation to progressive expansion. Meanwhile, institutional differences are regarded as exogenous variables. It is believed that institutional quality only affects enterprise decision-making through location advantages, rather than being an independent explanatory dimension (Dunning, 2008). The second kind of view holds that developing countries are a new phenomenon, and existing models cannot give a reasonable explanation, which requires theoretical circles to abstract new model methods to describe (Luo and Tung, 2007). The Springboard Theory argues that emerging market enterprises face “double institutional disadvantages”, which include home-country institutional constraints such as weak intellectual property protection and limited financing channels, as well as host-country institutional distances like differences in regulatory systems and market access barriers. Firm internationalization is essentially a dual springboard behavior of institutional avoidance and capability catching-up. EMFs bypass incremental development stages through strategies like cross-border M&A and strategic alliances, directly acquiring strategic assets in developed countries. The theory delineates how EMFs exploit

aggressive and uncertain actions and follow a rapid internationalization fashion with an intent to deal with their latecomer downside on the international arena. (Luo & Tung, 2018). However, it fails to deeply explore the special mechanisms of knowledge intensive industries. It emphasizes the results of "springboarding" (such as asset acquisition), yet does not explain how enterprises build dynamic capabilities to deal with the dual uncertainties of institutions and technologies (Teece, 2007).

The third view is that the existing theoretical models must be supplemented and expanded to reasonably explain the phenomenon of developing countries (Ramamurti, 2012). The internationalization of EMFs is shaped by the joint forces of institutional pressure, resource constraints, and capability evolution, encapsulated in a theoretical framework comprising three interdependent dimensions including institutions, resources, and capabilities (Ramamurti, 2012). This framework transcends the OLI Paradigm, which subsumed institutions under Location advantages (L). Instead, it treats institutions as an independent analytical dimension encompassing home-country institutional flaws (e.g., regulatory inefficiencies) and host-country institutional complexity (e.g., FDA/EMA compliance requirements). By introducing the Resource-Based View (RBV), it emphasizes the endogeneity of capability building. Unlike the Springboard Theory's sole focus on external asset acquisition, this framework highlights how EMFs leverage internal capabilities to navigate institutional challenges. Meyer et al. (2015) indicates that EMFs need to simultaneously address institutional pressures from both the home and host countries. While it addresses institutional duality, it leaves dynamic capability evolution underexplored and fails to explain how firms build regulatory compliance capabilities or cross-border knowledge integration capabilities over time. Their research jointly promotes a paradigmatic shift in internationalization theory, especially providing a stronger explanatory power for the reverse internationalization of EMNEs.

This theoretical divergence is particularly pronounced in the pharmaceutical industry, an R&D intensive industry which has developed systematically toward competency-based organization and obtained more of their competitive advantage from foreign sources than firms in other sectors (Zhai and Ghosal, 2022). The brand and institutional

advantages emphasized by traditional theories have limited explanatory power in this field, while existing emerging market theories lack in-depth analysis of the acquisition mechanisms for professional regulatory resources, which poses an urgent theoretical challenge to be resolved. Through integrative literature review and industry analysis, two major gaps emerge. On the one hand, traditional theories struggle to explain the decision-making mechanism of China enterprises' internationalization. For a long time, traditional internationalization theories represented by the OLI paradigm proposed by Dunning (1988) have dominated academic discussions. These theories suggest that enterprises embark on international expansion based on their own ownership advantages, attempting to utilize the location advantages of foreign markets and reduce costs through internalized transactions. However, this theoretical framework fails to explain internationalization decisions made by Chinese biopharmaceutical enterprises. Chinese pharmaceutical companies often lag significantly in traditional advantage dimensions such as technical standards and brand reputation. Despite these shortcomings, they frequently choose to directly enter the most strictly regulated developed markets, such as those under the jurisdiction of the U.S. FDA certification system. This strategic choice starkly contradicts the incremental internationalization path emphasized by the OLI paradigm. What's more, emerging theories represented by the Springboard Theory have made important contributions to understanding the internationalization of emerging market enterprises. This theory emphasizes the strategic value of institutional arbitrage, arguing that latecomer enterprises can use internationalization as a springboard to break free from home-country institutional constraints and acquire strategic assets in developed countries. However, the Springboard Theory has significant blind spots in explaining the resource reconfiguration mechanism. Although it effectively highlights the importance of institutional factors, it fails to reveal the complex interactions between the acquisition of regulatory resources and the enhancement of technological capabilities. EMFs originate from countries where infrastructure is underdeveloped, global experience and expertise are in short supply, and the technological and institutional environments are feeble. Given such significant disadvantages, it remains crucial questions as to which

factors account for the success of EMFs internationalization activities how multinational corporations from emerging markets manage to counterbalance their distinctive disadvantages (Peynirci, 2023). Consequently, existing theories of multinational enterprises need to be re-examined within the experimental context of emerging markets, as the fact that the phenomenon wherein EMFs deviate from mainstream theories has been frequently witnessed (Barnard, 2021).

On the other hand, existing analytical frameworks lack dynamism. Mainstream research predominantly employs panel data to analyze firms' internationalization decisions, overlooking the process of dynamic capability building. In the study of multinational pharmaceutical companies, the majority of current analytical frameworks rely on static models. These models assume that the factors influencing internationalization decisions remain relatively stable over a certain period and focus on the initial matching between a company's advantages and the characteristics of a specific location. In contrast, the internationalization practices of Chinese biopharmaceutical enterprises demonstrate distinct stage-based evolutionary characteristics in their resource mobilization strategies. Chinese enterprises often adjust their resource mobilization approaches at different stages of internationalization (Williamson & Yin, 2014). For instance, in the early stage, they may concentrate on establishing relationships with local partners to obtain regulatory knowledge and market information. As experience and resources accumulate, they might shift their focus to internalizing technological capabilities and expanding market share. The static nature of existing analytical frameworks fails to capture these dynamic changes, thus limiting the possibility to comprehensively understand the internationalization process of Chinese enterprises, especially in terms of location choice and resource mobilization. Furthermore, OLI framework regards firm advantages as a given stock (Dunning, 2008). However, the development process of Chinese innovative drugs indicates that regulatory knowledge acquired through transnational cooperation can be transformed into new competitive advantages. This resource mobilization mechanism has not been fully incorporated into theoretical models.

Specifically, the existing research has well explained the motivation, path choice and

influencing factors of EMFs' internationalization, while there exists a gap in the research on the internationalization of Chinese pharmaceutical enterprises, which is mainly due to the uniqueness of the internationalization of Chinese pharmaceutical enterprises. The existing internationalization theory of developing countries is difficult to explain the internationalization path of Chinese pharmaceutical enterprises. Chen et al. (2014) argue that EMFs expand into developing markets relying upon the premise that internationalization measured by location choice is highly depending on the interface between political and economic interests. However, the internationalization of Chinese pharmaceutical enterprises does not follow this rule. They are internationalized by directly entering the markets of developed countries such as the United States and Europe. In addition, the resource-based theory holds that global strategy, technology strategy and strategic management are closely related to the resource base, and the valuable scarce resources owned by enterprises are the fundamental driving force for them to obtain competitive advantages (Barney, 2001). The determinant factors in the internationalization of enterprises include intangible assets, knowledge, R&D intensity, etc. (Xiao et al., 2019; Saikia et al., 2020). Since Chinese pharmaceutical enterprises might lack these resources to form advantages, why do they choose to enter developed countries and how do they mobilize resources in this process? Based on this, the following research questions are addressed:

(1) Why Chinese pharmaceutical enterprises choose developed markets as the first batch international host countries?

(2) To enter developed markets, how do Chinese pharmaceutical enterprises mobilize resources in their internationalization process?

By addressing these research questions, this dissertation aims to contribute to the existing literature, providing a more comprehensive and dynamic understanding of the internationalization of Chinese biopharmaceutical firms, and offering practical insights for firms and policymakers in this field. The dissertation intends to delve into the complex mechanisms underlying the internationalization phenomenon of EMFs in the biopharmaceutical industry. Specifically, on the one hand, it aims to address the challenge that traditional internationalization theories struggle to explain the

internationalization decision making mechanism of Chinese biopharmaceutical enterprises. Despite lacking traditional advantages such as technical standards and brand reputation, these enterprises directly enter the highly regulated developed markets under the FDA certification system. This involves uncovering the underlying institutional and technological driving factors at the deep - seated level that prompt enterprises to make such decisions. On the other hand, in view of the deficiencies in emerging market theories regarding the interpretation of resource reconfiguration mechanisms, especially the blind spots in the interaction between the acquisition of regulatory resources and the enhancement of technological capabilities, this dissertation attempts to clarify how enterprises can build a resource mobilization mechanism that integrates regulatory knowledge, technical expertise, and financial capital during the process of transnational resource integration, thereby achieving optimal resource allocation and competitiveness enhancement. It is intended to fill the gap in the insufficient explanatory power of traditional theories for the reverse internationalization of emerging market enterprises. Meanwhile, it aims to expand the application boundaries of internationalization theories in knowledge-intensive industries, provide strategic paths for biopharmaceutical enterprises to cope with institutional distance and technological gaps, and ultimately promote the paradigm shift of internationalization theories from a developed country centered approach to an emerging market contextualized. Through the investigation of these key issues, it enriches and improves the internationalization literature, offer more targeted and practical guidance for biopharmaceutical enterprises in formulating internationalization strategies, and drive the further development of theories and practices in this field.

This research endeavors to conduct a comprehensive analysis of the focused issues. The full dissertation is structured in a rigorous manner, consisting of six chapters in total.

Chapter 1: Introduction

The Chapter 1 is Introduction, which mainly describes the research background, research purpose and significance of the thesis, as well as the innovation of the thesis and the main structure of the whole dissertation. In this chapter, the research questions are precisely established. By thoroughly reviewing the relevant previous studies, the

existing theoretical gaps are acutely identified from the theoretical context. This process is not a simple listing of literature but rather a profound exploration and comparison of different scholars' viewpoints and research findings. It clarifies the deficiencies of existing studies in explaining specific phenomena or problems, laying a solid foundation for subsequent research and highlighting the necessity and innovativeness of this dissertation.

Chapter 2: Literature review

The Chapter 2 is Literature review, which aims to identify the existing research gap through the analysis of the existing related literature. This chapter includes four research sections, why companies go for internationalization? The choices of entry model for internationalization, How entry model different for companies from developed economies or developing economies? And China pharmaceutical company internationalization. In this chapter, the theoretical context of internationalization theory is systematically combed. Firstly, focusing on the part of traditional theories, their limitations are elaborately analyzed, paving the way for the introduction of emerging market theories. Subsequently, emerging market theories are explored in-depth. These theories are comprehensively reviewed, including their theoretical connotations, proposed backgrounds, and application scenarios in practice. Meanwhile, the deficiencies of these theories in dealing with the complex and changeable internationalization processes of emerging market enterprises in some aspects are analyzed, foreshadowing the subsequent discussion of industry specific theories. Finally, industry specific theories are emphasized. Given the significant differences in technological characteristics, market structures, and regulatory environments among different industries, research on the biopharmaceutical industry requires an appropriate theoretical perspective. Centering around the knowledge-intensive and strictly regulated characteristics of the biopharmaceutical industry, relevant theoretical achievements are sorted out, and how they enrich and develop internationalization theory from the industry - specific dimension is expounded, highlighting the unique value of this theoretical level for a deep understanding of the internationalization behavior of biopharmaceutical enterprises.

Chapter 3: Methodology

The Chapter 3 is Methodology, which is used to describe the methods adopted by this paper to complete the research purpose. On the basis of identifying the research questions, this chapter mainly includes research methods, data collection and analysis methods, reasons for selecting the data used, and ethical considerations in the research process. This dissertation adopts the case study method, elaborating on the selection logic of the two cases of B enterprise and D enterprise Pharmaceutical and introducing in detail the data processing methods used to ensure that the research method is scientific, reasonable, and highly persuasive. In terms of data collection methods, on the one hand, through in-depth interviews with corporate executives, core R & D personnel, market operation teams, etc., information such as the strategic decision-making process, resource allocation ideas, and perception of the institutional environment from the internal perspective of the enterprise is obtained. On the other hand, secondary materials such as corporate annual reports, news reports, and industry research reports are widely collected to sort out data such as the enterprises' development history, market performance, and industry competition situation from an external perspective.

Chapter 4: Results and findings

The Chapter 4 is the results and findings of case study. It mainly analyzes the internationalization process and the strategies of the two selected pharmaceutical enterprises and attempts to identify the internationalization characteristics of Chinese pharmaceutical enterprises through case study. In this chapter, in-depth data analysis is carried out, and the push-pull model for location selection and the capacity analysis for resource mobilization in the internationalization process of biopharmaceutical enterprises are distilled. Regarding the push-pull dual drive of location selection, it is found that when making international location decisions, enterprises are mainly affected by the combined effects of domestic driving factors and foreign attracting factors. These two factors are intertwined and jointly influence the location selection decisions of enterprises. In terms of resource mobilization, Chinese biopharmaceutical companies rapidly acquire new products and technologies through direct sales and

licensing to expand market reach, leverage the partner's local expertise and distribution channels, or generate additional revenue through royalties. The resource utilization of enterprises through the cooperation model is mainly reflected in obtaining funds, sales channels, and market knowledge. Investment ensures that enterprises operate in accordance with their own high standards and strategic plans, and better enter the international market by setting up subsidiaries or branches.

Chapter 5: Research contributions

The Chapter 5 is research contributions and discussion, mainly including the analysis of secondary data and primary data. Through the combination of data analysis results and the description of cases in Chapter 4, the research questions are answered. This chapter conducts an in-depth analysis of the research results from three dimensions: theory, industry, and management, comprehensively expanding the existing knowledge boundaries and achieving theoretical sublimation. From the theoretical dimension, through the research of the internationalization of biopharmaceutical enterprises, this research injects new insights into the internationalization literature and enriches the existing theoretical framework for explaining the internationalization behavior of emerging market enterprises. In terms of practice, the research results have direct guiding significance. Enterprise managers can optimize their internationalization strategic decisions based on the theoretical models and practical suggestions proposed in this research.

Chapter 6: Research limitations and future research directions

The Chapter 6 is research limitation and future research direction, which will not add new content, but summarize the previous analysis, describe the results and limitations of this thesis, and put forward the future research prospects. The number of case selections in this paper is relatively small, and the number of interviewees is limited. There may be applicability issues when generalizing the research conclusions to the industry. Future research can select biopharmaceutical enterprises from multiple countries or regions, comparatively analyze the similarities and differences in the internationalization behaviors of enterprises under different institutional environments and cultural backgrounds, further deepen the understanding of enterprise

internationalization behaviors, improve the relevant theoretical system, and promote the continuous development and progress of research in this field.

2. Literature Review

The development of the theory of firm internationalization has always revolved around the core proposition of why and how firms engage in cross-border operations, resulting in a pattern where the classical theory system dominated by the experiences of developed countries coexists with the revised frameworks in the context of emerging markets. Early research, based on the practices of European and American multinational enterprises, constructed the OLI paradigm with advantage - driven as the core logic and the incremental internationalization model. These theories emphasize that firms achieve overseas expansion through the extension of ownership advantages such as technology and brand (Dunning, 1975). With the emergence of reverse internationalization by firms from developing countries, the academic community has gradually focused on emerging explanatory mechanisms such as institutional arbitrage (Luo & Tung, 2007) and resource bricolage (Baker & Nelson, 2005). However, there are still significant controversies regarding theoretical integration and industry applicability. In this context, the special attributes of the pharmaceutical industry further highlight the explanatory blind spots of existing theories. As suggested by the stage model, EMFs are often observed not to follow the sequential model of internationalization or expand at an incremental pace. Instead, they typically exhibit a faster speed of internationalization and expand into diverse foreign markets prior to entering neighboring markets (Ramamurti, 2012). EMFs possess limited resources and capabilities, which stands in sharp contrast to the traditional view that multinational enterprises expand overseas to exploit their ownership advantages. Due to the unique nature of emerging markets, EMFs may have different ownership advantages compared to developed market firms (DMFs) (Peynirci, 2023). The applicability of the OLI framework in explaining the internationalization behavior of EMFs has been called into question.

2.1. Why companies go for internationalization?

In order to understand why EMFs follow different paths in internationalization, we need to be clear about the motivations behind for internationalization. Economic globalization is developing rapidly. The process of economic globalization is an international division of labor and cooperation process worldwide. As one of the main bodies of the globalization process, why enterprises internationalize has attracted widespread discussion among scholars. The traditional internationalization theory focuses on the economies of developed countries, and puts forward the Monopoly Advantage Theory (Hymer, 1976), Internalization Theory (Buckley and Casson, 1976)), The Eclectic Paradigm (Dunning, 1975), and Product Life Cycle Theory (Vernon, 1966) to analyze the motivation of the internationalization of enterprises in developed countries. In recent years, the internationalization of enterprises in emerging economies has made remarkable achievements, which has aroused the research interest of many scholars and formed some new internationalization theories or viewpoints. The following sections will respectively state the theories on the internationalization motivation of enterprises in developed countries and developing countries.

2.1.1. Traditional internationalization theory of developed countries

In the 1970s, the main body of foreign investment was large Western transnational corporations, and the scholars focused on the theoretical elaboration of the internationalization of transnational corporations in developed countries.

The monopoly advantage theory holds that the monopoly advantage that the home country enterprises have over similar enterprises in the host country is the motivation for enterprises to make overseas investment (Hymer, 1976). It holds that there are various imperfect competitive markets and government intervention in various countries in the world, and there are differences in similar commodities, manufacturers' control of prices, obstacles to information transmission, trade restrictions, etc., which will lead to foreign investment and transnational operation. Only when the enterprise has one or more monopoly advantages (including technological advantages,

management advantages, capital advantages and scale advantages) that the host country manufacturers do not have, and this monopoly advantage can completely resist the risks that may occur in the transnational operation and finally obtain satisfactory profits, should it and may engage in the transnational operation.

Based on the eclectic paradigm (also referred to OLI), Dunning (1975) proposed that the formation of transnational operation is the result of the comprehensive action of ownership advantage, internalization advantage and location advantage. The basic proposition of the OLI compromise theory is that the reasons for a company to become a subsidiary of a multinational company overseas include three advantages: ownership, location, and internalization. Firstly, ownership advantages refer to the strengths of the enterprise itself, such as technology, brand, business practices, and business strategy. When exploring overseas markets, companies themselves have obvious disadvantages when doing business in unfamiliar places compared to local enterprises. Having strengths that can compensate for this disadvantage is the primary condition for expanding overseas markets (Dunning, 1975). Next is the location advantage. Location advantage refers to the country and region where a subsidiary is established, which can better leverage the advantages of multinational corporations. For example, companies have strong practical experience. So, the countries that are emerging economies need talents who can make good use of the practical experience of enterprises. Alternatively, if a company has a brand, overseas agencies or consumer group who are interested in the brand are needed to leverage its effectiveness. The advantage of internalization refers to the internal digestion of a company's advantages when entering foreign markets (Dunning, 1975). That is to say, enterprises do not adopt the form of exporting products or outsourcing, but rather establish their own subsidiaries. Usually, companies sell their products overseas and setting up factories locally requires significant expenses. So, exporting or outsourcing has always been a cost saving choice for enterprises. However, establishing a subsidiary is beneficial for management and prevents technology outflow, which may outweigh the disadvantages of spending initial costs. Dunning (1975) believes that if an enterprise has these three advantages at the same time, it has sufficient conditions for foreign direct investment and transnational

operation. The biggest feature of the OLI is that it studies the subjective and objective factors of the transnational operation of enterprises, and the conclusion of the causes of transnational operation is more in line with the reality.

After the 1980s, the analysis of enterprise internationalization has changed from motivation to process. Uppsala's internationalization theory believes that the internationalization of enterprises is a gradual and in-depth learning process that has gone through a long time. This school puts forward the viewpoint of psychological distance, which refers to the degree of similarity between our country and other countries in politics, economy, law, culture, language, industrial development and market practice (Yamin and Kurt, 2018). Based on the consideration of psychological distance, the enterprise will make initial internationalization leap from the markets of countries with similar geographical and cultural proximity, and then try to penetrate into the broader unfamiliar markets. For example, Swedish companies always regard their neighboring countries, such as Denmark, Norway and Finland, as the preferred destinations for overseas operations. This process is accompanied by the gradual change of the enterprise's internationalization mode, that is, from individual sporadic export activities to export through agents, then establish sales branches abroad, and finally conduct production and manufacturing abroad in the form of direct investment. However, as the global business environment has shifted toward a networked and knowledge-intensive landscape, the model’s explanatory power has encountered challenges. Johanson and Vahlne (2009) thus conducted a fundamental revision of the framework, proposing the Internationalization Process Model (IPM). This updated model posits that firms operate within an extensive business network, and internationalization is a process of proactively identifying, developing, and leveraging business opportunities through relational interactions. Its driving force lies in the proactive pursuit of value creation and growth opportunities, resulting in a more discontinuous and strategic internationalization path. Network relationships have been asthe core of the new model. Firms are no longer isolated decision-makers; instead, they are embedded in an interdependent relational network involving customers, suppliers, competitors, government agencies, and other actors. A firm’s network

position determines the type of information and opportunities it can access. To enhance this position-for instance, moving from a peripheral role to a central one-firms invest resources in developing relationships with key partners. This relational development directly strengthens their network standing: at this new position, firms engage in learning through interactions, build trust, and further reinforce their commitments to the network, which in turn enables them to identify new opportunities. Notably, the IPM better explains the aggressive internationalization behaviors adopted by firms-particularly those from emerging markets—in the context of globalization, where the primary goal is to acquire strategic assets.

Johanson and Wiedersheim-Paul (1975) based on the long-term research of four engineering companies that have successfully internationalized in Sweden, found that after the establishment of the company, the manufacturer first developed in the domestic market and gradually involved in the international market on the basis of the domestic market operation development. The process of enterprise internationalization has four stages: the first stage: accidental export; the second stage: export through independent agents; the third stage: establish sales subsidiaries overseas; the fourth stage: directly invest in overseas factories and establish manufacturing subsidiaries. Bilkey and Tessar (1977) analyzed the internationalization process of 816 small and medium-sized enterprises in Wisconsin from the perspective of behavioral theory in the study of their export activities, and proposed six stage models: lack of export intention stage; manufacturers have no intention to export activities; unwilling to accept active orders from abroad, or manufacturers only focus on the domestic market rather than contact with overseas markets; willing to export but not active stage: manufacturers passively participate in accepting orders from abroad; export interest stage: manufacturers begin to be interested in export activities and conduct a more complete feasibility analysis on export; trial export stage: manufacturers try to develop their export experience to similar countries; export accumulation stage: the manufacturers gradually accumulated experience in export activities in some markets, and the company is an experienced exporter; export expansion stage: manufacturers evaluate opportunities in other foreign

markets and expand export areas. Czinkota (1982) classifies enterprises into six categories in order to make the management of export activities more efficient: enterprises that are not interested in export, enterprises that are interested in export, export enterprises, enterprises with export experience, experienced small exporters and experienced large exporters. Although the research perspectives and internationalization stages or models of these enterprise internationalization process theories are not the same, the ideological core implied by them is the same, that is, the internationalization of enterprises faces high risks, and the experience accumulated in the process of internationalization can disperse risks. When the experience accumulated by enterprises in their actions is enough to disperse the risks of overseas markets faced by enterprises, enterprises can enter the next stage of internationalization, which is a continuous process composed of different stages and gradually.

2.1.2. Internationalization theory of developing countries

With the rapid rise of emerging economy countries, a group of new international companies have emerged, presenting internationalization characteristics different from traditional developed country multinational corporations. However, the existing developed internationalization theory is difficult to explain the aggressive overseas expansion behavior of emerging economy enterprises in the absence of unique advantages. This section will mainly introduce Uppsala model and Springboard theory to analyze the internationalization of enterprises in developing countries.

There have been three developing countries development waves in history (Amighini et al., 2015). The first wave rose in the 1960s and 1980s, mainly due to the outward expansion of Latin American transnational enterprises aimed at market development. The destination of this development wave is mainly developing countries with similar geographical location, culture and customs. The second wave appeared from the late 1980s to the mid-1990s. They mainly aim at market development and acquisition of strategic assets, while expanding to developed and developing countries. Since the late 1990s, the third wave of development of multinational companies in emerging markets

has emerged. One of the remarkable features of the third wave of internationalization is that emerging market countries represented by China, India, Brazil and other countries have stepped onto the international competition stage with unprecedented development momentum. Developing countries play an increasingly prominent role in the global economic system, such as Huawei, Haier, Tata, Infosys Embraer and other enterprises have become giants of global competition in their respective fields (Amighini et al., 2015). Different from developed countries, emerging market countries have some common characteristics: the institutional environment has a great impact on enterprise operation, enterprise development usually depends on various relationship strategies and invests heavily in such network relationships and with rapid economic development, they are experiencing market-oriented transformation (Luo and Zhang, 2016). Owning to these characteristics of emerging market countries, many scholars have proposed new theories to explain the internationalization motivation of emerging market countries.

Firstly, Wells (1977) put forward the theory of small-scale technology, believing that the technological advantages of enterprises in developing countries have very special characteristics, which is a reflection of the market environment of the investing countries. On the one hand, developing countries have small-scale technological advantages. Many developing countries have developed production technologies to meet the needs of small markets and have gained competitive advantages. Such small-scale technologies are often labor-intensive, with great flexibility in production, and are suitable for small-scale production. These transformed small-scale technologies have become a special advantage for developing country enterprises to carry out foreign direct investment. On the other hand, developing countries have advantages in local procurement and special products. These unique competitive advantages enable multinational enterprises in emerging markets not only to succeed in similar developing country markets, but also to compete in developed country markets by relying on their innovative capabilities and cost-effective products or services.

Secondly, with the development of emerging markets, scholars began to explore the causes of internationalization of enterprises in developing countries from both domestic

and foreign markets. Specifically, Jormanainen and Koveshnikov (2012) summarized the motivation of developing countries' international development and believed that the forces that promote developing countries to expand overseas include push and pull. Internationalization push force refers to the internal driving force of emerging markets. First of all, Buckley et al. (2007) believes that institutional voids are prevalent in emerging market countries, including imperfect legal systems, imperfect factor markets, unclear corporate property rights, and high operational risks, which make enterprises have a strong desire to develop in countries with relatively sound overseas systems to avoid operational risks and costs arising from institutional voids. Cuervo Azurra and Genc (2008) proposed the theory of institutional escape whose main point is that the internationalization of enterprises in emerging transition economies is an escape from the harsh institutional environment of their home countries. Secondly, Luo et al. (2010) argues that the political and economic system reform of emerging market countries and the implementation of policies to encourage the development of export-oriented economies have stimulated local enterprises to carry out international operations. With the intensification of the trend of economic globalization, a large number of foreign capitals has entered emerging market countries, resulting that developing countries are facing unprecedented domestic market competition pressure, which has become an important driving force for developing countries to seek their own development space and adopting an international business strategy.

The technology, market and complementary resources owned by the external market are the external pulling force for developing countries to adopt internationalization strategies. Dunning and Lundan (2008) holds that resource seeking, market seeking, strategic asset seeking, and efficiency seeking were the external forces of enterprise internationalization. According to Kim and Park (2014), at first, developing countries made overseas investment with the goal of market development and resource acquisition, but since the 21st century, developing countries have mainly conducted international operations with the goal of searching and acquiring strategic assets such as technology and knowledge, which means with the change of the internal and external environment of developing countries, the purpose and direction of their international

development are also changing. In recent years, research has analyzed the internationalization motivation of emerging countries' enterprises from the perspective of enterprise strategic assets. Luo and Tung (2007) put forward the springboard view, and found that multinational enterprises in emerging economies took a radical internationalization approach, taking internationalization as a “springboard” for development. This theory holds that emerging market transnational enterprises lack ownership advantages and need to acquire strategic assets of enterprises in developed countries to compensate for their competitive disadvantages. Further, this paradigm encapsulates that EMNEs are less hesitant to take risks as they employ the springboard perspective to alleviate their home market constraints and latecomer drawbacks (Luo & Tung, 2018). Other applications of the springboard perspective in the existing literature include studying how emerging market multinational corporations enhance their learning capabilities by linking their diverse knowledge (Kumar et al., 2019). Similarly, Rui and Yip (2008), based on the Strategic Intent View, believed that multinational enterprises in emerging markets actively searched for strategic assets to make up for their own capacity deficiencies.

2.1.3. Resource mobilization in internationalization process

An enterprise is a collection of resources. The stock and availability of resources determine the speed of international expansion and the degree of internationalization of enterprises. The core point of the resource-based theory is that enterprises can make profits because they have the unique scarce resources of enterprises and can produce products with low cost or high quality. Such resources are attached to the internal organization of enterprises and are intangible and intellectual, difficult to imitate and proprietary to enterprises (Wernerfelt, 1984). At the same time, the endogenous advantage of enterprises is path dependence. According to this theory, enterprises will be affected by the unique resources of enterprises when they determine the international business strategy. The research of Bloodgood (1996) shows that the ability of SMEs to enter overseas markets is directly related to their accumulated reserves of tangible and

intangible resources. Enterprises with valuable and irreplaceable resource reserves have more advantages than their competitors. Enterprise resources are crucial to the international expansion of enterprises. When implementing the internationalization strategy, enterprises will face high short-term costs and uncertainties, and need sufficient resources to cushion these short-term costs and risks. In addition, sufficient resources enable enterprises to seize the fleeting international market opportunities and accelerate the process of internationalization. Therefore, enterprise resources determine the speed of enterprise's international expansion to a certain extent.

In view of the importance of enterprise resources to the implementation of the internationalization strategy and the possible transnational differences in the impact of enterprise resources on the degree of internationalization, it is necessary to systematically investigate the impact of enterprise resources on the degree of internationalization. Resource management capabilities enable firms to structure, bundle and leverage their resource base to create value for the customer(s), sustain competitive advantage in changing environments and generate wealth for owners (Purkayastha et al., 2024). According to resource theory, enterprises must reduce their dependence on external organizations by controlling key resources or occupying more strategic resources (Aggarwal, 2017). The enterprise obtains key resources through partners in the relationship network to increase its overall strength. Generally, in order to improve the efficiency of enterprise resource acquisition, enterprises must deal with the related resource flow problems with partners or their stakeholders in the relationship network. Enterprise resources are embedded in enterprises with a wide range. In order to analyze the impact of enterprise resources on the degree of internationalization more systematically, it is necessary to classify enterprise resources. Miller and Shamie (1996) divided enterprise resources into two categories: knowledge-based resources, specifically resources and skills that know how to do, and property-based resources, which refer to physical assets owned by enterprises. Based on the above classification, this paper examines the impact of knowledge resources and material resources on the degree of internationalization.

Firstly, knowledge resources include intangible resources such as marketing resources

and management resources. Marketing resources are enterprise inputs used to distinguish the products and services of enterprises from those of competitors and establish a positive brand image (Kotabe et al., 2002). Marketing capability is one of the most powerful drivers leading to market advantages, high marketing capability assists international expansion to produce better outcomes over an extended period of time (Sun et al., 2019) At present, Chinese enterprises mainly adopt the way of export for international operation, and marketing activities are mainly carried out in the domestic market. Due to the heterogeneity of the international consumer market and the differences in culture and consumer preferences among different countries and regions, it is difficult to transfer the marketing assets formed by enterprises in China to other countries and regions. Due to historical, political and other reasons, the brand image associated with the country, nationality and region generated by marketing resources investment is even harmful to entering some international markets (Tseng et al., 2007). Therefore, marketing resources have a major impact on the growth of domestic sales revenue of enterprises, but have little impact on overseas sales revenue. An appropriate amount of marketing resources will promote the growth of domestic sales revenue. Under the condition that overseas sales revenue is little affected by the investment of marketing resources, the proportion of overseas sales revenue of enterprises will decline with the increase of marketing resources, that is, the degree of internationalization will decline with the increase of marketing resources. Management resources is extremely important for implementing and promoting the internationalization strategy and improving the degree of internationalization. First of all, the implementation of the internationalization strategy puts forward higher requirements for the management ability of enterprises. The investment of management resources can improve the management ability of enterprises, and has an important impact on the effective international expansion of enterprises and the improvement of the degree of internationalization. Secondly, the investment of management resources and the improvement of management ability are particularly important for Chinese manufacturing enterprises. According to the view of resources, enterprise resources, especially intangible resources, are the source of sustainable competitive advantage for

the development of enterprises. These resources affect enterprise performance, so they also affect the effect of internationalization. Among the intangible resources possessed by enterprises, Tseng et al. (2007) believed that technical resources and marketing resources were particularly important for international enterprises. An enterprise's technical resources are the prerequisite for obtaining the vertical extension of its products and continuously broadening its product line, that is, technical resources can enable enterprises to establish competitive advantages in the upstream activities of the product value chain, while marketing resources can enable enterprises to take a competitive advantage in the downstream activities of the product value chain, which is conducive to enterprises entering the international market (Erramilli et al., 1997). Lall (1986) and others found that marketing resources can enable enterprises to establish brand image in the international market, reap the economies of scale effect of marketing, and improve the ability to negotiate with suppliers and consumers. Therefore, enterprises with relatively abundant marketing resources are more likely to succeed in the international market than other enterprises.

Secondly, financial resources are one of the material resources and one of the most important resources for enterprises to expand internationally. First, sufficient financial resources enable enterprises to bear higher short-term costs and risks in international expansion. Secondly, sufficient financial resources enable enterprises to have greater freedom, better grasp international market opportunities, and make international expansion smoother (Mishina et al., 2004), thus improving the degree of internationalization of enterprises. Finally, due to the operating conditions of enterprises, the quality of managers and other reasons, Chinese enterprises are lagging behind in the recognition, identification, prevention and avoidance of international risks. In this case, adequate financial resources are extremely important for international short-term cost bearing and risk prevention. Given the importance of capital as a resource, how to obtain capital plays an indispensable role in the internationalization of enterprises. Financing models used are becoming increasingly international, which range from self-financing to using overseas syndicated loans and issuing bonds abroad (Zhang and Zhu, 2023). In the specific financing behavior, international enterprises

need to combine the actual situation, fully consider the business scale, capital scale, strategic planning and other factors, and reasonably determine the financing method. Endogenous Financing refers to the formation of cash through depreciation within the company and the increase of company capital through retained profits(Li, 2023), which can provide funding for business opportunities and alleviate the shortage of funds (He et al., 2019). Since endogenous financing is the internal potential tapping of an enterprise and the utilization of the original idle assets of the enterprise, and does not involve the change and transfer of the ownership and control of the enterprise's funds, the enterprise does not have to pay any external cost, will not reduce the cash flow of the enterprise, and does not need to repay the principal and interest, which is the most efficient financing method (Pan and Liu, 2023). Enterprises need a large amount of funds, and internal financing alone is not enough. They often need to use external financing. External financing is to raise funds from banks or capital markets. Bank financing has the advantages of relatively simple procedures, relatively low costs and strong flexibility, and can play the role of financial leverage. However, the financial risk of bank financing is high, there are many restrictions, and the amount of financing is limited. Equity financing is also ownership financing, which is the financing method adopted by the company to raise funds from shareholders and to establish or increase capital and share. Debt financing refers to the financing of enterprises by borrowing money. For the funds obtained from debt financing, the enterprise should first bear the interest of the funds, and then repay the principal of the funds to the creditor after the loan expires. Generally speaking, equity financing is more efficient than debt financing (Pan and Liu, 2023).

According to OLI Theory, the ownership, location, and internalization advantages held by firms play a pivotal role in facilitating their internationalization endeavors. Nevertheless, EMFs frequently fall short of possessing these advantages in the conventional understanding (Barnard, 2021). Instead, EMFs generally engage in internationalization with the primary aim of accessing requisite resources, rather than capitalizing on their own resource-based strengths. Consequently, it becomes imperative to delve into the nature of the ownership advantages that EMFs possess,

which are distinct from those of multinational enterprises in developed economies, and to explore how these unique advantages enable EMFs to surmount their disadvantages in the global marketplace. It is crucial to consider the different internationalization paths followed by emerging multinational corporations, focusing on the differences rather than the similarities between countries (Ramamurti, 2016). The resource utilization of emerging market multinational enterprises varies from the OLI theory, there is an urgent need to adapt and extend the OLI theory, which are essential for providing a more comprehensive and accurate explanation of the internationalization behaviors exhibited by EMFs (Peynirci, 2023).

The resource-based view holds that the resources owned by enterprises are the source of their competitiveness and the key factor that determines the strategy and performance of enterprises. Resources affect the bargaining power and substitution threat of enterprises. Enterprises can use heterogeneous resources to form resource barriers and then generate competitive advantages (Barney, 2014). It is worth noting that, compared with developed countries, developing countries do not have absolute resource advantages, and there are shortcomings and disadvantages in many aspects. However, in the process of economic development and institutional change in emerging economies, developing countries still accumulated certain relative resource advantages, such as the characteristic commercial resource advantages formed under the imperfect institutional environment of their home countries (Yang and Meyer, 2015). As the development of enterprises in developed countries is relatively mature and perfect, they are at a high level in terms of technology, experience and talents (Buckley et al., 2018), and there is little difference between enterprises; However, enterprises in developing countries are still in the process of rapid development. Some enterprises started early and developed rapidly, approaching the world's leading level. Some enterprises have just started (Buckley et al., 2018). From the perspective of their relative resource advantages, there is a large gap between enterprises.

It can be seen that the internationalization of pharmaceutical enterprises is not only to take advantage of the company's existing specific advantages, but also to expand the company's specific advantages. The specific advantages of a company arise not only

from the possession of proprietary assets, but also from the acquisition or effective coordination of complementary assets of other companies in the host country. In the process of internationalization of pharmaceutical enterprises, the external resource environment is crucial, but the impact of the internal resource environment on enterprise internationalization cannot be ignored. The VRIO model was proposed by Barney in 1991, which believed that the competitive advantage of an enterprise cannot be simply created by analyzing opportunities and threats in the environment and then operating the business. The acquisition of a competitive advantage of an enterprise should seek unique resources and capabilities within the enterprise and apply those resources and capabilities to competition. Resources refer to all tangible and intangible resources that are controlled by the enterprise and can help the enterprise design and implement to improve its efficiency. Capacity refers to the skills of the enterprise to coordinate and utilize resources. VRIO models are used to analyze certain resources or capabilities owned by the enterprise. The resources and capabilities that affect the competitiveness of enterprises mainly include four aspects, namely, value, rarity, inimitability, and organization. Among them, value is determined by combining the value chain with net income, scarcity is the foundation for enterprises to gain competitive advantage, difficulty in imitation is the guarantee for enterprises to maintain sustainable competitive advantage, and organizations play a synergistic role (Barney, 1994). The competitive advantage of an enterprise depends on these resources and capabilities. Managers must seek valuable, scarce, and costly imitation resources from within the enterprise, and then organize the development and utilization of these resources. Lack of any of the four aspects will lead to the acquisition of a competitive advantage.

The RBV posits that a firm's possession of unique and inimitable resources and capabilities is pivotal for achieving sustained competitive advantage. However, EMFs are generally perceived as lacking redundant resources, which runs counter to the perspective of traditional theory (Peynirci, 2023). Meanwhile, EMFs often internationalize with the intent of acquiring necessary resources rather than leveraging their own resource-based strengths for international expansion. As a result, the

traditional OLI theory struggles to offer a plausible explanation. Consequently, existing theories are limited in accounting for how EMFs internationalize by leveraging their limited resources. There remains a research gap to place greater emphasis on how EMFs utilize their own resources and capabilities to overcome the disadvantages inherent in EMFs, as well as on the roles these resources and capabilities play in the internationalization process.

2.2. The choices of entry model for internationalization

The section 2.1 analyzes the motivations for internationalization of enterprises from the perspectives of developed and developing countries. A key factor in the success of enterprise internationalization is the choice of entry mode. In this section, the entry mode of internationalization will be described. The first section is the mode choice of entering the international market, and the following section is the factors that affect the mode choice of entering the international market.

2.2.1. International market entry mode

The entry mode of the international market is one of the core contents of the internationalization strategy that is the way for an enterprise to expand to overseas markets. The international market entry mode is the choice for an enterprise to successfully expand its business activities and business functions to overseas markets and is the key strategic decision for an enterprise to internationalize (Agarwal and Ramaswami, 1992). For enterprises, there are many modes to enter the international market, from export entry to contract entry and then to investment entry. Each entry mode is related to a certain degree of control, resource commitment and risk. Different scholars have differentiated the international market entry modes. Root (1994) believes that the entry modes can be divided into five types: export, licensing (franchise), joint venture (minority equity), joint venture (majority equity) and sole proprietorship. The OLI theory suggests that the choice of entry mode is related to the type of advantage of the enterprise (Dunning, 1998). When there is only ownership advantage, a contractual

entry mode is usually chosen. If there is also internalization advantage, enterprises usually choose a trade entry mode. If a company possesses the three advantages of OLI, an investment-oriented entry model is appropriate. Hennart and Slangen (2015) believe that enterprises can establish new companies through greenfield investment or enter the overseas market through mergers and acquisitions of existing overseas companies. I will describe the international market entry mode according to the classification of Pan and Tse (2000). Pan and Tse (2000) proposed that the modes for enterprises to enter the international market mainly include two types: non-equity mode and equity (FDI) mode. Among them, non-equity mode includes export and licensing trade, and equity mode includes joint ventures and wholly-owned enterprises.

1.Non-equity entry mode

Non-equity entry mode includes export mode and licensing trade (Pan and Tse, 2000). Firstly, the export mode is that enterprises enter the international target market by means of product export. The enterprises that choose this mode have a low degree of participation in the foreign market, but the corresponding risks are also small. Therefore, it has become the most important choice for production-oriented enterprises to enter the international market for the first time. It can be divided into direct export and indirect export. Direct export of commodities means that enterprises have the ability to establish sales organizations in the export target countries, form their own sales channels, and set up foreign trade departments (Root, 1994). When exporting commodities, the middlemen in the target countries play a major role. An intermediary is an economic entity that purchases goods from a supplier and sells them to the buyer or helps the buyer and the seller to conclude a transaction. Direct export refers to the direct contact with overseas enterprises through the sales channels established in the international market without intermediary agencies, and the direct participation of enterprises in international marketing activities (Jones, 1998). Direct export is fairly beneficial to enterprises, which does not need to rely on intermediaries but can cultivate international business talents suitable for the development of enterprises, and continuously accumulate experience in international marketing Crozet et al. (2013). More importantly, it can directly grasp customer information, so that its products can be better

known in the international market, and it is also conducive to shaping brands (Slangen and Hennart, 2007). However, direct export also needs to bear risks. If the volume of export business is not large, all kinds of documents, insurance and transportation required for export need to be handled by the enterprise itself, which cannot achieve economies of scale. In the process of transaction, it needs to consume a large number of manpower and expenses. However, enterprises often lack appropriate flexibility in advancing and retreating in the international market and in changing marketing channels.

In the typical international trade theoretical analysis, it is generally assumed that enterprises adopt the direct export mode, that is, the goods are directly delivered to the final consumers, without considering the behavior of wholesalers and other trade intermediaries. However, in the real world, a large number of cross-border transactions are completed through intermediaries. For example, in the 1990s, footwear products exported through middlemen accounted for 77% of the total export share, and toys accounted for 83%. Indirect export mode, as an important export mode, cannot be ignored. The indirect export of goods means that professional foreign trade companies play the role of intermediaries and enterprises export goods through intermediaries (Pan and Tse, 2000). Enterprises should maintain certain flexibility in advancing and retreating in the international market and changing international marketing channels, and do not need to bear any market risks. However, there are also disadvantages in using foreign trade companies as intermediaries, that is, the enterprise fails to directly connect with the customer and cannot grasp the customer's information, and the problem of information asymmetry will arise. In this process, the enterprise has no direct contact with the foreign market, so it is difficult to master the process of entering the international market, but it can accumulate experience for the enterprise to directly enter the international market in the future (Dunning, 1998). Generally speaking, if the scale of the enterprise is relatively small and it is the first time to export, it is appropriate to adopt this indirect export method.

Secondly, the other type of non-equity entry mode is contractual entry. The operation mode of this entry mode is that the enterprise and the legal person of the target country

cooperate by signing an intangible asset transfer contract to maintain the long-term and non-investment nature of business transactions. The enterprise signs a contract with foreign enterprises, and the enterprise transfers its own intangible asset use rights, including patents, trademarks, technologies, management and marketing skills Copyright and other rights are authorized to be used by foreign enterprises to obtain remuneration and enter the international market (Pan and Tse, 2000). The contractual entry mode mainly includes licensing mode, R & D contract mode and alliance (Pan and Tse, 2000). At first, licensing is a business development mode in which franchisors expand their business scale by combining their own brand, proprietary technology, operation and management mode with other people's capital. licensing deals with a special commodity, which includes tangible or intangible products such as products, patents, and business models. It is a business organization mode in which the ownership is controlled by the operation and management rights (Shane, 2010). When an enterprise has only ownership advantage, it may use contract entry. licensing is the most prominent international mode of contract entry in recent years.

The license-out mode refers to the mode in which an enterprise conducts early drug research and development, and then authorizes the project to other pharmaceutical companies for later clinical research and development and marketing. This mode typically manifests that after the original research enterprise has completed the early discovery and pre-clinical research stages of the candidate drug, it signs a licensing agreement with multinational pharmaceutical enterprises. Then, it transfers the rights and interests of subsequent clinical development, registration application, and commercialization either regionally or across multiple regions (DiMasi et al., 2016). It can leverage the clinical development capabilities and marketing networks of multinational enterprises to accelerate the globalization process of products. The milestone mode is used to obtain clinical results at each stage and a certain proportion of sales share after commercialization. Milestone payments reduce moral hazard costs arising from the technology producer's greater understanding of its technology as they receive cash only upon success (Hou et al., 2025). Based on the principle of risk sharing, the two parties in cooperation effectively control the research and development risks

and maximize the benefits by designing a stepped payment structure, which includes upfront payments, milestone payments, and sales royalties, among others.

In addition, R & D contract is an important way to enter the mode of contract agreement. For EMFs, R & D internationalization is particularly important, because the above-mentioned companies take it as an important resource acquisition method to make up for the latecomer disadvantage and make use of their ownership advantages in the global market. Child and Rodrigues (2005) believe that R & D contracts can provide opportunities for EMFs to change from latecomers to fast followers or even leaders. More and more multinational companies from emerging markets have taken R & D contracts as an important mode to achieve internationalization. When the multinational corporations enter the stage of diversified development of internationalization, while the internationalization develops in depth, the multinational corporations are manifested in the extensive entry of multiple target markets in the diversified integration of core technologies, facing a variety of unfamiliar host country environments and complex cross regional governance, and they gradually tend to the cooperative R & D internationalization mode with better structure and status equivalence, such as R & D contracts (Casillas and Moreno-Menendez, 2014). What's more, the cooperative production or sales of a certain product by partners through agreement is called alliance, and the operation of the alliance does not involve equity (Pan and Tse, 2000).

2.Equity entry mode

The Equity Entry Mode (FDI) refers to that enterprises participate in the production, sales and service of the international market through equity investment. When they enter the international market, adopting this mode means that they are at the advanced stage of participating in the international market competition. The investment entry mode mainly includes two forms, namely, the sole proprietorship mode and the joint venture mode (Pan and Tse, 2000). When creating new enterprises, we mainly adopt the method of international direct investment. The sole proprietorship mode refers to that enterprises directly establish their own production enterprises or sales companies abroad through cross-border mergers and acquisitions or new investment (Kim and

Hwang, 1992). The advantages of a sole proprietorship enterprise are that it can effectively control the management and marketing of the whole enterprise, and all profits are controlled independently, without losing trade secrets and technical secrets. However, if the mode of sole proprietorship is adopted, a large amount of capital needs to be invested. If the market scale needs to be expanded, it will be limited, and there are likely to be political and economic risks, such as being confiscated by the government, being subject to foreign exchange control and currency depreciation (Kim and Hwang, 1992). Joint venture mode refers to that enterprises indirectly participate in the production, operation, management and decision-making activities of foreign enterprises by holding or participating in foreign enterprises through transnational investment. The joint venture model is easy to be supported by foreign governments and joint ventures, and the risk is small. The joint venture is invested by multinational enterprises, and the enterprises in the target countries also invest, the two adopt cooperative operation, share the equity and management rights, and jointly bear the risks if any (Kim and Hwang, 1992). The way of joint venture can complement each other's advantages and make full use of the mature marketing network of the partner. However, the control of the enterprise is weakened and the investment profit is limited. It is often difficult to communicate with the joint venture, integrate the business philosophy and corporate culture. A large amount of capital needs to be invested in the management, and there is also the risk of loss of business secrets. When entering the host country's market, enterprises adopting FDI investment can make investment in stages. At the initial investment stage, their investment amount is small, so as to improve future flexibility (Brouthers and Dikova, 2011). Therefore, the joint venture model is a transitional international market entry model for enterprises that are difficult to enter the international market.

3.Influencing factors of entry mode choice

The research on the choice of international market entry mode has always been one of the focuses of enterprise internationalization research. The main theories in this field include Transaction Cost Analysis (TCA), Ownership, Location and Internalization Theory (OLI) and Decision-Making Process Theory (DMP).

TCA was proposed by Anderson and Gatignon (1986) who argued that the choice of the market entry mode of multinational enterprises is driven by the minimization of transaction costs. Under the assumption that the organizational structure and design are based on the principle of cost minimization, they conclude that multinational enterprises will choose the market entry mode that can maximize long-term efficiency. Benito (1996) drew some conclusions on the basis of transaction cost theory. He believed that when enterprises have a rich foundation, important specific assets and rich international experience, they mostly choose sole proprietorship, while the increasing risk and cultural gap in the target countries increase the possibility of establishing joint ventures.

OLI attempted to combine different theories into a general framework to explain the choice of entry mode. The theory claims that the market entry mode is affected by three advantages: ownership, location advantage and internalization advantage (Dunning, 2000). The size of the ownership advantages of an enterprise directly determines its ability to engage in international direct investment. Location advantages not only determine the tendency of enterprises to engage in international production, but also determine the sector structure and international production type of enterprises' international direct investment. The incompleteness of the external market will make the ownership advantage of the enterprise lost or unable to play, and the enterprise can maximize its benefits through internalization. When enterprises have three advantages, they are more inclined to choose the foreign direct investment mode, when enterprises have ownership and location advantage, they will choose the export mode, when enterprises only have ownership advantage, the license entry mode is a common choice ((Dunning, 2000).

DMP was put forward by Root (1994), which believed that the selection of entry mode should be regarded as a dynamic decision-making process, and many factors, such as market entry target, environment, risk and cost, should be taken into account in the decision-making process. On the basis of the above theories, the existing research has conducted extensive research on the specific influencing factors of the entry mode.

- **Enterprise factors**

From the perspective of organizational scale, Dadzie and Owusu (2015) confirmed that the enterprise scale is negatively related to the green investment mode. The larger the enterprise scale, the stronger the management resources and ability, which can promote the integration of the company after the merger and better handle the control rights. Enterprises that can bear the fixed cost of export will choose direct export, otherwise, they will use intermediaries to export indirectly, because doing so can reduce the expenditure of fixed cost (Ahn et al., 2011). From the perspective of the characteristics of the senior management team, Hambrick and Mason (1984) believed that the enterprise is the epitome of the senior management team, and the values and cognitive foundation of the senior management team will affect the strategic decisions of the enterprise, thus affecting the overall performance of the enterprise. From this perspective, the characteristics of the senior management team will affect the decision-making of the enterprise's overseas market entry mode. From the perspective of technological resources, R & D intensity refers to the ratio of annual R & D investment to annual operating income. Enterprises with knowledge and technological resources prefer to enter the overseas market through foreign direct investment. The company can better protect its patent assets through foreign direct investment and prevent the assets from flowing to competitors. Klier et al. (2017) confirmed that the richer the knowledge resources the parent company has, the more inclined it is to enter the international market through investment. From the perspective of market resources, multinational companies with abundant market resources are more inclined to establish joint ventures, believing that the resource integration and coordination of parent and subsidiary companies can be better realized through joint ventures (Dikova and Brouthers, 2016).

- **Industry factors**

Firstly, the uncertainty of industry demand will affect the choice of market entry mode. Brouthers and Dikova (2011) proposed that when the industry demand is uncertain, the equity investment mode should be adopted to enter the market, which is helpful to further collect information in the market. Secondly, from the perspective of the industry development speed, the emerging industry market is not mature, and green land investment is more suitable. After the industry development is mature, the mode of

establishing joint ventures is adopted, because joint ventures can reduce the resistance of existing companies in the industry. Finally, there is a big difference in the conclusion of industry concentration (Slangen, 2011). When the industry concentration is high, the bargaining power of enterprises in the industry of the host country will increase and the establishment of new enterprises will be more strongly suppressed by existing enterprises, the entry modes of foreign direct investment, the establishment of wholly-owned enterprises and mergers and acquisitions will be not conducive to the internationalization of enterprises.

2.2.2. The differences of entry modes between developed and developing countries

The above research shows that enterprise factors, industry factors and host country institutional environment can all affect the choice of enterprise entry mode (Dadzie and Owusu, 2015; Brouthers and Dikova, 2010; Felbermayr and Jung, 2011). In recent years, emerging economies have become increasingly prominent in the global economy, and internationalization strategy has become an inevitable choice for many enterprises in emerging economies. Compared with enterprises in developed economies, enterprises in developing countries face multiple disadvantages in the process of internationalization, which also leads to their differences in the mode of entry into the international market. Due to the variety of entry modes in the international market, the factors that multinational companies consider when choosing the mode of entering the foreign market are also extremely complex. Specifically, there are differences in resource advantages between developed and developing countries.

The institutional environment of the home country has an important impact on the location choice of enterprise internationalization. Foreign companies need to bear additional hazards in transnational operations and face inherent competitive disadvantages, which are called liability of foreignness and will bring harm to the internationalization of enterprises (Eden and Miller, 2004). Compared with developing countries, transnational enterprises in developed countries have overwhelming advantages in terms of system management and technology development level, and

their international development faces smaller challenges and lower disadvantages of outsiders (Cuervo Azurra et al., 2018), resulting in unrestricted choice of foreign markets by transnational enterprises in developed countries. However, developing countries face multi-level difficulties in the process of internationalization. They not only face the liability of foreigners like the transnational enterprises in developed countries, but also have differences and conflicts in culture, cognition and other aspects as new entrants and latecomers in the host market, leading to the internationalization of enterprises in developing countries also face the disadvantage of latecomers and liability of origin that enterprises in developed countries have never encountered (Moeller et al., 2013), Therefore, in order to increase the possibility of international development, developing country enterprises will preferentially enter countries with a shorter psychological distance when entering the host country, and then enter countries with a longer distance after accumulating international experience. For example, Buckley et al. (2007) believed that some enterprises in developing countries tend to invest in countries that are closer to their culture, because the smaller institutional distance reduces the liability of origin.

What's more, for firms from emerging economies, the international recruitment of high-level talent far transcends mere labor force supplementation; it constitutes a profound strategic resource mobilization endeavor. This approach serves as a critical mechanism for embedding themselves within global innovation networks, acquiring both technological and market legitimacy, and ultimately overcoming the liability of latecomership (Schaeffer, 2020).

The differences in resources and systems between enterprises in developed countries and those in developing countries have a great impact on the choice of entry strategies. It is widely acknowledged that resources and capabilities play a significant catalytic role in assisting enterprises from emerging economies to expand into foreign markets (Xiao et al., 2019). Different market entry modes, such as license-out, joint venture, and wholly-owned subsidiary, will directly determine a firm's competitive advantage and operational performance in the host country's market (Peynirci, 2023). Based on the particularity of the institutional situation of emerging economies, some scholars

have begun to explore the role of political resources of enterprises in developing countries in international business research. In the process of corporate internationalization, the growing role of politics can be attributed not only to specific macro-historical events but also to more fundamental micro-level transformations in the general institutional configuration of a company's value-added activities (Gammeltoft and Panibratov, 2024).

2.3. China pharmaceutical company internationalization

2.3.1. The uniqueness of Chinese enterprises

Chinese enterprises have unique characteristics. Firstly, the institutional complexity and Institutional Dilemma of the institutional environment in which Chinese enterprises are located are typical characteristics of economic institutional factors and important factors driving enterprise internationalization (Luo and Wang, 2012). Different from mature market economy countries, the institutional environment of China's transition economy has obvious complexity, dynamics and uncertainty (Peng, 2008). The internationalization of Chinese enterprises has a unique institutional background. The Chinese economy was born in the traditional planned economy. After the reform and opening up, it is constantly transforming into a market economy. The institutional transformation has a very important and even decisive impact on the strategic behavior of Chinese enterprises. Therefore, to study the growth law of Chinese enterprises, we must study the evolution of the institutional environment in which the enterprises are embedded, because the strategic choices of Chinese enterprises at different stages often need to be explained from the institutional analysis at this stage. For example, in order to promote the international development of enterprises, the Chinese government actively encourages qualified enterprises to go out to expand overseas markets and acquire important natural resources and advanced technologies (Hong and Sun, 2006). It can be seen that the internationalization development of Chinese enterprises cannot be separated from the system with Chinese characteristics.

Secondly, as an important factor influencing the internationalization of enterprises, China's domestic market has unique advantages. China has a large population and is the second largest economy in the world. The domestic demand is strong. The good development opportunities of enterprises in the domestic market reduce the motivation of enterprises to develop in the international market. Most brands in China are only domestic brands, which only have a relatively good market in China and do not have a certain popularity in the world. Although China's economy has made rapid development and its international status has been greatly improved since the reform and opening up, China is still a developing country, and some overseas consumers still have high doubts about Chinese brand products. Due to China's unique market economy characteristics and unique resource advantages, most of the commodities exported by China are labor-intensive products (Huang et al., 2021), which causes Chinese enterprises to face serious obstacles in entering the international market.

Finally, the internationalization of Chinese enterprises faces the adverse impact of the international political situation. In the face of the unprecedented international market competition environment and development opportunities, the development of Chinese multinational enterprises has become more challenging. In order to survive and win competition in the global market, Chinese multinational enterprises need not only to control certain operational advantages, but also to have strong learning ability and flexible strategic choices (Child and Rodriguez, 2005). In the face of the rule of law culture in the developed international market and the relatively weak legal protection and property rights system in the face of the perfect market system control, Chinese multinational enterprises need to deal with the conflicts of the international market system and the constraints of the local market, while the protection mechanism of the internationalization of enterprises in the developed market in the local market is very perfect. In recent years, trade frictions between China and the United States have been continuous, and trade conflicts have caused Chinese enterprises to suffer greatly, especially the exports of Chinese high-tech enterprises have been seriously affected (Hanson, 2020). The United States has successively issued huge fines to ZTE, imposed sanctions on Huawei, and imposed export restrictions on SMIC. The United States has

updated its legislation on China's investment in the United States and constantly set up obstacles on the grounds of national security to prevent Chinese enterprises' scientific and technological products from entering the US market. A notable example of the impact of the Sino-US trade war on the internationalization of Chinese enterprises is Huawei. In 2018, when the Sino US trade war was at its peak, the trump administration successively announced that it would not allow Huawei, a Chinese technology company, to enter the US telecom market. Shortly after the passage of the export control reform act, the Trump administration put pressure on US technology enterprises such as Google, Microsoft, Intel and Qualcomm, Eventually, these companies refused to continue to provide software, technology and equipment to Chinese enterprises such as Huawei and ZTE. On May 20, 2019, Google announced that it would suspend business cooperation with Huawei and would no longer authorize Huawei to provide various mobile applications of Google. Chip designers and suppliers such as Intel and Qualcomm also began to stop supplying Huawei. Therefore, in the face of multiple complex and dynamic systems, compared with the relatively perfect institutional environment of the international mainstream market, the institutional development of the developing countries is not perfect, and the series of political obstacles taken by the developed countries led by the United States against China make the internationalization of Chinese enterprises more complicated, which also leads to the limitations of the existing theories on the internationalization of developing countries in explaining the internationalization behavior of Chinese enterprises.

The next section provides a brief description of the internationalization of Chinese pharmaceutical enterprises. This is followed by a summary of the development stage of China's pharmaceutical industry. Next, it discusses the influencing factors of the internationalization of Chinese pharmaceutical enterprises from the two aspects of thrust and pull, and identifies the opportunities and challenges facing the internationalization of Chinese pharmaceutical enterprises. Based on these insights, the final section summarizes the uniqueness of the internationalization of Chinese pharmaceutical enterprises, offering a direction to expand the existing internationalization theory of emerging countries.

2.3.2. The Chinese pharmaceutical industry

At present, the world's pharmaceutical economy is developing rapidly, especially the pharmaceutical industry is continuously upgrading. However, because of the two characteristics of drugs, namely, the regional production and the global consumption, the pharmaceutical market belongs to a global market. China is currently the second largest pharmaceutical market in the world (Zhang, 2022). The Investment Development Path (IDP) proposed by Dunning and Narula (1996) pointed out that with the economic development and the improvement of the per capita income level, a country will gradually develop its foreign investment ability from the net capital inflow country, and finally become the development path of the net capital outflow country. The net outward investment (NOI) per capita changes along the J-shaped path from negative to positive. IDP reveals the dynamic relationship between the internationalization degree of a country's enterprises and its economic development level. It includes two stages. The first stage refers to a series of structural changes in the process of economic development, and the second stage refers to changes in the scale and quality of IFDI and OFDI caused by structural changes, which leads to the generation of dynamic relations (Dunning and Narula, 1996)). Since the investment motivation and market entry mode of emerging market countries are different from those of developed countries, is the IDP of Chinese pharmaceutical enterprises in emerging countries different from those of developed countries?

In table 2-1, reviewing the development of China's pharmaceutical industry can be divided into two stages (Chen et al., 2019).

Table 2-1. The development stages of Chinese pharmaceutical industry

Period	Description
The First Stage: 1949-1978	China's economic development level is relatively low and the facilities are simple. The chemical pharmaceutical industry mainly imports raw materials and then processes them into simple preparations.
The Second Stage: 1978 to now	Since 1978 when China implemented reform and opening up, the economy began to develop gradually, and China's pharmaceutical industry entered the second stage of IDP. After decades of industrial development, China has

	initially formed a number of pharmaceutical enterprises with certain scientific research ability, advanced management ability and rich export experience.

The first stage, from 1949 to 1978, was the establishment stage of the pharmaceutical industry and the first stage of IDP. In 1950, China could only produce a few tons of active pharmaceutical ingredients (APIs), which is one of the raw materials of pharmaceuticals (Chen et al., 2019). In the 1960s and 1970s, the unstable political environment in China led to chaotic management of pharmaceutical factories and indiscriminate drug production. In the early 1970s, the Chinese pharmaceutical industry applied DNA recombination technology to medicine, but it showed a huge gap with the level of developed countries.

The second stage is the development stage of China's pharmaceutical industry since 1978. Since the implementation of the open policy, China has established the National Drug Administration and encouraged medical institutions to create profits, which has led to a rapid increase in the number of pharmaceutical manufacturers, from 1000 in 1985 to 6300 in 1995 (Chen et al., 2019). However, most pharmaceutical companies in China's pharmaceutical industry are small in scale and low in market concentration. The top ten pharmaceutical companies only account for 15-18% of the market, and the market competition is fierce. In 1998, the State Food and drug administration was established to gradually regulate the development of China's pharmaceutical industry, implement good manufacturing practices (GMP), and control the creation of new pharmaceutical companies (Chen et al., 2019). After 2000, with the influx of transnational and private enterprises, mergers and acquisitions in the pharmaceutical industry increased. In 2011, the number of pharmaceutical companies in China increased to 5674, of which 2110 were chemical pharmaceutical companies, with a total operating income of 0.72 trillion yuan (Chen et al., 2019). With the development of economic globalization, more and more multinational pharmaceutical companies have expanded their business activities overseas. Developing countries, including China, are trying to enter the international market and achieve more long-term development.

In terms of the entry modes of China pharmaceutical industry adopts modes such as license-out and R&D contract. At present, there are two typical overseas enterprises

adopting license-out mode, the first one is Ligand Pharmaceuticals, which is a company focusing on drug discovery, early drug development, drug redeployment and foreign cooperation, and mainly generates revenue by authorizing drug rights and interests externally. Currently, Ligand has more than 130 partners, covering major pharmaceutical companies in the world's top 500 companies, as well as companies in multiple countries in Europe, America, and Asia. In China, its partners include Wuxi Apptec, CR DOUBLE-CRANE, and Gloria Pharmaceuticals. The second company is Agenus, an immunotherapy company that focuses on cancer therapy fields such as CTLA-4. In 2021, the company generated $296 million in revenue through license out forms such as sales sharing and mileage collection. Currently, the company's partners include large pharmaceutical companies such as Merck, GSK, and GILEAD, as well as BETTA Pharmaceuticals in China. Due to frequent external licensing cooperation, the company has not adopted additional financing in the past five years, relying on various license-out revenues to support the company's development. By analyzing the license out model of these two pharmaceutical companies, it can be found that the market value of license out companies is not performing well. Currently, the market value of Ligand is only $1.7 billion, compared to a previous record high of over $4 billion, and has remained around $2 billion for a long time (Ligand. com). Another license-out company, Agenus, has a market value of around $1.2 billion for a long time, and its low market value seems to be a characteristic of license-out companies (Agenus. com). The reasons behind this may include the following three aspects. Firstly, the probability of successful drug research and development is limited. Statistical data show that the probability of successful pharmaceutical research and development is only 8%, and there is significant uncertainty in each milestone collection that can be obtained based on the research and development progress and approval status, which to some extent limits the potential for revenue under the license-out model. However, with a low research and development success rate, the company has to continuously develop new pipelines and continuously invest in research and development costs, which is also the reason for the long-term losses of Ligand and Agenus. Secondly, performance fluctuations are the norm for license-out companies. For example, Ligand achieved

revenue of $251 million in 2018, followed by revenue of $120 million and $180 million in 2019 and 2020, respectively. In 2021, it surpassed the level of 2018 and reached $277 million (Ligand. com). Agenus achieved revenue of $150 million in 2019, plummeting to $88 million in 2020, and achieved revenue of $296 million in 2021 (Agenus. com). The broad fluctuations in performance have made it difficult for the market to give the company a high valuation. Thirdly, the license out mode is difficult to operate. If a company wants to generate sustained license out revenue, it needs a rich technical reserve, and these technologies need to have great potential in the future. There are many routes for pharmaceutical innovation technology, and they are changing rapidly with each passing day. With only one or two technological routes or targeted drugs, it is difficult to continuously obtain license-out revenue. In order to achieve a diverse technological reserve, the company is essential to invest in technology, while for innovative pharmaceutical companies in the research and development stage, it is difficult to achieve sustained revenue.

In recent years, with the continuous enhancement of China's pharmaceutical innovation strength, the pace of innovative products entering clinical trials and being approved for marketing has also accelerated. At the same time, the number of projects authorized by pharmaceutical companies to the outside world have also rapidly increased. According to Pharmcube data, in 2016, there were only 10 license-out incidents among Chinese pharmaceutical companies, with a disclosed transaction amount of only $320 million, by 2021, there had been 53 license-out incidents among Chinese pharmaceutical companies, with the disclosed transaction amount reaching US $14.49 billion (Pharmcube.com). In addition, in the first half of 2022, a total of 28 license out projects were completed, including 20 innovative drug/new technology trading projects, with a total transaction amount of 5.67 billion US dollars. Taking Chinese pharmaceutical companies as an example, license-out means that Chinese pharmaceutical companies sell their overseas or global rights and interests in their products to overseas companies, which are responsible for subsequent clinical development, listing, production, and sales. This is also the most commonly used way for Chinese companies to enter the international market. The advantage of this model lies in its flexibility, efficiency, and

relatively low threshold for enterprises. The challenge lies in the choice of partners and whether they can achieve the best outcome in the negotiations. For example, in 2023, Hengrui Pharmaceuticals announced that it would license the exclusive right to develop, produce, and commercialize the innovative anti-tumor drug SHR2554 (EZH2 inhibitor) independently developed by the company globally outside Greater China to Treeline Biosciences of the United States. Authorized cooperation with overseas enterprises can not only complement each other's advantages in research and development, reduce the risk of new drug research and development, but also enable innovative drugs to enter the international market faster through the sales network of major international pharmaceutical companies at the sales end. In addition, on the evening of December 20, 2021, B enterprise announced that the company had reached a cooperation agreement with Novartis, granting Novartis an exclusive, time-based option agreement. Novartis will acquire the rights and interests of the United States, Canada, European countries, and Japan with TIGIT antibodies from B enterprise. Novartis will pay an advance payment of $300 million, and an additional payment of $600 million or $700 million. As more and more large-scale external licensing transactions are concluded, it indicates that the innovative capabilities and products of Chinese pharmaceutical companies are gaining global recognition. At the same time, under the situation that pharmaceutical enterprises' independent sales to overseas markets are frequently frustrated, license out may become the main mode for Chinese local innovative pharmaceutical enterprises to enter the global market.

For R&D contract mode, multinational pharmaceutical groups originally focused mainly on the sales and production capabilities of local enterprises, and the cooperation model was generally limited to joint ventures and other forms. However, in recent years, it has gradually shifted to licensing cooperation around innovative drugs, which means that the innovative capabilities of local pharmaceutical enterprises have been recognized by foreign enterprises. For Chinese local pharmaceutical companies, partnerships with foreign companies can serve as a springboard for internationalization, facilitating clinical trials abroad, obtaining marketing licenses, and achieving commercialization through localized teams. In 2020, there were countless cases of

cooperation between Chinese and foreign enterprises focusing on the authorization of innovative drug rights. In May 2020, Eli Lilly of the United States and Junshi Bioscience Co., Ltd reached a deal of US $255 million to jointly develop a combination therapy for neutralizing antibodies against COVID-19 composed of Eli Lilly's JS016 (LY-CoV016) and Eli Lilly's LY-CoV555. In January 2021, the results of the Phase III clinical trial BLAZE-1 showed that among newly diagnosed high-risk patients with COVID-19, the combination therapy significantly reduced the risk of hospitalization and death associated with COVID-19 by 70%. The R&D cooperation between Chinese pharmaceutical enterprises and overseas enterprises can not only achieve complementary advantages at the R&D end, reduce the risk of new drug R&D, but also leverage the sales network of major international pharmaceutical companies at the sales end to enable domestic innovative drugs to enter the international market faster. On January 30, 2023, CARSGEN announced that the company had entered into a clinical cooperation agreement with F. Hoffmann LaRoche Ltd (Roche) to provide the world's first Claudin 18.2 (CLDN 18.2) monoclonal antibody product AB011 approved for IND and the Roche PD-L1 immune checkpoint inhibitor atezolizumab as well as standard therapeutic chemotherapy, and carry out clinical trials on the treatment of patients with gastric cancer or gastroesophageal junction cancer with combination drugs.

2.3.3. Internationalization of Chinese pharmaceutical enterprises

1.Pull and push factors

The choice of enterprise internationalization is affected by both pull factors such as environmental variables of the host country and push factors such as domestic market conditions (Madanoglu et al., 2017). Firstly, an important pull factor for the internationalization of Chinese pharmaceutical enterprises is China's accession to the World Health Organization (WHO) and The International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use (ICH). In particular, China's accession to ICH is undoubtedly an improvement for the entire industry and an opportunity for the Chinese pharmaceutical industry to further integrate into the

international market (Liu, 2019). In 1972, China joined the WHO. As the most authoritative and universal institution in the field of global health governance, it has played the role of leader, coordinator, guarantor and information center in promoting global health governance at different times and to different degrees. In the face of global health governance, countries not only need to respond to the crisis through multilateral cooperation, but also hope that cooperation will be as fair, just and transparent as possible. From the perspective of system design, WHO, as a universal international organization, is trusted by most countries, especially small and medium-sized countries. China's accession to WHO provides a platform for pharmaceutical development in the international market. Until 2017, researchers and practitioners began to see the great potential of the globalization journey of Chinese pharmaceutical companies. China has become the eighth regulatory member of ICH, committing to progressively reform its pharmaceutical regulatory bodies, industry, and research institutes to adhere to the internationally accepted ICH Guidelines (FDA NEWS, 2017). Brukinsa was approved by FDA in 2019, marking the beginning of the internationalization of innovative drugs in China (Liu, 2019).

Secondly, the push factor for Chinese pharmaceutical enterprises to enter the international market is mainly reflected in the continuous compression of the development potential of innovative drugs in the Chinese market. For a long time, reducing the price of drugs has been one of the main objectives of China's medical system reform. The Chinese government has implemented the national reimbursed drugs list (NRDL) for drugs that need reimbursement, which was introduced in 2000 to support medical health and providing patients with basic medical treatments The NRDL is a list of drugs that are authorized by central government agencies for rehabilitation, which will lead to a sharp decline in prices, with an average reduction of 50-60%. In extreme cases, the price reduction can reach 95% (Zhang and Watson, 2019). In addition, the China Medical Insurance Bureau officially launched the volume-based purchase policy in 2018 to uniformly implement the results of centralized drug procurement and ensure the completion of the agreed procurement volume. Through the policy, China secured medicines at significant discounts by requesting discounts for

access to its population. There are 56 kinds of drugs, and 86 kinds of products affected by the purchase policy, with some medicines purchased at high discounts rewards of 80% (EVERSANA, 2020). As a result, the scale of the local market is shrinking rapidly, and enterprises cannot recover their expenditures even in the research and development of innovative drugs.

2.Opportunities and challenges of internationalization

Compared with the pharmaceutical industry in developed countries, the internationalization development of China's pharmaceutical industry faces both opportunities and challenges.

In terms of opportunities, according to the survey data, the phenomenon of population aging will continue to increase, which is estimated that the number of the world's aging population will reach about 2.1 billion by 2050 (WHO, 2021). With the arrival of the aging age, the demand for pharmaceutical products is increasing, and the proportion of pharmaceutical in medical and health resources will also be increased. If the pharmaceutical industry wants to survive and develop in the future, it must have an international vision, and its mission is to meet the demand of pharmaceutical products in the world, which is the future development strategy of China's pharmaceutical industry (Chen et al., 2019). In addition, according to the characteristics of pharmaceutical products, although the production of pharmaceutical products is concentrated, its consumption is global (Tijssen and Robert, 2009). Especially after China's accession to the World Trade Organization, Chinese pharmaceutical enterprises have also started the journey of international development strategy. At this time, paying attention to the internationalization of Chinese pharmaceutical products and improving their own innovation quality may become an important opportunity to affect the development pattern of China's pharmaceutical industry in the future.

Besides, there exist a variety of challenges of the internationalization of Chinese pharmaceutical companies. Firstly, the scientific research level of Chinese pharmaceutical enterprises is low, and the R & D investment is insufficient (Chen et al., 2019). In 2024, China's 2.68-percent R&D intensity ranked 12th among major countries in the world, which is still lower than that of the Organisation for Economic Co-

operation and Development (OECD) of 2.73 percent (Xinhua, 2025), which indicates that the Chinese pharmaceutical industry pays more attention to the current market operation and neglects the long-term development of enterprises. With the rapid development of China's pharmaceutical industry, a number of Chinese pharmaceutical enterprises have emerged in the field of innovative drug research and development. From the perspective of R & D investment, although the R & D investment of Chinese pharmaceutical enterprises has increased rapidly in recent years, there is still a big gap compared with the multinational pharmaceutical enterprises in developed countries. According to the ranking of the world's top 2500 companies invested in research and experimental development from 2014 to 2021 released by the European Commission, the number of pharmaceutical and biological manufacturing enterprises in China was only 19 in 2014, 48 in 2020, and 65 in 2021 (European Commission, 2021). In 2020, B enterprise, which ranked first among Chinese pharmaceutical enterprises, ranked No. 209 in the global R & D investment list, and Roche, the world's top pharmaceutical giant, ranked No. 9. The R & D investment of B enterprise in 2020 was 7.47-billion-yuan, accounting for only 9.4% of the R & D investment of Roche Pharmaceutical (Torreya, 2021). It can be seen that compared with developed countries, the R & D investment level of Chinese pharmaceutical enterprises still has great room for improvement.

Secondly, Chinese pharmaceutical enterprises are still in the growth stage of high input and low output, and there is an obvious gap between the market value of Chinese pharmaceutical enterprises and that of multinational pharmaceutical enterprises. For example, B enterprise is the first Chinese local enterprise to successfully enter the US market and internationalize. As of December 2021, zanubrutinib has obtained 19 approvals, covering 42 countries and regions. It is a truly innovative drug developed in China. In 2021, the revenue of B enterprise is about 8.87 billion yuan, and the annual R & D investment is about 9.5 billion yuan (Companies Market Cap, 2021). Although the international and domestic markets grow rapidly, it is difficult to achieve profits in the short term, and the overall net income is still negative. The business income gap between China's innovative pharmaceutical enterprises and multinational

pharmaceutical enterprises is still obvious. As shown in Table 2, the business income of the world's top multinational pharmaceutical enterprises in 2020 is about 18.8 times that of Hengrui, China's top innovative pharmaceutical enterprise. Hengrui pharmaceutical ranks first in the market value of China's innovative pharmaceutical enterprises, but it is only one fifth of its market value compared with Johnson & Johnson, which is the world's first in market value.

Table 2-2. The revenue and market value of Chinese and the US pharmaceutical enterprises

Country	Enterprise	Revenue (Billion yuan)	Market value (Billion yuan)
The US	Johnson&Johnson	521.9	2704.28
China	HENG RUI	27.735	594.273
China	B enterprise	0.309	156.562

In addition, when exploring the international market, Chinese pharmaceutical enterprises are faced with a number of large multinational enterprises with rich market experience and strong scientific and technological capabilities. Their products have a certain market foundation. For example, Pfizer is the world's largest R & D-based biopharmaceutical company, and its star product Lipitor is the prescription drug with the largest amount of cholesterol lowering drugs in the world. The international brand effect and competitive strength of large pharmaceutical companies such as Pfizer pose a serious threat to the international development of Chinese pharmaceutical enterprises. Finally, the development of international market by enterprises is limited by relevant policies. When the products of enterprises enter a country, they are faced with relevant medical policies, technical barriers to trade and green barriers, which cause intangible pressure and cost to enterprises (Chen et al., 2019). International experience shows that without the support of the international market, it is difficult for a high-value innovative drug in any country to achieve scale efficiency and develop (Chittoor and Ray, 2007). With the increasingly fierce competition in the international pharmaceutical market and the continuous improvement of registration standards in the United States and the European Union, the internationalization of Chinese pharmaceutical enterprises has encountered difficulties. For example, the innovative drug programmed cell death

protein-1 (PD-1) Sintilimab injection of Innovent was blocked from being listed in the US Food and Drug Administration (FDA). In February 2022, the US FDA held an expert meeting of the Oncologic Drugs Advisory Committee (ODAC), and the expert committee voted against the listing of Sintilimab injection by 14:1, which argued that Chinese data cannot be extended to cancer patients in the United States (TalkMarkets, 2022). Moreover, many countries have added GMP and GAP standards when importing drugs, which has seriously affected the pharmaceutical export of Chinese pharmaceutical enterprises.

2.3.4. Uniqueness of Chinese pharmaceutical enterprises internationalization

Firstly, unlike Indian pharmaceutical enterprises that choose international markets such as Africa and Asia (Yeoh, 2010), Chinese pharmaceutical enterprises do not choose to enter developing countries for internationalization, but choose to enter developed countries directly. According to Johanson and Vahlne (1977), the internationalization of enterprises should follow the principle that the internationalization of enterprises in developing countries should first enter developing countries with similar development conditions, and then enter developed countries after having some experience in internationalization. However, due to the institutional defects and resource constraints of the home country, the internationalization path choices of transnational enterprises in emerging economies are often inconsistent with those predicted by traditional theories. Luo and Tung (2007) analyzed the internationalization strategies of transnational enterprises in emerging economies from the perspective of springboard, believed that the institutional constraints existing in the domestic market of the home country of enterprises are an important driving force to promote enterprises to adopt more radical internationalization path choices (such as skipping developing countries and directly entering developed countries). Similarly, Stoian and Mohr (2016) viewed that for the widespread institutional defects in emerging economies, enterprises have a strong desire to directly enter developed countries with more sound systems to avoid operating risks and costs arising from institutional defects, such as differences in clinical trial standards, issues of data recognition and mutual recognition, and differences in production quality system certifications, etc. Taking the

internationalization process of Hengrui pharmaceutical, one of the pharmaceutical enterprises with the strongest R & D strength in China, as an example, whose road to internationalization does not start with developing the markets of emerging countries, but directly enters the US market. In 2007, the brand generic drugs were exported and approved by the US FDA and in 2012, it chose to enter the European market (Volgina and Li, 2022).

Secondly, Chinese pharmaceutical enterprises mainly rely on innovative drugs to enter the international market, which is different from India's reliance on generic drug exports to open the international market. The general development law of Indian pharmaceutical industry is that most enterprises first do the production of common APIs, then transform into characteristic APIs, and finally expand the preparation production field until they get involved in the research and development of new drugs (Yeoh, 2010), while Chinese pharmaceutical enterprises enter the western international market mainly through innovative drugs. For example, Huahai Pharmaceutical Co., Ltd., as a typical representative of China's API manufacturing enterprises, complies with the general trend of global production transfer, actively seizes the historical opportunities brought by the expansion of the global generic drug market, realizes industrial transformation and upgrading through international expansion, and is in a leading position in China in terms of product research and development, patent knowledge, international registration and other technical strength as well as international market development and sales capacity, It has established its own international brand by virtue of high quality and low cost in the field of characteristic APIs such as ACEI and ARB (Huahaipharm. Com, 2022).

Thirdly, Chinese pharmaceutical enterprises do not internationalize after making profits in China's domestic market, which is different from Indian pharmaceutical enterprises. India accumulates initial funds for the development of the pharmaceutical industry in the international market by seizing the imitation and innovation of patented drugs that have passed the patent protection period or are about to expire. In order to enter the unfamiliar international market, Chinese pharmaceutical enterprises have launched various forms of strategic alliances. A notable example is Huahai pharmaceutical. In

2013, Huahai pharmaceutical signed a biological pharmaceutical strategic alliance with American Oncobiologics. The lamotrigine sustained-release tablets approved to be listed in the United States in January 2013 were jointly developed by Huahai pharmaceutical and American par company. Huahai undertakes R & D and production, and par company undertakes clinical and legal responsibilities and sales.

Moreover, compared with other developing countries, the uniqueness of the internationalization of Chinese pharmaceutical enterprises is also reflected in the Liabilities of Origin (Marano et al., 2017). For a long time, the internationalization of Chinese enterprises has always been faced with a "puzzle", that is, enterprises will encounter discrimination from the stakeholders of the host country just because they come from China. Especially under the current anti-globalization background, the origin country of enterprises will have a negative impact on the international operation of enterprises. The core problem of Liabilities of Origin is how the home country of multinational enterprises affects the internationalization of enterprises, and its focus is the home country of multinational enterprises (Pant and Ramachandran, 2012).

2.3.5. Why Chinese firms do not internationalize after making profits in China

Different from the internationalization choice of enterprises in developed countries, if Chinese enterprises can make profits at home, they may not choose internationalization. This can be summarized into three reasons.

First of all, China's local market has great potential. If an enterprise develops well in the local market, its motivation for internationalization will be reduced. In the relevant research in the field of enterprise internationalization, the internationalization activities of enterprises are considered to be affected by a variety of factors, among which the market size and the degree of competition of the home country are one of the important factors that promote the internationalization of new ventures (Oviatt and McDougall, 1994). The main advantages of Chinese enterprises engaged in inward internationalization, the engagement with foreign firms in the domestic markets, are labor cost advantages, local market advantages, industrial cluster advantages and

economies of scale advantages (Peng, 2008). Among them, labor cost advantage has always been one of China's main comparative advantages (Luo and Wang, 2012). Therefore, in the case of gaining profits, enterprises have more advantages in choosing to develop in the Chinese market.

Secondly, compared with enterprises in developed countries, Chinese enterprises will face the disadvantage of source countries in the process of internationalization, which leads to greater obstacles and risks for Chinese enterprises to internationalize. Therefore, Chinese enterprises will not internationalize after gaining profits in China. Ramachandran and Pant (2010) believe that the imperfect capital markets of emerging market countries make it difficult for domestic enterprises (especially SMEs) to effectively obtain the funds needed for internationalization. Due to China's institutional environment and some differences with developed countries and regions, transnational corporations are in a disadvantageous position in terms of access to resources, strategic development and market construction of the host country, which has adversely affected the image of the home country in many aspects. The lack of international competitiveness of multinational companies makes it difficult for them to carry out normal international development in the host country, which creates a negative impression on managers (Faccio et al., 2016). And for a long time, China has been in the low-cost production link of the international industrial sector, and the price of most export products is very low (Luo and Wang, 2012). Chinese enterprises have gained market competitiveness by relying on low labor costs and consuming a large number of non-renewable resources.

The fierce competition between domestic and foreign enterprises makes large enterprises pay more attention to short-term benefits, are unwilling to invest a lot of money in technology research and development, and lack the internal motivation for independent innovation. The Chinese government has not provided sufficient policy and institutional support for enterprises. Chinese SMEs are difficult to obtain loans, face competitive pressure, and cannot invest too much money in research and development. Even enterprises that make profits in the Chinese market will fall into a series of traps due to the fact that they come from less developed countries, such as

being locked at the low end of the global value chain, lack of motivation and ability to internationalize, and difficulty in correctly assessing the risks of overseas operations and their own disadvantages (Bartlett and Ghoshal, 2000). The disadvantage of the source country is the stereotype that individuals hold on a particular country and rely on this stereotype to evaluate the enterprises from that country (Chaiken and Maheswaran, 1994). The negative stereotype results in the negative competence perception and negative warmth perception of the stakeholders of the host country on the multinational enterprises of emerging economies. The host country government will think that transnational enterprises from emerging economies lack transparency and have corruption in overseas markets (Cuervo Cazurra and Genc). The investors in the host country will think that multinational enterprises in emerging economies do not have a good corporate governance structure because the institutional environment of their home country does not force enterprises to have a good corporate governance structure (Luo and Tung, 2007). In this case, it is difficult for Chinese enterprises to develop in overseas markets, so if they can make profits in China's local market, they will not generally internationalize.

Finally, the resource situation of Chinese enterprises is also the reason why they no longer pursue internationalization after gaining profits in the domestic market. According to the OLI theory, ownership advantages, internalization advantages, and location advantages are of great significance for the internationalization of enterprises (Dunning, 1998). On this basis, the strategic resource perspective emphasizes the importance of intangible assets of manufacturers, such as advanced technology and knowledge, organizational management skills, and so on. Only by possessing these resources can enterprises overcome the high costs and risks brought about by international production. According to the resource perspective, strategic resources have become a major source of sustainable competitive advantage for an enterprise due to their high value, scarcity, difficulty in imitation, and difficulty in substitution (Barney, 2001). In recent years, resource theory has become an important theoretical framework for studying the internationalization of enterprises. The theory regards the overseas expansion of enterprises as the result of enterprises using existing resources to seek rent

in overseas markets. Turning this idiosyncratic resource overseas can help companies reduce the high costs and risks caused by complex operating environments in the overseas market, and achieve economies of scale, economies of scope, and rationalization of production. The resource theory is based on the micro perspective of enterprise heterogeneity, and believes that resources are the most important asset for a company to maintain long-term competitive advantage. However, the vast number of developing countries, represented by China, lag behind developed countries in terms of economic and technological progress (Luo and Wang, 2012). Therefore, enterprises in developing countries do not have the traditional definition of ownership advantages compared to those in developed countries. Enterprises that go global in China do not have significant resource advantages. There are two possible explanations for this result: first, relying solely on traditional definitions of enterprise resources cannot help explain how Chinese enterprises overcome various disadvantages arising from transnational operations. The second is that the internationalization of emerging market countries represented by China is more likely to be resource seeking (Luo and Wang, 2012), that is, to learn from the technological advantages of host countries through international chemistry, or to acquire natural resources (Wang et al., 2012). Therefore, for Chinese enterprises, if they gain profits in the Chinese market, they will lack the motivation to enter the international market, and the existing resource conditions are also difficult to support Chinese enterprises in competing with enterprises in developed countries in the international market.

The core flaw of classic theories from developed countries lies in the structural contradiction between their static advantage assumptions and the dynamic capability building of emerging market enterprises. The OLI paradigm regards internationalization as the extension of existing advantages. However, the practices of Chinese pharmaceutical enterprises demonstrate that their decisions to enter developed markets often stem from the strategic utilization of regulatory potential rather than the accumulation of traditional ownership advantages. For instance, when Brukinsa (zanubrutinib) of B enterprise was approved for marketing by the FDA through an accelerated process in 2019, its technological advantages were not yet fully established.

Instead, it achieved market breakthrough by leveraging regulatory knowledge, which significantly deviates from the incremental path predicted by traditional models. Moreover, the principle of minimizing psychic distance emphasized by the Uppsala model fails to explain the phenomenon that Chinese pharmaceutical enterprises preferentially choose developed markets with the greatest institutional distance. Meanwhile, although progress has been made in the theoretical revisions for enterprises from developing countries, there are still limitations in the pharmaceutical industry. The Springboard Theory emphasizes circumventing home - country institutional constraints through transnational operations but does not adequately explain the shaping effect of host country institutional pressures on resource mobilization strategies. For example, the Real-Time Oncology Review (RTOR) reform of the FDA requires enterprises to establish dynamic data submission capabilities, forcing Chinese pharmaceutical enterprises to restructure their clinical trial management systems. This co-evolution mechanism between the institutional environment and enterprise capabilities has not been incorporated into the theoretical model. Existing studies mostly overlook the interactive influence of knowledge tacitness and regulatory dependence in the pharmaceutical industry. The cross-border application of clinical data needs to comply with international standards such as ICH-E5, and Chinese enterprises often face technical barriers in data contextual reconstruction, for which traditional resource mobilization theories fail to provide effective analytical tools. Though some scholars have paid attention to the capability evolution in the internationalization process (Teece, 2014), there is a lack of systematic deconstruction of the resource utilization capabilities of pharmaceutical enterprises. Taking Junshi Biosciences as an example, the commercialization of its PD-1 monoclonal antibody in the United States not only depends on the quality of clinical data but also requires the construction of a patent portfolio defense system (such as avoiding Hatch-Waxman litigation) and a cross-border capital circulation network (such as listing and financing on NASDAQ). The integration mechanism of such multi-dimensional capabilities has not yet formed a theoretical framework. Furthermore, research on the uniqueness of Chinese pharmaceutical enterprises shows a polarized tendency. Some scholars overemphasize

the driving role of institutional constraints, such as the pressure of medical insurance cost control policies forcing enterprises to go global, while ignoring the influence of the strategic orientations and management characteristics of EMFs themselves on their internationalization (Peynirci, 2023). Other studies simply apply general theories for emerging markets, the great majority of the articles gathered data from multiple industries with an aim of enhancing the generalizability of the findings and enlarging the observed variance (Sawant et al., 2021), and fail to identify the theoretical revision needs brought about by industry particularities. For example, the Venture-Intellectual Property-CRO Alliance (VIC) model commonly adopted by Chinese pharmaceutical enterprises has the dual attributes of resource bricolage and institutional entrepreneurship. Its behavior of rapidly acquiring regulatory knowledge through capital leverage is different from both the internalization strategies of traditional multinational corporations and the generic drug paths of Indian pharmaceutical enterprises, and existing theories cannot provide a reasonable explanation. These research gaps result in the inability of existing theories to effectively answer why Chinese innovative drug enterprises choose developed countries as their first - target markets and how they achieve breakthroughs in developed markets through differentiated resource mobilization. This dissertation attempts to fill the above-mentioned theoretical voids and promote the paradigm upgrade of the internationalization theory of emerging market enterprises from a special explanation to a general framework.

3.Methodology

3.1. Identification of research gap

Classic internalization Theory such as The Eclectic Paradigm, and Product Life Cycle Theory are valuable for studying the internationalization motives of developed country firms. However, they fall short in explaining the internationalization and innovation - catch - up behaviors of emerging - economy firms. Developing country firms' internationalization, with its opportunities and risks, is an important route. Despite

generally being less competitive than their developed country counterparts, emerging - economy firms have made remarkable internationalization progress recently, leading to new theories such as the small-scale technology theory. Existing research well explains the motives, path choices, and influencing factors of firm internationalization but lacks in studying Chinese pharmaceutical firms' internationalization due to its uniqueness. Chinese pharmaceutical firms don't follow the typical pattern of developing - country firms (entering similar - condition developing countries first and then developed countries) but directly target developed markets like those in Europe and the US. The resource - based theory, which links global strategy, technology strategy, and strategic management to the resource base, fails to account for this. Most academic research on developing country pharmaceutical firms' internationalization focuses on India, whose success has enriched relevant theories. However, due to the uniqueness of Chinese pharmaceutical firms, this theory can't be directly applied. This dissertation aims to contribute to the literature on emerging multinationals by researching the internationalization of Chinese pharmaceutical firms.

3.2. Statement of research questions

Considering the limitations of the existing theories in explaining the internationalization of Chinese pharmaceutical enterprises, this dissertation takes B enterprise and D enterprise as cases for in-depth analysis. B enterprise and D enterprise Pharmaceutical stand as exemplary representatives of innovative pharmaceutical enterprises within China's pharmaceutical industry. B enterprise has long placed great emphasis on research and development investment. Over multiple years, the proportion of its R&D investment in the company's total revenue has been considerably high. Despite experiencing operating losses for a certain period under the continuous high - intensity R&D investment, it has unwaveringly directed its attention towards the international market, actively promoting its international strategic layout. It conducts clinical trials in numerous countries and regions worldwide and establishes cooperative relationships with renowned international pharmaceutical companies. Similarly, D

enterprise Pharmaceutical spares no effort in investing substantial funds in R&D, devoting itself to the research and development of innovative drugs. Although the company faces the pressure of operating losses during its operation, it has not abandoned the path of internationalization. Instead, it actively collaborates with international scientific research institutions and professional teams to enhance its R&D capabilities and international influence. In fact, the situation that B enterprise and D enterprise Pharmaceutical face, namely, persisting in internationalization despite high R&D investment and operating losses, is not an isolated case. Instead, it represents a common predicament faced by numerous Chinese innovative pharmaceutical enterprises. Many Chinese innovative pharmaceutical enterprises, while continuously developing in the domestic market, regard internationalization as a crucial strategic direction for their future development. Even in the face of numerous difficulties and challenges, they resolutely choose to enter the international market.

In the process of internationalization, given the relatively limited resources and capabilities of Chinese pharmaceutical enterprises, why do they make the decision to select developed - country markets as the first - batch target countries for internationalization? Is it based on the judgment of potential opportunities in developed - country markets, or is it driven by other factors, such as the policy environment and industry development trends? How do these factors interact with each other to prompt enterprises to make such decisions?

When Chinese pharmaceutical enterprises are determined to enter developed - country markets, how do they effectively mobilize various resources to achieve this goal during their internationalization process? These resources cover multiple aspects, including human resources, capital, technology, and information. For instance, in terms of human resources, how do enterprises attract and retain talents with international perspectives and professional capabilities? In terms of capital, how do enterprises raise sufficient funds through multiple channels to support international R & D and market expansion activities? In terms of technology, how do enterprises integrate domestic and foreign technical resources to enhance their own technological levels and meet the stringent requirements of developed - country markets? In terms of information, how do

enterprises obtain and analyze relevant information on the international market to make accurate decisions? Based on the observation of this practical situation and the limitations of existing theories, this dissertation proposes the following research questions of significant research value:

(1) Why Chinese pharmaceutical enterprises choose developed markets as the first batch international host countries?

(2) To enter developed markets, how do Chinese pharmaceutical enterprises mobilize resources in their internationalization process?

3.3. Research method

3.3.1. Case study method

As a representative qualitative research method, case study refers to an empirical investigation to deeply study the current phenomenon in the actual social situation, especially when the boundary between the phenomenon and the situation is not obvious (Yin, 1984). This method leads researchers to focus on those important research questions without clear answers, and the results are usually more interesting and innovative in theory (Graebner et al., 2012). Case study method can effectively make up for the shortcomings of the simple grand narrative method, and can also effectively avoid the doubts and defects of quantitative research, thus gaining more and more widespread recognition and use in the academic community (Graebner et al., 2012).

Case studies are especially suitable for answering the question “How”, which fully describes the specific case situation according to the research questions, and forms an inductive process from data to theory based on the phenomenon. For research questions that existing theories cannot solve, or for the gaps in existing theories that cannot provide reasonable explanations, it is quite appropriate to explore them from a qualitative research perspective, expanding the existing theories through summarization and induction from practice. The aim of this thesis is to gain an in-depth understanding of the internationalization process of Chinese pharmaceutical enterprises and, in turn, to expand the existing internationalization theories. This is exactly suitable

for using the case study method to construct and develop theories, to explore the reasons behind complex phenomena in depth, and to bring about new insights. The research questions that existing theories fail to solve, or the existing theories have gaps that cannot give meaningful explanations are suitable for qualitative perspective, summarizing from practice to expand the existing theories. For example, when studying the internationalization of Chinese pharmaceutical enterprises, the formulation of their internationalization strategies is not only influenced by internal factors such as their own technological research and development and financial strength but is also closely related to external environmental factors such as international pharmaceutical regulatory policies and the global demand in the pharmaceutical market. It is very challenging to completely separate the phenomenon of enterprise internationalization from the complex socio-economic contexts for independent study. At this point, the case study method can exert its unique advantages. It prompts researchers to focus on key questions that have not been fully answered, such as how Chinese pharmaceutical enterprises can break through technological barriers during the internationalization process and how they can deal with policy differences among different countries.

Compared with some overly broad and less targeted grand narrative studies, case studies focus on specific enterprise cases, conducting detailed analyses of their development processes, strategic decisions, etc., and are able to excavate more in-depth and unique information. In contrast to quantitative research, case studies do not rely on a large amount of standardized data, thus avoiding the doubts caused by issues such as limited data collection scope and insufficient sample representativeness, and they also will not miss important information due to the excessive simplification of complex realities. In terms of answering “how” questions, case studies can elaborate on all aspects of the cases in detail. Taking the internationalization of Chinese pharmaceutical enterprises as an example, it can deeply describe the specific processes of how enterprises formulate internationalization strategies, how they form international teams, and how they carry out international cooperation. Through in-depth analyses of these cases, based on the obtained data, relevant theories can be gradually induced and refined. Since most existing internationalization theories are constructed based on the

experiences of enterprises from developed countries, there are many deficiencies in explaining the internationalization behaviors of emerging-market enterprises like Chinese pharmaceutical enterprises. For instance, traditional theories cannot fully explain why Chinese pharmaceutical enterprises, despite their relatively backward technology and low brand recognition, can successfully enter developed countries such as those in Europe and the United States and achieve certain results. This thesis uses the case study method to conduct in-depth analyses of the internationalization cases of Chinese pharmaceutical enterprises, summarize the patterns from practice, and is expected to fill the gaps in existing theories, contribute new viewpoints and content to the development of internationalization theories, and provide a more comprehensive and in-depth interpretation of the internationalization phenomena of emerging-market enterprises.

This exploratory qualitative research focuses on delving deep into the complex mechanisms behind phenomena rather than relying on large - scale statistical data analysis. However, the multiple - case research design adds substantial credibility to the study. By selecting B enterprise and D enterprise, two representative enterprises in the industry, the internationalization process of Chinese pharmaceutical enterprises is observed from different dimensions. For example, in terms of strategic formulation, B enterprise, leveraging its extensive international cooperation network and independent R&D capabilities, actively promotes global clinical trials and commercial layout. In contrast, D enterprise, relying on innovative R&D technologies and precise target selection, has made a name for itself in the international market. Although their paths are different, they demonstrate numerous cross - disciplinary commonalities in aspects such as coping with international pharmaceutical regulatory policies and integrating global R&D resources. These commonalities provide the basis for distilling generalizable conclusions, thus ensuring the validity of the research results, which is in line with the important value perspective of multiple - case research in qualitative research proposed by Kalu and Bwalya (2017).

3.3.2. Data collection

The case study method allows researchers to collect data from a range of sources. The data to be collected in this study include primary data and secondary data. Primary data refers to the data collected and processed by researchers themselves for the first time, mainly from questionnaires with pharmaceutical enterprise managers, consulting companies or Payers. The advantage of using primary data is that the questionnaire questions are designed by researchers according to the research purpose, which is more targeted for answering the research questions in this paper, and more convenient for answering specific research aspects. However, primary data also has some limitations. Robertson (1993) pointed out that due to subjective factors, case researchers often obtain the answers or materials they want through guided questions in the interview process, which will affect the objectivity of case studies. In addition, when interviewers do not have certain interview skills or knowledge and experience related to case studies, it is also impossible to effectively obtain primary information needed for research. In addition, interviewees sometimes take the initiative to guess the interviewers' intentions, preferring to cater to their needs for questions rather than answering or expressing their own views on the questions. When the interview involves sensitive questions or highly targeted questions with enterprises, interviewees will deliberately avoid such topics, rather than provide more in-depth relevant information and materials (Dalton, 1992). Problems in primary data collection may weaken the effect of data in explaining research problems. Thus, secondary data are also used for analysis. Secondary data refers to data from other people's (commercial and government institutions, consulting companies, computer databases, etc.) investigations and scientific experiments, including documents, archival records and physical evidence (Hox, 2005).

Primary data in this dissertation were mainly obtained through face-to-face semi-structured interviews (Appendix 1), it requires researchers to purposefully select information-rich interviewees, as they will allow researchers an in-depth understanding of relevant and critical issues under investigation (Wan, 2019). For some respondents who are geographically distant or unable to participate in interviews, video-

conferencing interviews were adopted to ensure comprehensive data collection. The majority of interviews were conducted at the corporate headquarters. This setting allows respondents to communicate more relax in a familiar environment. Meanwhile, interviewers have the opportunity to observe the company's office environment, facilities, etc., obtaining some intuitive information. In cases where it was inconvenient to conduct interviews within the enterprise, neutral venues such as conference rooms or cafes were selected. Seven interviewees from each company participated in the interview, and ultimately, 14 questionnaires with practical value were obtained. The criteria for selecting interviewees are as follows: (1) They have been working in the company for one year or more; (2) They belong to the management level of the company and have a certain understanding of the international operation of the enterprise. The positions of the interviewees included Heads of the Business Development, Public Affairs, and Legal departments, Associate Director in Strategy and Business Operations, Associate Director in Strategy and Business Operations, etc. The duration of each interview was controlled within 40 - 60 minutes. For interviews with more complex questions and respondents with strong expressiveness, the time was appropriately extended to 70 minutes to fully capture information. During the interview, attention was paid to the rational allocation of time to ensure that each core question could be thoroughly explored. The interview outline was based on the core issues of this research, namely, the driving factors, resource mobilization mechanisms, and challenges and opportunities faced by Chinese innovative pharmaceutical enterprises in their internationalization. Core questions were designed around key areas such as corporate strategic decision-making, R & D innovation, market expansion, and supply chain management. Each core question was further refined into multiple follow - up questions to guide respondents to elaborate on their views. Interviewers received specialized training and were equipped with good communication skills and knowledge related to case studies. During the interview, an objective and neutral attitude was maintained to avoid leading questions. An active listening approach was adopted to encourage respondents to fully express their opinions. For vague or unclear answers, appropriate following questions were used for clarification. With the consent of

respondents, professional recording equipment was used to record the entire interview process. After the interview, the recorded content was promptly transcribed into text, and the on - site notes were collated and supplemented to ensure the integrity and accuracy of the data. For the transcribed text data, thematic analysis was employed for coding and analysis to extract key information and themes.

Considering the research purpose of this dissertation, the secondary data mainly collected include B enterprise and D enterprise's international development timeline, financial and resource data, and relevant analysis of existing literature. In this dissertation, we gathered official documents of the selected enterprises, such as annual reports, prospectuses, and corporate social responsibility reports. These documents comprehensively document essential information, including the enterprises' financial standing, strategic blueprints, business progression, R&D investments, and outcomes. They play a fundamental role in understanding the enterprises' basic profiles and development trajectories. Furthermore, we referred to industry research reports published by well - known consulting firms like IQVIA and Frost & Sullivan. In accordance with the research aims and themes, we rigorously screened the collected secondary data. We ensured that the data were directly pertinent to the internationalization of Chinese innovative pharmaceutical enterprises, with reliable sources and high quality. Materials featuring incomplete data, uncertain origins, or tenuous relevance to the research topic were excluded. Through these measures, the comprehensiveness, accuracy, and reliability of the data were effectively ensured.

3.3.3.Data analysis

This study follows Braun and Clarke (2006) six-phase guide for thematic analysis. Firstly, a deductive coding process was used based on theory-derived categories to focus the analysis on aspects of data directly addressing the research question and to accommodate the adopted theoretical framework (Braun, Clarke and Terry, 2019). Generating initial codes means highlighting portions of the text and applying labels and coding the data. Next, the researchers used the coded data to identify themes derived

from the codes (Braun and Clarke, 2006). This dissertation developed themes from the coded data that are relevant to the research questions (Appendix 2). Table 1 presents the coding structure as the underlying analytical framework.

Tables 3-1. Themes and codes

Aims	Themes	Subthemes	Codes
International location	Motivation of internalization	Market-oriented motivation	Increasing market share
			Growing profit
		Technology-oriented motivation	R&D cooperation
			Technology
		Resource-oriented motivation	Oversea fund
			Getting more resources
	International location selection	Domestic pushing factors	Low margin
			Lack of fund
		Developed country pulling factors	Easiness of direct sales
			Competitive benefits
			Advantageous policies in international markets
Resource mobilization	Internationalized resource sources	Enterprise resource	Funding
			Knowledge-based resources
		Government resource	Government support
			Other institutions support

			Fiercely competitive environment
	Resource mobilization mode	Investment	Investment as main capital source
		Partnership	Leveraging R&D resources and policy support
		Direct sales and licensing	Accessing to commercial rights and distribution networks
		Managerial implications	Improvement learning from competitors

The first research question is why Chinese pharmaceutical enterprises choose developed markets as the first batch international host countries? Themes of Motivation of internationalization and international location selection provide evidence about B enterprise and D enterprise to answer the research question one. The second research question is to enter developed markets, how do Chinese pharmaceutical enterprises mobile resources in their internationalization process? This involves two perspectives; the first aspect is the resources that innovative pharmaceutical companies need to utilize for internationalization. In addition, the questionnaire investigates the second level how pharmaceutical enterprises utilize resources in the internationalization process, which is the theme of the competitive landscape of pharmaceutical enterprise's internationalization. The themes were arranged in a tabular form based on the structure provided by questionnaire. This allowed the researchers to become familiar with each case and let the unique patterns emerge on an individual-case level before they were generalized across all the cases (Voss, 2010). The case analysis focuses on comparing and observing patterns between different cases, and determining commonalities and relationships between themes related to the research question through analysis. The following figure is a final thematic map (Figure 4-1).

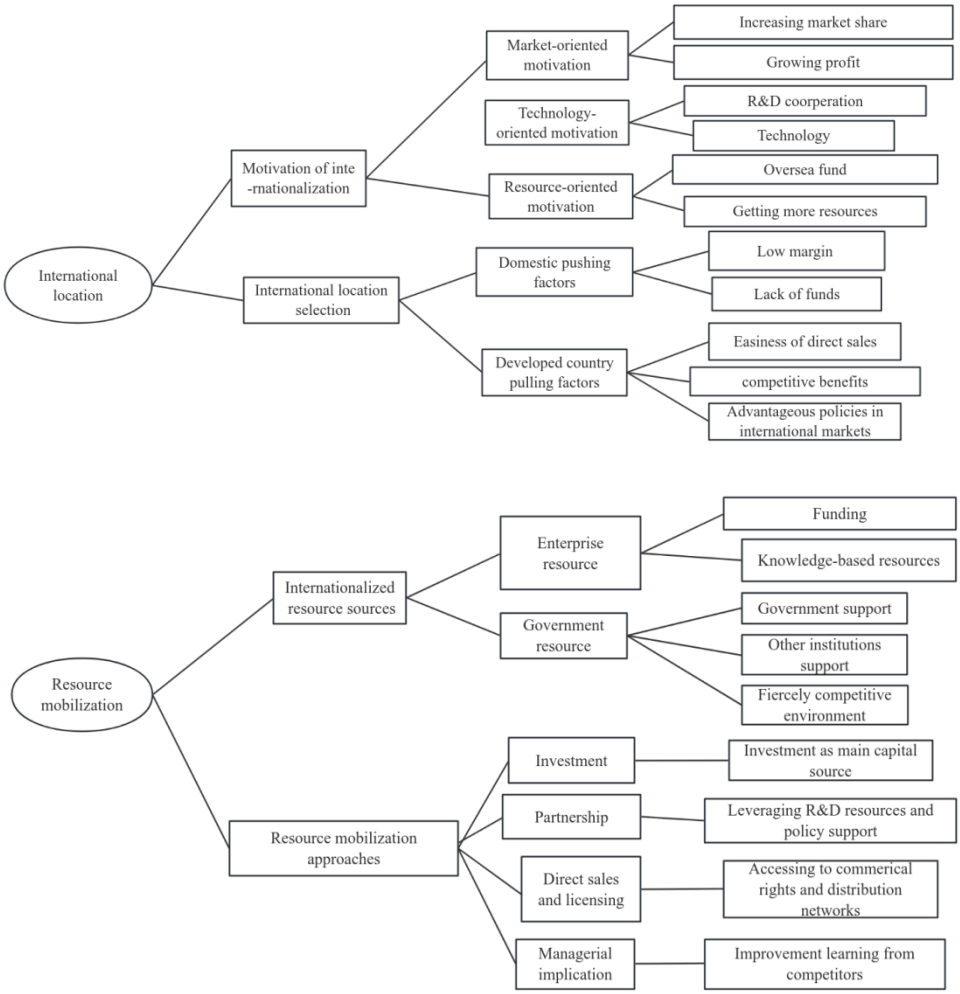

Figure 3-1. Thematic map

3.4. Case selection

China's pharmaceutical exports exhibit a multitiered market layout coupled with a diversified strategic approach. According to 2024 data (frostchina, 2024), the United States remains the largest single destination, absorbing $19.047 billion and accounting for 17.6% of China’s total pharmaceutical exports, while the European Union imported $22.155 billion, representing 20.5% of the total, with Germany ($4.803 billion) and the Netherlands ($3.714 billion) as key markets. Among emerging economies, Southeast Asia received $44.466 billion in exports under the Belt and Road Initiative, with notable growth in Vietnam and Singapore, whereas the Middle East has emerged as a new growth pole, bolstered by proactive healthcare industrial policies.

This geographic distribution stems from a three-tiered strategic logic: developed markets such as the U.S. and EU serve as core destinations for value realization of innovative drugs due to their high purchasing power and the global recognition conferred by FDA/EMA approvals, while their insurance systems' demand for cost-effective medicines also creates opportunities for Chinese biosimilars; Southeast Asia offers racial similarity that facilitates acceptance of clinical data, with Singapore acting as a regional regulatory trendsetter; the Middle East, driven by visions such as Saudi Arabia's "Vision 2030", offers policy incentives, sovereign fund investments, and preferential procurement terms that enhance its attractiveness.

Export strategies also show evolutionary gradation: License-out remains the dominant model, with transaction values reaching $40.454 billion in 2024, leveraging upfront and milestone payments to distribute risk; the emergence of the NewCo model, exemplified by H's $6 billion equity-based collaboration, enables long-term returns through shared ownership; and fully independent globalization strategies-such as B's self-built commercial teams and W' globally integrated supply chain backed by both EMA and FDA approvals-demonstrate parallel paths toward direct presence and capacity expansion. These strategic choices are deeply intertwined with firm ownership structures: privately owned enterprises leverage flexibility in conducting cross-border M&A and capital operations through offshore frameworks, whereas state-owned enterprises tend to focus on building offshore production bases, collectively forming a differentiated yet complementary ecosystem.

The selection of B enterprise and D enterprise Pharmaceutical to analyze the internationalization process of Chinese pharmaceutical enterprises is grounded in the following considerations.From the perspective of investment scale, privately owned enterprises (POEs) accounted for over half of China's outward foreign direct investment (OFDI) in the biopharmaceutical sector, with a significantly higher proportion of their investments being R&D-oriented compared to state-owned enterprises (SOEs) (frostchina, 2024). This pattern aligns closely with this study's core research focus on how firms leverage internationalization to acquire technological capabilities and

regulatory knowledge. In terms of behavioral characteristics, the strategies employed by Firms B and D—such as leveraging foreign equity participation to access critical resources—are highly consistent with the agile decision-making and resource integration model typically observed among privately owned enterprises in the industry. The analysis of the internationalization models of these two enterprises is highly representative. Although both are innovative pharmaceutical enterprises and are advancing internationalization while operating at a loss, there exist numerous disparities between them.

B enterprise, as a commercialized biopharmaceutical enterprise, has successfully introduced its products to the market. It has established sales networks in multiple regions around the world, generating revenue through commercial operations. Meanwhile, it continuously invests in research and development (R&D) to launch new product pipelines. For example, its innovative drugs have entered the market in some developed countries, and it has actively participated in international pharmaceutical market competition through various marketing strategies.

In contrast, D enterprise Pharmaceutical is a biotech enterprise that has not yet achieved commercialization. Currently, it mainly focuses on R&D work. By collaborating with domestic and foreign scientific research institutions and conducting clinical trials, it is committed to transforming R&D achievements into marketable products. It has engaged in extensive international cooperation in R&D, such as joint research projects with renowned overseas research teams, aiming to enhance the competitiveness of its R&D projects. These differences enable the analysis of them to cover diverse scenarios in the internationalization process of Chinese pharmaceutical enterprises. Through the study of B enterprise, we can understand how commercialized pharmaceutical enterprises leverage advantages such as market channels and brand influence during internationalization to further expand their international market share and cope with international competition. For instance, it may optimize its global sales network based on market demand and regulatory policies in different regions, and use its brand reputation to promote product acceptance.

The research on D enterprise Pharmaceutical, on the other hand, helps to gain insights

into how non - commercialized enterprises build cooperation platforms, attract investment, and gradually achieve the transition from R&D to commercialization on the path of internationalization by virtue of their unique R&D technologies and innovative concepts. They might attract international venture capital through showcasing their cutting - edge R&D technologies and potential market prospects, and cooperate with international CROs (Contract Research Organizations) to improve the efficiency of clinical trials. The combination of the two can comprehensively and meticulously demonstrate the diversity and complexity of Chinese pharmaceutical enterprises in the internationalization process, providing rich and diverse case materials for in - depth research on the international development of Chinese pharmaceutical enterprises.

3.4.1. B enterprise

B enterprise is a biotech company in the commercial stage, focusing on the development and commercialization of innovative molecular targeting and tumor immune drugs for cancer treatment. Since its establishment in Beijing, China in 2010, B enterprise has developed into a fully integrated global biotech company, with businesses throughout China, the United States, Europe and Australia. B enterprise is the first R & D investment biopharmaceutical enterprise in China whose original intention is to benefit patients through innovative science. Its scale and ability to accelerate clinical trials enable B enterprise to cope with a series of medical challenges faced by different stages of product development and various disease types together with global partners. As a leading innovative drug enterprise in China, B enterprise is still in a loss state. In 2021, the revenue of B enterprise was about 8.87 billion yuan, and the annual R & D investment was about 9.5 billion yuan (Companies Market Cap, 2021), which is also a common situation faced by Chinese innovative drug pharmaceutical enterprises. The internationalization process of B enterprise is shown in Table 3-1.

Table 3-2. The internationalization process of B enterprise

Year	Event
2010	B enterprise was established in Beijing as a research and development company
2011	B enterprise set up a research and development center in Beijing to launch the PARP and RAF inhibitor project
2012	The PD-1 and BTK inhibitor project was launched
2013	The clinical research and development of lifirafenib began in Australia
2015	it began to carry out clinical trials in China and established its first office in Cambridge, Massachusetts, the United States. B enterprise officially entered the United States pharmaceutical market
2016	It was listed in the United States and became the first Chinese biotechnology company listed on NASDAQ
2017	The first global clinical phase III trial of Zanubrutinib was launched
2018	It was listed on the Stock Exchange of Hong Kong and set up an office in Basel, expanding its business to Europe
2019	Zebutinib was approved by FDA for the first time. Tislelizumab became the first product approved in China
2020	Zebutinib was approved for listing in China for the first time, and the Shanghai Pharmaceutical Research and Development Center was officially opened
2021	B enterprise and Novartis reached a global strategic cooperation

According to Wind data, as of March 31, 2022, four major shareholders Amgen is the biggest shareholder of B enterprise, with 18.46%. In terms of independent research and development, the company has continued to build a large-scale research and development engine, built a variety of preclinical research departments, and a variety of drug discovery technology platforms to help the company achieve efficient and high-quality drug innovation. B enterprise's independent research and development system has also achieved fruitful results. At present, a total of 11 products of independent research and development have entered the stage of commercialization and clinical trials, of which 3 have been approved for marketing, namely, Zanubrutinib capsule, Tislelizumab injection, and Pamiparib capsule. The other 8 products are in the stage of

clinical trials, and are innovative drugs of differentiated design. The company has deep cooperation with many pharmaceutical companies and biotechnology companies at home and abroad in terms of commercialization and research and development, which has greatly enriched the company's product pipeline and provided continuous impetus for the company's research and innovation.

B enterprise has set up several subsidiaries around the world and actively promoted the process of globalization. As a listed entity and holding platform, B enterprise is mainly responsible for business coordination, development planning, financing and management of raised funds. As of June 30, 2021, the company has 11 domestic holding subsidiaries, including B enterprise (Beijing) and B enterprise Bio-pharmaceuticals, and 24 overseas holding subsidiaries in Hong Kong, China, the United States, the United Kingdom, Australia and other regions or countries.

The company has employees all over the world, with offices in Cambridge, Massachusetts, USA and Basel, Switzerland, responsible for the company's commercialization in the United States and Europe. In terms of clinical development, the company has laid out in many key markets around the world, and more than 1100 people in the team are distributed in the United States, Europe, Australia and other places. In addition, the company also plans to establish a new commercial biological agent production, clinical research and development and pharmacovigilance innovation base in Hopewell, New Jersey, USA, which is expected to be completed by the middle of 2023. With the globally integrated R&D institutions and scientific research personnel, B enterprise has now established a complete technology platform for the whole industrial chain, which has become one of its core competitiveness.

With the approval of the company's self-developed products and licensed products, the commercialization process is accelerating, and B enterprise's revenue scale is also growing. In 2021, the sales revenue will reach 7.589 billion yuan, up 258% year on year, and the annual compound growth rate of operating revenue in 2017-2021 will reach 47.33%. In terms of profit, the company has not achieved profit because of its huge investment in research and development. In 2021, the net profit attributable to the parent company was -9748 million yuan, down from the loss in 2020. In the half year

of 2022, the company's product revenue was 3.676 billion yuan, up 132.2% year on year; The company's total operating revenue in the half year of 2022 was 4.21 billion yuan, down 13.9% year on year; The semi-annual operating loss in 2022 was 6.43 billion yuan, an increase of 4.063 billion yuan over the same period of the previous year, mainly due to the decrease of 2.774 billion yuan in cooperation revenue and the exchange loss of 771 million yuan caused by the appreciation of the United States dollar. The company's R&D expenditure is huge. The R&D expenditure increased from 2.017 billion yuan in 2017 to 9.538 billion yuan in 2021, with a compound growth rate of 47.47%. Due to the high growth of the company's operating revenue in 2021, the R&D expense rate in 2021 was 126%, and the R&D expense rate in the first quarter of 2022 was 2.517 billion yuan, with a R&D expense rate of 129%.

With independent research and development and global cooperation, B enterprise has grown into a global biotechnology company. Since its listing, the operating performance of B enterprise has been unstable, and has not achieved profits, with losses showing an expanding trend. From 2017 to the first half of 2022, B enterprise had accumulated a loss of about 40 billion yuan. In the fourth quarter and the full year of 2021, BRUKINSA's global sales were $87.6 million and $218 million, respectively. In the fourth quarter and the full year of 2021, sales of tislizumab in China were 54.4 million US dollars and 255.1 million US dollars, respectively. In the fourth quarter and the full year of 2021, sales of BMS licensed products in China were $29.9 million and $89.7 million, respectively. It can be seen that the revenue of B enterprise has achieved significant growth in the Chinese market in 2021. Meanwhile, according to the 2021 annual report, B enterprise achieved domestic revenue of 3.336 billion yuan, a year-on-year increase of 67.27%, and overseas revenue of 4.253 billion yuan, a year-on-year increase of 3282.5%. In 2022, the revenue of B enterprise was 9.566 billion yuan, a year-on-year increase of 26.1%, and the net loss was 13.642 billion yuan, an increase of 40% compared to 9.748 billion yuan in 2021. The main source of funds driving the increase in revenue of B enterprise is the overseas market. According to the financial report, the sales of its BTK inhibitor Zanubrutinib and PD-1 tirelizumab were 3.829 billion yuan and 2.859 billion yuan, respectively, accounting for nearly 80% of total

revenue. The former's sales in the US market reached 2.644-billion-yuan, accounting for nearly 70% of the global market, and will continue to expand overseas markets; The latter has submitted listing applications in eight global locations such as the United States and the United Kingdom. In 2022, Brukinsa's global sales reached 3.829 billion yuan, with a year-on-year increase of 159% according to US stock market financial reports. In the United States, the sales volume of Brukinsa was 2.644 billion yuan, up more than twice from 746 million yuan in the same period last year. In China, Zanubrutinib achieved sales of 1.015 billion yuan, compared to 652 million yuan in the same period last year. From the perspective of single quarter performance, Baiyuze achieved continuous quarterly growth throughout 2022, with strong commercialization strength. In particular, it is worth mentioning that Brukinsa's overseas revenue has far exceeded that of China, with the US market accounting for about 70% of global sales, which is sufficient to prove that its commercial promotion in the European and American markets has opened up a situation, which is also an important sign that Brukinsa has become a global representative product. According to financial report data, the global commercialized layout of Brukinsa has expanded to more than 65 markets, and the global layout is far away. Since 2022, Brukinsa has obtained 34 pharmaceutical approvals in 20 markets. It can be seen that the global layout of B enterprise has entered a harvest period.

Analyzing the internationalization process of B enterprise, it can be found that its main modes of internationalization include equity mode and non-equity mode. Firstly, the equity model mainly includes self-built teams for overseas sales. On November 15, 2019, B enterprise announced that BRUKINSA has received accelerated approval from the US Food and Drug Administration (FDA) for the treatment of adult mantle cell lymphoma (MCL) patients who have previously received at least one treatment. BRUKINSA is the first product independently developed and approved for listing by B enterprise, which is a significant milestone in the company's development process. In order to achieve a huge breakeven task, B enterprise has more than 500 employees in the global market compared to the beginning of this year, reaching more than 8500. It has a tumor research team of more than 800 people, one of the largest in the world, and

has over 2500 internal clinical development and medical affairs employees, realizing that most projects do not need to rely on CROs.

Secondly, license-out is one of the important modes for B enterprise to achieve international development. In 2021, B enterprise achieved operating revenue of 7.589 billion yuan, a year-on-year increase of 257.9%. Of the annual revenue of 7.589 billion yuan in B enterprise, 3.499 billion yuan came from the recognition of revenue from two products licensed to Novartis, and 4.09 billion yuan came from product sales revenue, including 746 million yuan of sales revenue of Zanubrutinib in the United States market, which means that B enterprise's annual revenue from the international market was at least 4.245-billion-yuan, accounting for more than 55%. Today, with the increasing pressure on the payment side of the domestic innovative drug market in China, innovative drugs must go to sea to have a long-term survival space. Since its inception, B enterprise, which has established a globalization strategy, has already achieved outstanding achievements on the path of internationalization. Since its establishment, B enterprise has taken global operation as its core strategy. A large number of innovative drug companies in the industry almost entirely rely on CROs to promote clinical trials. B enterprise has established a global research and development team of over 3500 people, built a diversified cutting-edge new drug technology platform, and has basically realized that it no longer relies on CROs for internationalization. According to the company's research and development data in 2021, B enterprise has stored more than 50 ongoing preclinical projects, of which more than half have the potential for innovation. The drug forms include multiple types such as dual antibody/multi antibody, CDAC (PROTAC), CAR-NK, mRNA, and so on. Currently, B enterprise has established commercial teams composed of local people in multiple regions such as China, the United States, and Europe, with a scale of over 3400 people. The commercial layout of its products has covered more than 40 countries or regions such as Brazil, Israel, South Korea, Russia, and Australia. Zanubrutinib is a BTK inhibitor independently developed by B enterprise. It is the first original drug in China to be released to the sea, and is also one of the flagship products of Baiji's global layout in 2021.

Capital is a key factor in determining pharmaceutical companies. There are generally two ways for innovative pharmaceutical companies to solve their funding problems. One comes from within the company and generates revenue through selling or licensing products in domestic and overseas markets. In terms of product sales, B enterprise mainly adopts two strategies to obtain revenue: independently developed products and licensed products. On the one hand, through independent research and development of cornerstone products such as BGB-A317, Zanubrutinib, and PARP inhibitors, B enterprise has achieved single drug sales and combined drug sales. On the other hand, B enterprise also cooperates with domestic and foreign pharmaceutical companies in product licensing, joint development, and commercial operation of related products in China to achieve synergy and complementarity between product lines and expand sales scale. For example, among the current 16 commercial products, 13 are licensed drugs from pharmaceutical companies such as Novartis and Bristol-Myers Squibb. In addition, B enterprise also earns income through licensing out. In 2017, before a product was launched, B enterprise reached a cooperation with Celgene Corporation to jointly develop PD-1 monoclonal antibody. B enterprise also obtained the exclusive operation and commercialization authorization of Celgene Corporation's approved products in China. So far, this transaction remains at the top of the list of innovative drugs license-out in China. In January 2021, Novartis introduced BGB-A317 from B enterprise with a down payment of $650 million, a milestone of $1.55 billion, and a 20-30% sales share, which set a new down payment record for domestic license-out transactions. In December 2021, B enterprise and Novartis reached a cooperation agreement, and Novartis would acquire the rights and interests of the United States, Canada, European countries, and Japan of B enterprise TIGIT antibodies. To this end, Novartis would pay an advance payment of $300 million, an additional payment of $600 million or $700 million, a milestone amount of $1.895 billion, and a sales share of 20-25%.

The other is from outside the enterprise, financing from primary market investors or secondary markets. In order to meet capital needs, B enterprise seeks to list in multiple places. Currently, B enterprise has been listed on NASDAQ, Hong Kong Stock Exchange, and Shanghai Stock Exchange in 2016, 2018, and 2021, becoming the first

biotechnology company in the world to achieve "A+H+N" listing. The total amount raised by B enterprise's IPO exceeds 4.5 billion US dollars, including more than 20 billion yuan raised by listing on the Science and Technology Innovation Board alone. If combined with financing in the primary market, as well as fixed increase, equity placement, and strategic financing in the secondary market, the financing amount of B enterprise in the past 10 years has exceeded 70 billion yuan.

3.4.2. D enterprise

D enterprise is an innovation driven biomedical company with global competitiveness, focusing on the research, development and commercialization of innovative drugs in the field of malignant tumors and autoimmune diseases. D enterprise is building its own commercialization team in China. It will gradually establish a commercialization team with market competitiveness in combination with the clinical trials and registration schedule of core products and formulate effective commercialization strategies for product listing and is positioned to participate in global competition. In overseas markets, the company plans to adopt a sales model combining external cooperation and self-built teams, At present, D enterprise is actively seeking partners in major countries and regions that are planning to apply for listing in the world to promote the global commercialization of core products, plan to build a commercialization team in the United States and other core markets at an appropriate time to establish the company's long-term global commercialization core competitiveness (D enterprise, 2022). D enterprise's core competitiveness lies in the R & D capability of innovative drugs, with the technology and experience accumulated by the R & D team and core technical personnel for many years, the company has established a complete small molecule drug R & D system, which is benefited from the focus of the enterprise on R & D. In the first half of 2022, D enterprise's R & D investment was 329.5873 million yuan (D enterprise, 2022). The R & D period of innovative drugs is long, the capital investment is large, and the profit cycle is long. As a global innovative biopharmaceutical enterprise, D enterprise is in an important R & D investment period, developing a variety of products

for different targets. As of June 30, 2022, the company has not made profits and has accumulated outstanding losses, owning to that the company is still in the drug R & D stage during the reporting period and continues to invest a large amount of R & D expenses.

According to the annual report of the company, from 2018 to 2020, D enterprise Pharmaceutical achieved operating revenue of 39419200-yuan, 41017500 yuan, and 27760800 yuan, respectively, with net profit of - 173614000 yuan, - 445753200 yuan, and - 58661900 yuan, respectively. As an innovative drug research and development company that has not yet commercialized its products, D enterprise invests heavily in research and development every year, with losses during the reporting period. In 2018-2020, the R&D expenses of D enterprise were 210 million yuan, 421 million yuan, 439 million yuan, and the net profit was 174 million yuan, 446 million yuan, and 587 million yuan, respectively. The company has not yet made a profit in 2021 and has accumulated unrecovered losses, mainly due to the fact that the company, as a global innovative biopharmaceutical enterprise, is still in the research and development stage of its core products and has not yet conducted commercial production and sales. Innovative drug research and development has industry characteristics such as long cycle and large capital investment. During the reporting period, the company's research and development expenses amounted to 588 million yuan, an increase of 33.70% compared to the same period last year. The research and development investment were used for preclinical research and clinical trials of product pipelines, and the development of existing clinical projects and reserve projects was rapidly promoted. The company's main product lines are developing multiple global innovative drugs for different targets. Before developing drugs to generate sales revenue, the company needs to invest a large amount of funds in preclinical research, clinical development, product production and control, and many other aspects. Before the successful listing of drugs, the company's working capital mainly relies on external financing. If the expenses required for business development exceed the available external financing, it will cause pressure on the company's financial situation; At this stage, the company's research and development expenditures related to drugs under research are expensed. With the

advancement of the company's research projects, operating losses may continue to occur in the foreseeable future. According to the 2022 annual report, the net profit loss attributable to shareholders of the listed company of D enterprise is about 735 million yuan.

The funding sources of D enterprise has the following characteristics. First of all, D enterprise's operating income is heavily dependent on major shareholders. In 2017, D enterprise was founded as a very young biotechnology company. At the beginning of its establishment, the registered capital was $132.53 million, of which AZAB subscribed $55 million, accounting for 41.50% of the total registered capital. AZAB is a wholly-owned subsidiary of AstraZeneca. In 2018-2020, the transaction value of R&D technical support services provided by D enterprise to AstraZeneca and its related parties, such as cell line screening, biological sample testing, scientific cooperation, and academic seminars, was 39.42 million yuan, 41.02 million yuan, and 27.76 million yuan, respectively, which was completely consistent with the company's operating revenue. D enterprise also purchased compound patents for three of its seven innovative drugs from AZAB, including one of its core products, DZD4205, and two other innovative candidate drugs, DZD2954 and DZD0095. In August 2020, the company purchased all the intellectual property rights of DZD0095 and DZD2954 from AZAB, while selling DZD3969 intellectual property rights to AZAB. The total price of the two transactions was the same, reaching 202 million yuan. Secondly, D enterprise is an innovative model for independent development of research and development centers of multinational pharmaceutical companies in the pharmaceutical industry. On December 10, 2021, D enterprise landed on the Science and Technology Innovation Board and raised about 2.1 billion yuan (D enterprise, 2023). Based on the China Innovation Center (ICC), one of the former AstraZeneca's four global research and development centers, D enterprise is jointly established by SDIC Innovation and Investment Promotion (advanced manufacturing industry fund manager), AstraZeneca, Xiaolin Zhang and his team (AstraZeneca, 2017). The R&D team is from the former AstraZeneca ICC. D enterprise is building a globally competitive Chinese biomedical innovation enterprise based on an international platform.

3.5. Ethical consideration

Ethical considerations permeate the entire research and are crucial for ensuring both the scientific nature of the research and humanistic care. To ensure the objectivity of the research process and protect the interests of participants, the thesis made normative constraints in the process of data collection and research. Firstly, this thesis will not bring harm to social stability, health and environmental protection. Secondly, In the interview process, to enable each participant to share their true thoughts and experiences without concerns, before the interviews, we explained the core principle of voluntary participation to them in clear and understandable language. That is, participants have the right to independently decide whether to participate in the interview and can withdraw at any time during the process, and their decisions will not have any adverse effects on themselves. In the process of data collection, the participants were clearly informed of many matters involved in the survey, such as the main items of the survey, the form of the questionnaire, how to answer, the time required, and the problems to be noted. Data collection shall be carried out on the premise of ensuring the voluntary participation of participants, and the participants shall have the right to withdraw at any time. It is unethical to coerce or violate the will of participants and insist on collecting data that participants are unwilling to provide. In the research process, participants should be treated as valuable stakeholders. In practice, participants should not be put at risk for data collection. Any practices that are detrimental to the interests of participants should be stopped, and more careful consideration should be given to vulnerable groups. Another important aspect of protecting participants is to respect and protect privacy. Personal privacy is protected by law. In order to present personal privacy to the researchers at a certain risk, the participants show their attention to the research issues and trust in the researchers. As researchers, they have the obligation and responsibility to protect the privacy of the participants. In order to protect the interests of participants from loss, maintain the living order of participants, and prevent the disclosure of personal information, names are usually separated from answers in the process of writing codes and data records, or

pseudonyms and pseudonyms are used to replace the real names of participants to achieve anonymous protection. Meanwhile, we emphasized the rule of anonymity, ensuring that no information that can identify the personal identity of the participants will appear in the subsequent research report writing and any public discussions. Regarding the confidentiality clause, we promised to strictly keep all the information obtained from the interviews confidential and use it only for the purpose of this research, without disclosing it to any third parties. Such rigorous ethical operations not only safeguard the rights and interests of the participants but also create a trusting environment for the research, making the data obtained more authentic and reliable. To facilitate the differentiation and organization of the information collected from the interviewees of different enterprises, we numbered the seven interviewees from B enterprise in sequence as B1-B7 and the seven interviewees from D enterprise as D1-D7. In this way, in the subsequent data analysis and discussion, we can accurately correspond to the views of each interviewee, more systematically sort out the similarities and differences in the internationalization practices of different enterprises, and provide convenience for in - depth analysis. Finally, the collected data and analysis results are only used for this research.

4.Results and findings

4.1. Research on the selection of international location of Chinese pharmaceutical enterprises

This section will explore and answer research question 1: “Why Chinese pharmaceutical enterprises choose developed markets as the first batch international host countries?” The basic internationalization situations of cases are introduced. Both B enterprise and D enterprise showed a strong motivation for internationalization, and B enterprise became the first Chinese biotech to list on the Nasdaq in 2016 and has now become one of the leading companies with advanced progress among Chinese biotech, while D enterprise has entered the stage of internalization in terms of drug development with two leading assets in global pivotal studies and one already launched. At present,

D enterprise Pharma is in the early stage of preparing for internationalization. This involves looking for potential partners, conducting market research, identifying potential target markets, developing appropriate marketing strategies, and establishing distribution channels. Overseas markets are an important source of B enterprise's revenue, such as in 2023 Q3, 2/3 of B enterprise revenue came from the US and Europe. In 2023, overseas sales revenue accounted for 60%, which is expected to reach 80% by 2024. On the contrary, D enterprise has a strong intention to enter the international market and achieve internationalization, and it has established the goal of internationalization in the early stage of product development. However, its internationalization is still in the development stage. Currently, the product under development is still in an advanced stage, and the critical phase and the third phase are still underway. D enterprise is actively communicating development plans, approvals are expected next year, so there is currently no sales force in overseas markets, and foreign markets are not contributing to D enterprise's sales revenue.

4.1.1. Motivation of internationalization

Accordingly, the collected data is coded and analyzed through the thematic analysis method, and a number of concepts or categories related to the internationalization drivers of Chinese innovative drug companies are obtained, such as "technology acquisition", "market expansion", "fund acquisition", etc. This subsection further reveals the drivers of transnational strategic alliances in two cases (see the appendix for specific data and open coding summaries), which can be summarized as "market-oriented", "technology-oriented" and "resource-oriented".

A. Market-oriented motivation

With the advancement of the internationalization process of China's innovative pharmaceutical enterprises, their position in the international market has been continuously improved, and their market share has grown rapidly. What are the motivations for promoting the internationalization of innovative drug companies?

After encoding and analyzing the data of multinational pharmaceutical companies, the

concepts of "increasing market share" and "growing profit" were obtained. The purpose of internationalization of Chinese local biopharmaceutical companies is to enter the international market, increase market share, obtain future business opportunities, and obtain higher market value. The data reveal that the low development of China's innovative drug market constrains Chinese local biopharmaceutical companies from selling high-end innovative products and earning enough profits, thereby driving them to explore developed markets. Therefore, this motivation can be summarized as a "market-oriented" internationalization motivation. This motivation is elaborated in the following section.

Specially, interviewees of B enterprise and D enterprise cited much better profits in the US and other developed markets as the main driver, which helps companies to expand their market share, and the profits from overseas markets can compensate for the risks of operating in the domestic market.

> *'Profit: much better prices in the US and other developed markets. Profit turns to be top priority and concern in capital markets these years and in the future' (B2).*
>
> *'Firstly, we aim to further increase the sales of our products by tapping into overseas markets. By expanding our presence globally, we can reach a wider customer base and ultimately drive revenue growth'(D4)*

Participants of B enterprise and D enterprise all believe that the entry into the international market is mainly to increase market share and generate more income. In addition, the participants also provided insights on why internationalization can gain market share, which is mainly due to the low development of China's innovative drug market, which restricts the development of innovative drug companies, and foreign markets have increased the customer base of innovative drug companies, so as to gain a larger market share.

> *'As China only makes up 10-15% of global pharmaceutical market in terms of revenue, probably due to low drug price, to go global can largely increase the company's revenue and profit' (D3)*
>
> *'Internationalization allows the company to tap into new markets and expand its customer base, leading to potential growth in revenue and market share'(D4)*

'China originated Pharmaceutical companies expand into developed countries (e.g. US, EU) for better ROI of R&D investments, as sales and profit prospect of commercializing a pharmaceutical product is substantially more promising in those regions' (B1)

In order to look for high-end markets for obtaining more innovative drug returns and obtain enough driving force to maintain continuous innovation and R&D, Chinese innovative pharmaceutical companies choose to enter the international market and achieve better development driven by market orientation.

B. Technology-oriented motivation

After encoding and analyzing the data of multinational pharmaceutical companies, the concepts of "R&D cooperation" and "Technology" were obtained. Although China's innovative pharmaceutical companies have established their own innovative R&D capabilities, there is still a gap between the R&D process and quality of drugs and those leading firms in developed countries. In order to improve their innovation and R&D capabilities, enrich their R&D pipelines, and improve the quality of drugs, local enterprises choose to implement internationalization strategies to acquire technologies from foreign companies

Taking B enterprise as an example, as competition in the domestic market becomes increasingly fierce, seeking to go abroad and go international can provide enterprises with advanced technologies for development. Although B enterprise itself has strong R&D capabilities and pipelines, B enterprise is also trying to acquire advanced technologies in the global innovative drug market.

'There are many factors that affect the internationalization of enterprises, including not only R&D capabilities, but also commercialization capabilities, production capabilities, etc.'(B3)

In contrast, D enterprise is also trying to obtain funds from foreign markets for R&D activities in order to achieve more promising development.

'Thirdly, one of our company's core values is global innovation. We firmly adhere to this value and believe that internationalization is crucial to achieving our vision of being a leading player in the global healthcare industry. By entering overseas

markets, we can stay abreast of the latest trends, technologies, and best practices, enabling us to continuously innovate and improve our products and services'(D4)

The main reason for the technology-oriented internationalization motivation of Chinese innovative drug companies is that their cooperation with foreign companies can narrow the technology gap between them. The participants' answers show that Chinese innovative drug companies can have access to more advanced technologies in the process of internationalization, and cooperation with foreign companies is also a more cost-effective way to develop R&D.

'For R&D operation, it is a cost-saving way to build up global research team if the company has many global wise clinical researches'(B3)

'It enables the enterprise to access advanced technologies, knowledge, and expertise from other countries, further strengthening its research and development capabilities'(D6)

For B enterprise and D enterprise, due to their small scale of enterprises, the variety of product pipelines is few, not rich enough. Innovation and research and development capabilities are not strong, although innovation and research and development have made some progress, compared with the innovation and research and development capabilities of developed countries, there is still a certain gap, and China's domestic homogeneous competition is serious, most of the drugs produced are generic innovative drugs, the quality of drugs is not high, due to the lack of product pipeline types, insufficient innovation and research and development capabilities, low quality of drugs and other problems. Most of the foreign pharmaceutical companies are well-known enterprises with innovative capabilities, so strategic cooperation with such multinational pharmaceutical companies can improve the innovation and R&D capabilities of China's start-up biopharmaceutical companies and improve the quality of drugs to a certain extent. Therefore, in order to enrich product pipelines, improve innovation capabilities, and improve drug quality, Chinese innovative pharmaceutical companies choose to enter the international market.

C. Resource-oriented motivation

Chinese innovative drug companies choose to enter the international market in order to

obtain more financial support, but also to gain foreign management experience, strengthen commercialization capabilities, etc. These are valuable resource for them to form competitive advantages while the domestic market is not able to provide these resources. After encoding and analyzing the data of Chinese pharmaceutical companies, the concepts of "oversea fund" and "getting more resources" were obtained. The above concepts are gathered to obtain the core category of "resource orientation", which can be used as an induction and summary of the motivation for enterprise internationalization. B enterprise and D enterprise chose to enter the international market due to insufficient funds and low competitiveness in the process of innovation and development.

> *'Internationalization will bring enterprises greater market share, profits and development space. The company itself can also have more resources, including talents, experience, processes, cultural accumulation, etc.'(B5)*
>
> *'From my point, the main reason is overseas funds, and then market share. Another reason is to prove the overall ability of Chinese innovative pharmaceutical enterprises to develop innovative drugs from the early research stage to overseas commercialization.'(D6)*

In addition, participants also expressed their views on how internationalization can be funded from foreign markets, and by entering international markets, Chinese innovative drug companies can get the latest development news and use the global financial market to fund their expansion and development efforts.

> *'By entering overseas markets, we can stay abreast of the latest trends'(D4)*
>
> *'The possibility of securing funding from abroad has an impact on B enterprise's internationalization plan. Key instances of the corporation using global financial markets to finance its expansion and development efforts are its initial public offerings and the capital raising that followed'(B4)*

In summary, this section finds that the internationalization motivations of Chinese innovative drug companies can be summarized as market-oriented, technology-oriented and resource-oriented. Firstly, Chinese innovative drug companies are trying to increase their market share by entering foreign markets, which is mainly due to the low

degree of development of China's innovative drug market, which restricts the development of innovative drug companies, and foreign markets have increased the customer base of innovative drug companies, so as to gain a larger market share. Secondly, the motivation for technology-based internationalization shows that Chinese innovative drug companies are trying to obtain cash technology from foreign markets, and Chinese innovative drug companies can have access to more advanced technologies in the process of internationalization, and can narrow the technology gap through cooperation with foreign companies. Thirdly, Chinese innovative drug companies are also entering the international market to obtain more resources, including capital and capabilities, and use the global financial market to meet their capital needs for expansion and company operation. However, Chinese pharmaceutical companies will face price restrictions, policy constraints, and talent shortages in the domestic market, which are the driving forces behind Chinese pharmaceutical enterprise's choice to enter developed countries.

4.1.2. International location selection

Through the coding and analysis of the collected data, this section obtains a number of concepts or categories related to the location selection of the host country for internationalization, such as "domestic pushing factors" and "developed country pulling factors", which together determine the choice of developed countries as the host country for Chinese innovative drug companies in the process of internationalization.

In the current era of deepening globalization, the competition faced by enterprises has transcended national boundaries. Internationalization offers enterprises access to a wide array of crucial strategic resources on a global scale. These resources encompass advanced technologies, high - caliber talents, abundant capital, and extensive market channels. Through internationalization, enterprises can break through geographical limitations and integrate the advantageous resources from various parts of the world into their own operational systems, which enables them to optimize resource allocation, thereby significantly bolstering their competitiveness in the international market.

Among the numerous decisions in the process of enterprise internationalization, the choice of international location plays a decisive role. This decision not only directly impacts the efficiency of resource acquisition but also has a bearing on many critical factors such as operational costs in the target market, market access difficulties, and the effectiveness of brand promotion. If an enterprise selects a location that does not align with its development strategy, it may encounter a series of problems, including obstacles in resource acquisition, exorbitant operational costs, and difficulties in penetrating the market, which could impede or even derail the internationalization process.

As revealed by the case study, innovative pharmaceutical companies demonstrate a distinct inclination to prioritize developed countries when advancing their internationalization initiatives. The core driving force of innovative pharmaceutical companies lies in their pursuit of technological innovation and high - end product development. Developed countries typically possess comprehensive and stringent pharmaceutical regulatory systems. Although these pose significant challenges, meeting such high - standard regulatory requirements can lead to global recognition of the enterprise's products, thereby establishing a strong brand image.

A. Domestic pushing factors

On the one hand, the reason why B enterprise and D enterprise chose developed countries for internationalization comes from the pushing factors of the domestic country. After encoding and analyzing the data of the two cases, the concepts of "low margin" and "lack of funds" were obtained. China's innovative pharmaceutical companies are facing fierce market competition and narrow drug distribution channels in the domestic market, with many companies offering similar products. This requires pharmaceutical companies to invest heavily to differentiate their products through marketing, branding, and other strategies to attract customers, which leads to the inability to obtain sufficient product returns in the domestic market, resulting in serious losses for start-up biopharmaceutical companies, poor sales performance, poor sales of products in China, and inability for pharmaceutical companies to obtain due drug returns, just as the participant said:

'I think from the perspective of the general environment, China's biopharmaceutical industry is facing difficulties in development and rebound due to the current economic downturn.' (B3).

'2 major problems facing China pharma industry in China market: too many me-too drugs & too low pricing. The root cause of the latter is that lack of truly innovations, too many fast following me-too'(D1)

B. Developed country pulling factors

On the other hand, the pulling factors for innovative drug companies to enter the developed countries come from "Easiness of direct sales", "competitive benefits" and "advantageous policies in international markets", including the ability of developed countries to take advantage of advanced technologies, efficient policy and regulatory frameworks for quick product launch and obtaining profits, making up for the large cost of early research and development investment, and helping improve the reputation of the enterprise. For example, developed countries represented by the United States are the main location choices for B enterprise and D enterprise's internationalization due to its advanced technologies and effective policy frameworks

'The first branch of B enterprise is in the US because its drug Brukinsa was approved by FDA first. R&D center and factory are also built in the US. The US has good resource of R&D talents and its insurance policies are favorable for innovative medicines.'(B4).

'US is the first batch of countries we are targeting. As US guidance and policy (FDA) is well accepted in majority countries. Which means if we can get the approval from US, there is higher chance we will be able to get approval in other regions such as EU.'(D5)

'I think the reason for this is that developed markets have a mature review and approval system and clear policy for drug development. And the institutions in these markets have plenty of experiences in designing and conducting clinical trials. Also, developed markets mean larger profit. '(D6)

More specifically, the local policies of developed countries can benefit China's local innovative drug companies after entry. Developed countries have efficient policy and

regulatory frameworks that can expedite the approval and market entry of drugs to complete the commercialization process. In addition, developed markets have robust legal frameworks for the protection of intellectual property rights, which is essential for innovative drug companies to develop their R&D.

'Certain countries provide advantageous policies and regulatory frameworks that can expedite the approval of drugs and their entry into the market. This can shorten the time it takes for new items to reach the market and speed up the commercialization process' (B4)

'Intellectual property protection is crucial for pharmaceutical companies. Developed markets have robust legal frameworks that protect intellectual property rights, ensuring that our investments in research and development are adequately rewarded' (D4)

However, our findings also show that there are challenges in entering international markets, including a lack of understanding of local regulations and market conditions for example, one participant of B enterprise suggested that familiarity with local regulations could be challenging.

In this field, there is still a certain gap with multinational pharmaceutical companies in terms of R&D investment, brand influence, technology and other aspects. Our own research and development and capital investment will have certain challenges. For example, European and American countries lead the construction of international pharmaceutical regulations and standards and play a leading role in access, policy formulation, patent review and other aspects. (B4)

'A company's capacity to successfully modify products and tactics to fit local needs may be hampered by a lack of understanding of the local market. Success requires an understanding of patient demographics, cultural characteristics, and local healthcare systems'(D6)

Therefore, developed countries represented by the United States are the main location choices for B enterprise's internationalization, which can be attributed to domestic driving factors and foreign pulling factors. On one hand, in the Chinese market, Chinese innovative drug enterprises face issues such as low profit margins and lack of funds,

which drive them to enter the international market in search of better development. On the other hand, foreign markets, especially those in developed countries, have more advantages in terms of sales convenience, competitive landscape, and policy support, thus attracting Chinese innovative drug enterprises to enter. The main challenges in international markets also include a lack of understanding of political, regulatory and market environment.

4.2. Research on the resource mobilization of Chinese pharmaceutical enterprises

This section aims to answer the second research question: To enter developed markets, how do Chinese pharmaceutical enterprises mobilize resources in their internationalization process? The research question involves two perspectives; the first aspect is the resources that innovative pharmaceutical companies need to utilize for internationalization. the second level is how pharmaceutical enterprises utilize resources in the internationalization process.

4.2.1. Internationalized resource sources

In order to analyze the resource utilization of the internationalization of Chinese innovative drug companies, this section encodes and analyzes the collected data, and obtains a number of concepts or categories related to the resource sources used by B enterprise and D enterprise for internationalization, such as "enterprise resources" and "government resources".

A. Enterprise resources

After encoding and analyzing the data of Chinese innovative drug companies, the concepts of "funding" and "knowledge-based resources" were identified. According to the Uppsala model and the OLI theory (Johanson and Vahlne, 2009; Dunning, 1977), the main purpose of a firm's overseas expansion is to expand and utilize its internal advantages. The main process is for companies to create competitive advantages in their home markets and transfer these advantages to overseas markets for cross-border expansion. Therefore, these specific internal resources of the enterprise lay the

foundation for the internationalization of the enterprise.

Firms operating across borders have to take numerous strategic decisions, with differences in system, technology and business between different countries or markets differences in the demand for resources and the way they respond to them (Schmid, 2018). In the context of internationalization, the findings indicate that the government resources of enterprises and the knowledge and capital resources of enterprises themselves are particularly important. Funding is also an essential resource in the process of B enterprise and D enterprise internationalization, which is a reflection of property-based resources.

> *'If D enterprise is to set up a new team overseas, a big funding is needed.'(D3)*
>
> *'For the internationalization of our pharmaceutical enterprise, we identified several crucial resources. Firstly, funding has been a significant factor. We required substantial capital to conduct clinical trials, register products, and establish sales and distribution networks in foreign markets. While we have secured some funding through venture capital and private investors, the need for continued and increased funding remains a limitation.'(D6)*
>
> *'However, since its establishment, B enterprise has not yet achieved profitability, and it is uncertain whether it can continue to raise funds to ensure the normal operation of the company in 2024'(B5)*

The knowledge-based resources that B enterprise needs to utilize for internationalization include overseas knowledge, the abilities and experiences of managers as well as professional talents. Firstly, overseas market development knowledge is the basis for the international expansion of China's innovative drug companies, especially the knowledge accumulated in previous related internationalization activities is crucial to the experience learning process of enterprises. Overseas market-specific knowledge, as a key factor in overcoming the disadvantages of outsiders, can make managers aware of the degree to which the company's internal resources and capabilities match the target market, thus greatly influencing the company's decision to invest internationally. The participants proposed that knowledge is an important corporate resource needed for the internationalization of enterprises:

'Compare with other companies in China, we have certain middle and senior level management team who ever worked in global pharma, which enable us the basic capabilities of managing our CROs in other countries(D5)

Secondly, the professional talent team of Chinese innovative drug companies has an important impact on their competitive advantage, which is an important determinant of whether the company can successfully implement its globalization strategy. Enterprises with high-end R&D teams can effectively help enterprises integrate global supply chains, global competition and cooperative relations, so as to help enterprises promote and sell products in the host country. The team of professionals can also help enterprises obtain cross-border and cross-industry diversified market knowledge and creative information, so as to better explore innovation and business opportunities that meet market demand. The answers from the participants of B enterprise and D enterprise confirm the importance of professional talents:

'The R&D team are the former top scientists and technicians; they are experienced and talented in designing and developing innovative compounds and have worked together for years. And D enterprise has a well-integrated and highly-committed commercial team in China. They have delivered outstanding launch revenue and are ready to achieve strong revenue growth'(D3)

'Internationalization of enterprises requires: Talents who understand the operation of the international pharmaceutical market'(D6)

B. Government resources

After encoding and analyzing the data of Chinese innovative drug companies, this section proposes the concepts of "government support", "support from other institutions", and "fierce market competition". In terms of government support, all the interviewees of B enterprise and D enterprise agreed that the government should provide policies that are more favorable to innovative drug companies, such as rewarding designations, tax breaks, etc. In addition, the interviewees also believe that the reduction of unnecessary regulations and the strengthening of cooperation with research institutions are effective supports. In general, government support can not only reduce the R&D cost of innovative drugs by lowering tariffs, but also enable

negotiations with foreign institutions to obtain entry permits relatively quickly.

'I think some of the key areas of support from government could help such enterprises to achieve internationalization more quickly:

Policy Support: This includes tax incentives, export subsidies, and preferential loans that reduce the financial burden of enterprises expanding into foreign markets' (D4)

'I think B enterprise's internationalization still needs a lot of strong support from the government. For example, at a time when China-U.S. relations are relatively tense, will business promotion in the United States be affected by U.S. protective policies? At this time, government support, support for domestic enterprises, subsidies, tariffs, and policy tendencies are very important'(B7)

While D enterprise's interviewee also pointed out that the current government support is far from meeting the international needs of innovative drug companies.

'So far based on my understanding, government didn't offer any support for our internationalization, although many support for our growth and expansion in China locally.'(D4)

Secondly, the support of other institutions also guarantees the patent protection of innovative drugs, providing an impetus for innovation.

'Institutions can help protect intellectual property rights and patents globally, which is important for pharmaceutical businesses that make significant R&D investments.' (B5).

'Clinically, the Chinese Society of Clinical Oncology (CSCO) provides annual updates of guidelines for the diagnosis and management of a variety of cancer diseases, in which way it helps endorse our data and disseminate it abroad as quickly as possible to support internationalization of Chinese innovative drugs'(D2)

The above analysis identifies the resources required for internationalization process of B enterprise and D enterprise. In terms of internal operational resources, exceptional management capabilities stand as one of the core driving forces for enterprise internationalization. The international business landscape is fraught with complex and dynamic market conditions, diverse cultural differences, and stringent regulatory

requirements. Only with proficient strategic planning, organizational coordination, and risk management capabilities can an enterprise smoothly advance its international operations and ensure operational efficiency. Talent resources also constitute a pivotal element in the enterprise internationalization process. Internationalization demands composite talents with cross-cultural communication skills, professional technical knowledge, and international market insights. Technical resources are the cornerstone for innovative pharmaceutical companies to gain a foothold in the international market. Against the backdrop of the ever - evolving global pharmaceutical technology, possessing advanced R & D technologies and independent intellectual property rights represents the core competitive edge of an enterprise. Both B enterprise and D enterprise attach great importance to technological innovation, investing substantial resources in R&D and continuously exploring new drug targets and innovative R&D technology platforms. Funding resources, on the other hand, serve as a vital guarantee for enterprise internationalization. From early - stage R&D investment to the conduct of clinical trials and then to market promotion and sales channel construction, each link requires substantial financial support. In addition to the enterprise's own internal operational resources, the policy support provided by the government and other institutions is also of paramount importance. The government can formulate tax policies to reduce the operating costs of enterprises and encourage them to increase R & D investment, set up special funds to provide financial support for promising internationalization projects, helping enterprises solve the problem of capital shortage and play an active role in international cooperation and exchanges. Depending on enterprise and government resources, innovative drug companies have the opportunity to contact more suppliers, customers, competitors and scientific research institutions, creating conditions for stimulating innovative ideas, learning advanced technologies, and achieving complementary advantages, which will also greatly reduce the innovation cost of enterprises and improve innovation efficiency.

4.2.2. Resource mobilization mode

The purpose of this section is to explore the path mechanism of international resource acquisition for Chinese innovative drug enterprises. Due to their weak technical background and market control capabilities, the focus of the international expansion of Chinese innovative drug companies is not to take advantage of the internal advantages of the enterprises, but to obtain assets and opportunities from overseas markets. After encoding and analyzing the data of Chinese innovative drug companies, this section proposes the concepts of "direct sales and licensing", "investment" and "partnership". it is found that there are three types of resource utilization patterns of innovative drug companies in the process of internationalization.

A. Direct sales and licensing

The first is direct sales and licensing. The findings of the research show that the license-in business model is an important way to leverage resources. Licensing approaches allow products to reach their target markets faster, especially for smaller companies that lack resources. Medical devices are more complex in terms of registration process, regulatory environment, and market expansion, and small companies can complete product registration and market access faster in the target market by authorizing large companies to cooperate. Licensing approaches enable such an authorization process. According to participants, competitors of B enterprise and D enterprise often enter the international market through various strategies, including licensing. One common approach is through "license-in" and "license-out" agreements. With "license-in," a company acquires the rights to a product or technology from another company, usually one that has a proven track record in a specific market or technology. This allows the company to quickly gain access to new products or technologies without having to invest in research and development from the ground up. On the other hand, "license-out" involves a company granting rights to its own products or technologies to another company in a foreign market. This is often done to expand market reach, leverage the partner's local expertise and distribution channels, or generate additional revenue through royalties.

Through the License-in method, a product can achieve a product cycle that is almost synchronous with other advanced products in the host country, which means that it can enter the host country at the first time and establish a first-mover advantage. At the same time, compared with other competitors that enter foreign countries in the import mode, the introducer enterprise can make full use of its local advantages, they have a clear understanding of the local market, can provide more targeted market demands and a wide variety of sales channels, thereby promoting the sales of innovative drugs more effectively, enjoy policy dividends, and obtain marketing authorization relatively quickly.

> *'Competitors have taken a series of measures to enter the international market by leveraging their respective competitive advantages. Based on their exploration of international market resources, license-in business model and short-cut to some faster progress in R&D are very advantageous.' (B2).*
>
> *'Competitors often enter the international market through various strategies, including licensing. One common approach is through "license-in" and "license-out" agreements.'(D3).*

B. Partnership

According to the data, the second resource mobilization mode is a partnership. Internationalization is an intensive process, and relying solely on the purchase of resources will not enable enterprises to gain sustainable competitive advantage. The data shows that in the process of internationalization, Chinese innovative drug companies continue to integrate global resources, lay out a wider global network and global cooperative relations. In terms of resource mobilization, B enterprise mainly adopts a strategic cooperation approach, and most of the partners are with the world's top pharmaceutical companies. Back in 2021, B enterprise entered into a $2.2 billion collaboration with Novartis on the PD-1 antibody drug tislelizumab. Under the agreement, B enterprise Switzerland granted Novartis the rights to develop, manufacture and commercialize tislelizumab in United States, United Kingdom, EU member states, Russia and Japan. Chinese companies often leverage external partnership to navigate through international competition. By establishing strategic

partnerships with foreign companies, Chinese pharmaceutical companies can access a wide range of crucial resources. Firstly, in terms of funds, these collaborations often bring in substantial financial support, which is essential for funding research and development projects, building advanced manufacturing facilities, and expanding business operations. Secondly, they gain access to diverse sales channels. These channels enable Chinese pharmaceutical companies to penetrate international markets more smoothly, reaching a larger customer base. Moreover, the market knowledge acquired from foreign partners, including in - depth understanding of local market trends, consumer preferences, and regulatory requirements, provides valuable insights. This knowledge equips Chinese companies to develop more targeted marketing strategies and tailor - made products, ultimately enhancing their competitiveness in the global pharmaceutical market. As the participants said

> *'The partnership between Amgen and B enterprise in worldwide strategic oncology provided a major impetus. Amgen acquired shares in B enterprise for about $2.7 billion in the context of this partnership. Along with a significant financial contribution, this partnership involved the cooperative development and marketing of several cancer assets.'(B4)*
>
> *'D enterprise is cooperating with global top investment banking firms and advisors on its internationalization activities and decisions'(D3)*

In summary, Chinese pharmaceutical companies often form partnerships and collaborations with overseas companies to expand their market reach. These collaborations can involve joint ventures, licensing agreements, and co-development deals.

C. Investment

In addition, the third resource mobilization mode is investment. As the participants said, investment is an important source of funds for China's innovative drug companies. For pharmaceutical companies, continuously listing new drugs with market competitiveness is crucial for the normal operation of the company. Pharmaceutical companies enter foreign markets through greenfield investment by establishing subsidiaries or branches, which play a crucial role in building relationship networks. In

the R & D, they cooperate with local scientific research institutions and universities, establish R & D centers to attract talents, and form a cooperation network. During the production process, enterprises invest in building modern production bases to ensure the smooth operation of all links in the supply, production, and distribution of innovative drugs. At the sales level, subsidiaries or branches closely collaborate with local medical institutions, pharmacies, and medical insurance departments. They master local drug sales models and medical insurance policies, formulate targeted sales plans, and build a sales network.

'B enterprise's current funds are mainly focused on investment and financing, followed by milestone payments for some products in cooperation with other companies.'（*B4*）

'As a biotechnology company, our primary capital source for internalization remains investment from investors.' (D6)

'D enterprise is a public company listed in Shanghai Stock Exchange STAR market. The funding is basically from different investors. AstraZeneca and National investment on advanced manufacturing industry are two primary investors'(D3)

In fact, the choice of resource utilization model for Chinese innovative drug companies depends on the needs of the enterprise, and in many cases, this model is not singular, and in many cases, innovative drug companies obtain resources in foreign markets through a comprehensive model of multiple methods to promote their internationalization. For example：

'As a fully-fledged pharmaceutical enterprise, Johnson & Johnson utilized a mix of internationalization modes including drug/technology licensing, acquisitions, establishing joint ventures or wholly-owned subsidiaries in foreign countries, directly selling products manufactured in its home countries to international markets as well as manufacturing in various foreign countries and regions'(D2)

'B enterprise does not rely on cooperation with global partners to open its own internationalization path. B enterprise still mainly relies on its strong research and development capabilities and strong commercialization capabilities to develop overseas markets'(B5)

D. Managerial implications

Besides, the last question is what B enterprise and D enterprise needs to improve in terms of resource mobilization compared to its competitors. The interviewees of B enterprise provided a variety of managerial implications to better utilize oversea resources, including the most important product quality, understanding and use of policies in developed countries, and seeking partners with positive local government relations, industry status, and market networks.

According to the findings, the success of B enterprise and D enterprise's competitors shows that product quality is the most important factor in entering the international market and achieving higher development, so that the ability of R&D can make better use of resources.

> *'By observing the products and technologies that other companies have successfully brought to international markets, we can gain insights into new areas of opportunity for our own product portfolio' (D7)*
>
> *' Focusing on local R&D is a crucial component of strategy. This strategy makes use of regional advantages in big data and AI as well as local adaptation to healthcare demands '(B7)*

In addition, complying with overseas regulatory requirements is crucial for pharmaceutical companies. They invest in resources to understand and navigate the complex regulatory frameworks of different countries. B enterprise and D enterprise can learn from their competitors, so understanding the policies of developed countries and making appropriate responses is key to making better use of resources.

> *'One point is each region is specific though we share same policy global wide, local expertise could bring better delivery or maybe different delivery'(D5)*

What's more, considering that partnership is an important way to leverage resources, it is even more important to choose the right partner. The participants' responses showed that collaborators with advantages in government relations, industry status, and market networks are beneficial to B enterprise and D enterprise in making better use of resources in the internationalization process.

> *'Successful international pharmaceutical companies often have established*

relationships with local distributors, suppliers, and other stakeholders. These relationships can provide with valuable entry points into new markets and access to critical resources'(B3)

'For example, one competitor stated that it became profitable the second year after its product launch thanks to a big deal of initial and milestone payment from its overseas BD partner Summit'(D4)

Overall, this section finds that the resource utilization approaches of Chinese innovative drug companies can be summarized as direct sales and licensing, partnership, and investment. Firstly, Chinese innovative drug companies rapidly acquire new products and technologies through direct sales and licensing to expand market reach, leverage the partner's local expertise and distribution channels, or generate additional revenue through royalties. For example, some Chinese pharmaceutical companies license the patents of their independently developed innovative drugs in specific fields to foreign pharmaceutical companies with well - established sales networks. Meanwhile, the licensors can earn royalties based on product sales, achieving a win- win situation. This model allows Chinese innovative drug companies to enter the international market quickly without expending a large number of resources to build overseas sales networks independently, thus enhancing the market influence of their products. Additionally, they can generate additional revenue through royalties, which provides financial support for further R&D and business expansion. Secondly, the resource utilization of enterprises through the cooperation model is mainly reflected in obtaining funds, sales channels, and market knowledge. Many innovative drug companies collaborate with venture capital institutions, private equity funds, etc. These investors provide R&D funds for pharmaceutical companies. Cooperation with local pharmaceutical companies or distributors enables Chinese innovative drug companies to utilize the latter's' existing mature sales networks to quickly distribute products to every corner of the target market. In terms of acquiring market knowledge, communication and collaboration with local partners enable Chinese pharmaceutical companies to gain a comprehensive understanding of the policy regulations, consumer preferences, and characteristics of the medical system in the target market. Finally, investment ensures that enterprises

operate in accordance with their own high standards and strategic plans, and better enter the international market by setting up subsidiaries or branches. Establishing sales branches in regions with great market potential enables companies to be closer to local customers, respond to market demands in a timely manner, and optimize after-sales services. This approach endows enterprises with stronger autonomy and flexibility in the international market, allowing them to better integrate their own strategies with the actual local market conditions and achieve sustainable development. In addition, to make better use of resources, a series of managerial applications have been proposed, mainly focusing on product quality, policy understanding, selection of suitable participants, etc. Chinese innovative drug companies need to establish a strict quality control system. From raw material procurement, quality monitoring during the R&D process to finished product quality inspection, every link must comply with international standards to ensure the safety and effectiveness of products. Pharmaceutical companies need to conduct research on drug approval policies, medical insurance policies, intellectual property protection policies, etc. in the target market to ensure compliance in all aspects of R & D, production, and sales, avoiding significant losses due to policy violations. When selecting suitable partners, comprehensive consideration should be given to factors such as the partners' reputation, strength, market influence, and professional field advantages.

5.Research contributions and discussion

5.1.Theoretical Contribution – Supplementing the Internationalization Theory of Emerging Market Enterprises

Traditional internationalization theories, such as the Uppsala model and the OLI paradigm, emphasize a gradual, step-by-step approach to market entry, where firms reduce psychic distance and accumulate experience over time (Johanson & Vahlne, 1977; Dunning, 2000). However, the internationalization practices of Chinese pharmaceutical companies, as evidenced by B enterprise and D enterprise, reveal a distinct "leapfrogging" strategy, where firms bypass traditional developmental stages

and directly enter highly regulated and competitive developed markets (e.g., the U.S. and EU). This study extends existing theories by proposing a dual motivation of internationalization and dynamic model of internationalization paths, which explains the unique motivations and pathways of Chinese pharmaceutical firms.

5.1.1. Dual Motivations of Internationalization

The dissertation makes a groundbreaking contribution to the theory of enterprise internationalization motivations. By conducting an in-depth analysis of the driving factors in the domestic market and the pulling factors in the foreign market, it constructs a more comprehensive and detailed theoretical framework, which deepens the understanding of enterprise internationalization motivations, especially for emerging market entities such as Chinese pharmaceutical enterprises.

- **Internal thrust:**

  Previous internationalization theories have paid little attention to the unique institutional environment faced by emerging - market enterprises and its impact on their internationalization decisions. This dissertation reveals that Chinese pharmaceutical enterprises are confronted with institutional constraints such as price controls and centralized procurement policies. These factors severely compress the profit margins of enterprises and inhibit their innovation vitality. At the technological development level, as enterprises from developing countries, they are at the lower reaches of the global technology innovation chain, far from the core technology R&D centers, with imperfect industrial supporting technical facilities. This leads to difficulties in attracting and retaining technical talents, resulting in obvious disadvantages in technological innovation. Meanwhile, the intense domestic market competition restricts the development space of enterprises in the local market. Their products often can only meet the needs of the mid - to - low - end market and find it difficult to enter the high - end mainstream market. Taking B enterprise as an example, its interviewees clearly pointed out that “the Chinese biopharmaceutical industry is facing bottlenecks due to the current

economic downturn and low drug prices", which intuitively reflects the hindrance of the domestic market environment to the development of enterprises. These internal dilemmas form a powerful driving force, prompting enterprises to seek overseas markets to break through the dual constraints of the domestic system and the market. This discovery greatly enriches the part of the enterprise internationalization motivation theory regarding the driving force of negative domestic - market factors, fills the gap in the theoretical research of emerging - market enterprises in this regard, and provides a new perspective for further understanding the internationalization strategic choices of enterprises in a complex domestic environment.

- **External attraction:**

  this study reveals the huge attraction of developed markets to Chinese pharmaceutical enterprises and improves the content of positive external - market incentives in the internationalization motivation theory. Developed markets have significant advantages in terms of economic development level, scientific research and innovation capabilities, legal and regulatory systems, and market consumption capacity. For example, developed countries such as the United States have a strict and authoritative FDA certification system. Obtaining this certification not only means that the product quality and safety are internationally recognized but also, by virtue of its credibility, can open the door to the global market. In addition, developed markets possess advanced R & D technologies, abundant clinical trial resources, and a mature global R & D network. For instance, D enterprise, by leveraging the global R&D layout of its parent company AstraZeneca, has obtained key target screening data and clinical trial opportunities, which has strongly promoted its own R&D process. Moreover, some developed countries have introduced a series of preferential policies to attract foreign investment, providing emerging - market enterprises with opportunities to obtain financial support, technological exchanges, and market access facilitation. These advantageous conditions in foreign markets constitute a powerful pulling force, attracting Chinese pharmaceutical

enterprises to actively engage in the internationalization process. Through cross - border cooperation, mergers and acquisitions, and other means, they integrate into the global industrial chain, acquire key strategic assets, and enhance their international competitiveness. Besides, human resources are also essential, for Chinese biopharmaceutical firms, recruiting international talent is driven not merely by domestic workforce shortages, but rather by a strategic pursuit of dual objectives: knowledge acquisition and international legitimacy. On one hand, appointing seasoned experts from overseas—such as former R&D directors from multinational pharmaceutical corporations—enables access to critical proprietary knowledge, including core drug development technologies. On the other hand, hiring professionals with prior experience at regulatory agencies like the FDA enhances the credibility of the company’s R&D processes in the eyes of international regulators. More significantly, the introduction of such key personnel generates a multiplier effect for integration into global innovation networks. Each high-level recruit acts as a living interface, connecting the firm to otherwise inaccessible international research ecosystems, facilitating deeper embeddedness within global knowledge flows and collaborative networks.

- 5.1.2. Dynamic Model of Internationalization Paths

This dissertation further proposes a dynamic model of internationalization paths, which emphasizes how Chinese pharmaceutical firms achieve rapid internationalization despite lacking traditional ownership advantages (e.g., brand recognition, proprietary technology). From the ownership structures, private enterprises typically exhibit greater market agility and a pronounced technology-seeking orientation. Their internationalization strategies are frequently characterized by high-risk, high-reward cross-border mergers and acquisitions, as well as the establishment of research and development centers in mature markets such as the United States, aimed at rapidly acquiring core technologies, patent assets, and high-level talent. These firms often represent the most active and disruptive participants from China in the global

innovation arena, with their dynamism reflected in their rapid response to market signals and their risk-taking entrepreneurial spirit. Instead, these firms leverage institutional arbitrage and resource leveraging to create competitive advantages.

- **Institutional Arbitrage:**

  Chinese firms exploit regulatory differences between home and host markets， it needs both internal resources from the enterprises themselves and external government support when making resource allocation and business layout in the markets of developed countries to obtain benefits. In the face of different external environments, managers will have different cognitions according to the company's strategic positioning and development plan, and considering the dependence on resources, the manager's cognition will also change with the change of resource dependence conditions (Reuber and Fischer, 1997; Benito et al., 2009). The knowledge resources and learning abilities of Chinese innovative pharmaceutical enterprises are the key driving factors for their internationalization. Through learning and accumulating knowledge resources, emerging market enterprises can better cope with the challenges brought about by different institutional environments. Managers' perception of the international market has an important impact on the development of the enterprise. Once more, the internationalization experience of an enterprise refers to the experience and knowledge of overseas operation related knowledge, advanced technology, management ability and understanding of institutional culture that the enterprise has continuously acquired, deepened and accumulated in the process of participating in international operation. Based on the theory of organizational learning, enterprises with a high level of international experience can use the previously accumulated experience and knowledge to better discover and make use of the similarities and correlations between countries, promote the understanding of the host country's market, reduce the uncertainty and cost of obtaining information, and reduce the negative impact of outsiders' disadvantages on

enterprises, so as to promote enterprises to achieve better learning results in overseas activities and ensure that they have sufficient resources and ability to assume social responsibility (Zobel, 2017). For example, B enterprise utilized the FDA's Real-Time Oncology Review (RTOR) pathway to expedite the approval of its PD-1 inhibitor, Tislelizumab, in the U.S. market (B enterprise Annual Report, 2021). This approach allows firms to navigate complex regulatory environments more efficiently than competitors. It is worth noting that government resources are conducive to promoting their internationalization. The government can formulate tax policies to reduce the operating costs of enterprises and encourage them to increase their investment in research and development. It can also set up special funds to provide financial support for promising internationalization projects, which helps enterprises solve the problem of capital shortage and play an active role in international cooperation and exchanges. By leveraging government resources, enterprises can avoid or take advantage of unfavorable institutional environments, give full play to their own resource advantages, and achieve institutional arbitrage.

- The deep-seated rationale for Chinese innovative pharmaceutical firms' reliance on government support in their internationalization endeavors lies in the pivotal role of state policy in strategic emerging industries. As Naughton (2022) argues through his analysis of policy instruments such as industrial guidance funds, China's industrial policy is not static but constantly adaptive and evolving. These guidance funds represent policymakers' attempt to construct a new form of industrial policy that is more market-friendly and adept at leveraging modern financial tools, aimed at facilitating China's transition from technological catch-up to frontier innovation. In the context of the international expansion of Chinese innovative drug firms, the operational logic of industrial guidance funds differs fundamentally from traditional subsidies. Rather, they function by using government capital to leverage private investment, creating a market-based mechanism of risk-sharing and

benefit-sharing, with targeted capital injection into strategic sectors like biopharmaceuticals. This mechanism has provided crucial financial support and risk buffering for overseas acquisitions and R&D activities of Firms B and D, effectively lowering the cost of experimentation in international ventures. Local governments, moreover, act not merely as implementers of central policies but as strategic actors with significant autonomy. They enhance the coherence of central-local efforts by offering matching funds and tax incentives, optimize approval processes to provide streamlined "green channels" for firms going global, and offer political endorsement. Furthermore, by incorporating firms' international success into local policy performance evaluations, they align incentives across administrative levels. This interactive model—where the central government sets the direction, local governments compete to supply complementary resources, and firms execute market-based strategies-constitutes a unique advantage for Chinese multinational enterprises: the capacity to rapidly mobilize large-scale resources for strategic international initiatives.

- **Resource Leveraging:**

  Resources related to licensing agreements and strategic partnerships are of utmost importance. Licensing agreements enable enterprises to acquire external resources such as technologies and intellectual property rights. Strategic partners, on the other hand, can bring in local market knowledge, marketing channels, and financial resources, etc., which help to make up for the resource deficiencies of enterprises during the internationalization process. In the early stage of internationalization, the direct sales and licensing model can play a good springboard role, opening up a gap for overcoming technical barriers in developed economies, and also driving the revenue benefits of new products. For the export-oriented internationalization strategy, the required resources include those for constructing export supply chains, familiarizing with international trade regulations, and expanding overseas distribution

networks. Meanwhile, Chinese innovative drug companies choose to enter the markets of developed countries, and the institutional environment of the host country is better than that of the home country, that is, the institutional surplus is poor, and its institutional system, legal norms, and market supervision are more complete than those of China (Wu, 2013). When Chinese pharmaceutical enterprises enter the markets of developed countries, they need to make use of the institutional environment resources such as the relatively complete institutional systems, clear legal norms, and effective market supervision in these countries. Though there are differences in the domestic institutional environment, it also provides space for enterprises to accumulate commercial resources, such as cost advantages and industrial cluster advantages.

- There are several reasons why Chinese pharmaceutical enterprises need to utilize these resources. On the one hand, it is to achieve effective market entry and risk response. The direct sales and licensing models can help enterprises gain a firm foothold in foreign markets quickly. By connecting with local partners, enterprises can rapidly understand consumer preferences and establish brand recognition. The export-oriented strategy can reduce the risks brought about by the uncertainties of the international environment. Compared with more aggressive approaches such as large-scale direct investment, it provides a more stable way to enter the international market, ensuring the survival and development of enterprises in the complex and ever-changing international market. Greenfield investment is typically employed for long-term, deep embeddedness within specific innovation ecosystems. The primary objective of this mode lies in the construction of overseas legitimacy: through physical presence, local hiring, and collaboration with academic institutions, the firm sends a credible commitment signal to local innovation networks. This facilitates the systematic acquisition of tacit knowledge, access to cutting-edge scientific resources, and the development of local trust, ultimately earning recognition from both the technological community and regulatory bodies. Although this process is gradual, the legitimacy thus

established is more profound and enduring.

- On the other hand, Chinese pharmaceutical enterprises can acquire external capabilities and share risks. Licensing agreements and strategic partnerships can help enterprises break through their own resource limitations. Taking the R&D of pharmaceutical enterprises as an example, cooperation with enterprises in developed countries can provide access to advanced R&D facilities and regulatory experience, and share the high R&D costs and internationalization risks, thus reducing the burden on a single enterprise in the complex international environment. Hengrui Pharma's licensing deal with Treeline Biosciences for its KRAS inhibitor (HRS-4642) is a prime example. By out-licensing the drug's development rights, Hengrui mitigated the risks of independent market entry while securing upfront payments and milestone royalties (Hengrui Pharma, 2023).
- To make full use of these resources, Chinese pharmaceutical enterprises should conduct in-depth market research to identify suitable partners. They should clearly define the rights and obligations of both parties in licensing agreements and cooperation contracts, and establish effective communication and cooperation mechanisms to ensure the smooth progress of cooperation projects. For the direct sales and licensing models, detailed market research should be carried out in the target market, professional sales teams should be trained, and good relationships should be established with local regulatory authorities. The export supply chain should be optimized, trade policies should be actively responded to, and the competitiveness of export products should be enhanced. In this way, enterprises can overcome market entry barriers and ensure their survival in the market, improve their technical level and market operation capabilities by leveraging external cooperation resources, enhance their competitiveness in the international market, and achieve sustainable development through resource sharing and complementary advantages.

5.1.3. Theoretical Implications

1. Expansion of the Internationalization Theory

Traditional theories predominantly focus on enterprises from developed countries, emphasizing common motivations such as market expansion and cost advantages. However, they inadequately consider the unique factors faced by emerging market enterprises, including the institutional environment and technological catch-up pressure. Through such a comparison, the innovative aspect of this study, which focuses on the domestic driving and foreign pulling factors for Chinese pharmaceutical enterprises, is highlighted. This dissertation systematically integrates factors such as institutional constraints and technological disadvantages in the domestic market as the internal driving forces for enterprises' internationalization. Simultaneously, it conducts an in - depth analysis of the attractiveness of developed foreign markets in terms of technology, certifications, policies, and other aspects as pulling factors. This comprehensive analysis of domestic and foreign factors expands the existing internationalization theory regarding the research on enterprises' internationalization motivations and location choices.

What's more, in the research field of corporate internationalization, there has long been a traditional assumption that resource accumulation must be a prerequisite for the internationalization process of enterprises, which particularly emphasize domestic competitiveness when explaining the internationalization behavior of EMFs (Luo and Tung, 2007). However, China, as a globally significant emerging market country, exhibits a strikingly different trend in the internationalization development of its pharmaceutical enterprises. The contribution of this dissertation lies in posing a strong challenge to this traditional concept. The dissertation finds that Chinese enterprises have demonstrated a distinct internationalization path, they can achieve rapid internationalization by adopting bold and aggressive strategies, with the core being the ingenious utilization of institutional arbitrage and resource integration.

Specially, Chinese innovative drug companies carry out internationalization activities, and at the same time, these activities have the unique characteristics of late-developing enterprises in emerging economies. According to the springboard theory,

internationalization can be used as a springboard to help emerging economy firms alleviate the constraints of the home country system (Luo and Tung, 2007). Some emerging economies have imperfect institutional and legal risks that will greatly weaken their competitiveness, and access to the global market can help emerging economy enterprises avoid these disadvantages and focus on building global competitive advantages. Some countries have formulated some preferential policies to attract foreign investment, which has led to enterprises in emerging economies to enjoy some financial or non-financial preferential treatment by establishing subsidiaries overseas and then making reverse investments in their home countries. In addition, internationalization can serve as a springboard to help emerging economies expand their use of their internal advantages in other developing markets. Some enterprises in emerging economies have formed a large number of professional knowledge, technology and international operational capabilities through internationalization (Child and Rodrigues, 2005), and on this basis, with the help of scale and cost advantages, their products can be quite competitive in some developing countries, so as to increase their global market share. Multinational enterprises in China pharmaceutical sector generally do not follow the traditional incremental internationalization model. Instead, they demonstrate a faster pace of internationalization and a broader range of market choices. The springboard theory fails to fully account for such non-sequential and rapid internationalization behaviors of emerging market firms (EMFs) (Peynirci, 2023). It posits that multinational enterprises from emerging markets mainly engage in international expansion to acquire the necessary strategic resources. However, the research of this paper indicates that the internationalization motives of multinational enterprises from emerging markets may be more complex. It is not merely about resource acquisition; rather, it is the combined effect of the development limitations in the domestic market and the attractiveness of external markets. To some extent, this has refined and advanced the theoretical research on the internationalization of EMFs.

In order to obtain strategic assets and key technologies, young enterprises with a low degree of internationalization in emerging markets have a stronger incentive and motivation to enter the markets of developed countries. Taking Chinese innovative drug

enterprises as a specific case, analyzing the reasons for choosing developed countries from the perspective of the combined action of driving and pulling factors breaks through the traditional single perspective. It comprehensively analyzes the two - way driving forces behind enterprises' decisions, which helps to deeply understand the internationalization strategic choices of enterprises. This provides new ideas for formulating targeted policies and enterprise development plans in the future, and also offers a more in-depth and comprehensive theoretical framework for studying the globalization development of the innovative drug industry. This research finding provides a solid empirical foundation for the expansion of internationalization theory in the specific field of emerging market enterprises. Previous theories have obvious limitations in explaining the internationalization behaviors of emerging - market enterprises. The discoveries in this paper prompt the academic community to examine and reflect on the diversity and complexity of the internationalization paths of emerging market enterprises. Through the analysis of cases of Chinese innovative pharmaceutical enterprises, we can distill new theoretical perspectives. For example, under the premise of possessing certain innovation capabilities and resource integration capabilities, emerging market enterprises can, with their unique strategic vision and the courage to break through, transcend the progressive development stages set by traditional theories and directly challenge developed country markets. This not only enriches the connotation of internationalization theory but also offers a new perspective and research direction for subsequent studies on the internationalization of emerging market enterprises. It lays the groundwork for further constructing a more complete, comprehensive internationalization theory system applicable to different types of enterprises. Notably, cross-border mergers and acquisitions (M&As) represent a more radical "springboard" strategy aimed at rapidly overcoming the liability of outsidership. However, the applicability of the springboard theory within the biopharmaceutical sector must be critically interrogated. Although the cases of Firms B and D are highly illustrative, this model is not without significant risks—such as post-merger cultural integration challenges and substantial financial leverage—and its universality remains questionable. In a sector highly dependent on the continuity of talent and an innovative

culture, failure to successfully integrate acquired entities can lead to an exodus of core personnel, turning the intended springboard into a trap. Consequently, the springboard theory should be treated as a contingent explanatory framework rather than a universally applicable law.

2.Refinement of the Resource-Based Theory

The Resource-Based Theory holds a crucial position in the field of corporate strategic management. Its core argument emphasizes that the unique resources possessed by an enterprise are the key to building a competitive advantage (Barney, 1991). However, when it comes to explaining the dynamic transformation and synergistic effects of resources during the internationalization process of enterprises, this theory has certain limitations. On the one hand, the Resource-Based View (RBV) contends that a firm's possession of unique and difficult-to-imitate resources and capabilities is the key to achieving sustainable competitive advantage. However, Chinese pharmaceutical enterprises are generally considered to lack unique resources, which represents a discrepancy from the perspective of the RBV theory. Meanwhile, EMFs often embark on internationalization with the aim of acquiring the necessary resources, which is at odds with the view of the RBV theory that EMFs engage in international expansion by leveraging their own resource advantages (Peynirci, 2023). To a certain extent, the level of resources possessed by the enterprise itself affects the effect of obtaining resources. The knowledge-based resource capability of Chinese innovative drug enterprises is an important way to improve the innovation ability through international cooperation, in which the absorptive ability based on prior knowledge level plays a more significant role in the knowledge identification and internalization stage, and the human capital plays a more significant role in the knowledge transformation and utilization stage. That is to say, the knowledge flow brought about by the process of R&D internationalization can directly promote the accumulation of knowledge stock and the internalization of new knowledge, and the absorbed information knowledge can be transformed into organizational proprietary knowledge by R&D personnel, which can directly catalyze innovation results. On the other hand, most of the research has focused more on the

strategies themselves rather than how EMFs utilize resources for internationalization (Peynirci, 2023). In the complex context of enterprise internationalization, the connotations and action mechanisms of resources become more diverse and intricate. Taking the acquisition of FDA approval as an example, this resource, which seemingly only pertains to drug quality and safety regulation, has been successfully transformed into a globally significant market access advantage in the internationalization process of Chinese pharmaceutical enterprises. Once a company obtains FDA approval, its products can not only smoothly enter the United States, the world's largest pharmaceutical market, but also, by virtue of the authority of the FDA approval, gain higher market recognition in other countries and regions, significantly expanding the global market reach of the products. Meanwhile, if Chinese innovative drug companies maintain good relations with the government, they can more easily obtain external resources in the process of internationalization. Through in-depth analysis of these phenomena, this paper enriches the connotation of the Resource-Based Theory in the context of enterprise internationalization. It provides a more comprehensive and profound theoretical interpretation for understanding how enterprises integrate different types of resources to achieve international development. During the internationalization process, enterprises should not merely focus on the single resources they possess. Instead, they should pay more attention to the dynamic transformation and synergistic effects among resources. By rationally allocating and integrating various resources, enterprises can build a strong competitive advantage and thus achieve success in the international market. This dissertation plays a significant role in promoting the further development and improvement of the Resource-Based Theory in the research field of enterprise internationalization. It offers a new theoretical framework and research ideas for subsequent related studies.

5.2. Managerial Implications – Providing a Strategic Toolkit for Chinese Pharmaceutical Enterprises' Internationalization

Based on the case studies of B enterprise and D enterprise, this study proposes a 3C

Strategic Toolkit for Chinese pharmaceutical firms seeking to internationalize, which is constructed around three core elements: Collaboration, Compliance and Capital, aiming to provide comprehensive and practical strategic guidance for the internationalization journey of Chinese pharmaceutical enterprises. “Compliance” dimension emphasizes that enterprises must strictly comply with international regulatory policies and industry standards. As a special commodity, pharmaceuticals are strictly regulated by countries. Enterprises need to conduct research and accurately grasp the regulatory requirements of the target market in aspects such as drug approval, registration, production norms, and intellectual property protection to ensure that every link of enterprise operation is legal and compliant, avoiding significant losses and reputational damage caused by non - compliant behaviors. “Collaboration” highlights the importance of diverse cooperation in the internationalization process of enterprises. Enterprises can actively launch joint research projects with international top - tier scientific research institutions and universities, sharing cutting - edge technologies and knowledge resources to accelerate the R & D process. They can also establish strategic partnerships with local powerful pharmaceutical companies or distributors, leveraging the mature sales networks and market channels of their partners to quickly penetrate the target market and achieve resource complementarity and synergistic development. In terms of “Capital”, the internationalization of Chinese pharmaceutical enterprises cannot do without strong financial support and efficient capital operation strategies. By applying the “3C Strategic Toolkit”, Chinese pharmaceutical enterprises can more scientifically and orderly plan and promote their internationalization strategies, effectively avoid potential risks, fully explore international market opportunities, steadily enhance their positions in the global pharmaceutical market competition, and achieve sustainable development.

5.2.1. Compliance-Driven Strategies

- **Dual Submission Teams:**

  The dissertation shows that there are the challenges of entering international markets. The familiarity with local regulations could be challenging. For example, if D enterprise were to enter the US market, the policy of

stakeholders would be very different from that of the Chinese market (Hanson, 2020). The drug pricing mechanism in the US is influenced by multiple factors, such as the scope of medical insurance coverage, the degree of market competition, and the intensity of government regulation, which is vastly different from China's price regulation system based on centralized procurement and medical insurance negotiation. Regarding patent protection policies, the US has unique and complex patent laws. From the patent application process to the definition of patent protection term and scope, there are distinct differences from China. To break through this constraint, enterprises should actively form dual - submission teams. These teams work closely together to prepare and submit application materials simultaneously in accordance with the regulatory requirements of different countries and regions. They are composed of personnel with diverse professional backgrounds and experiences, including legal experts in international regulatory policies, registration specialists familiar with the application processes of various countries, and R&D personnel who have a great understanding of product technical details. They collaborate closely and, in accordance with the regulatory requirements of different countries and regions, simultaneously prepare and submit application materials. When preparing application materials for the US market, the legal experts in the team will conduct in - depth research on the detailed regulations of the US FDA to ensure that the materials are impeccable in terms of legal compliance. Registration specialists will meticulously organize various documents in accordance with the format and requirements specified by the FDA to guarantee the smooth progress of the application process. Meanwhile, for other target markets, the team will follow a similar model of professional division of labor and collaboration, methodically preparing and submitting application materials that meet local regulatory requirements.

- **Policy Advocacy:**

  Chinese pharmaceutical enterprises should not merely be passive recipients of

policies but should actively engage in the discussions on policy - making. On the platform of the International Council for Harmonisation (ICH), enterprise representatives jointly explore topics such as industry standards and technical specifications with the world's top regulatory agencies and scientific research organizations. Chinese pharmaceutical enterprises have amassed rich and distinctive experiences in R&D and production practices. During the exploration of new drug targets and the development of new drug dosage forms, enterprises have a profound understanding of the difficulties, key points, and practical problems in drug R&D. In the production process, by continuously optimizing technological processes and enhancing the level of drug quality control, enterprises have mastered numerous practical production experiences. By sharing the experiences and insights of enterprises in R&D and production practices, enterprises can influence the evolution of policies in a direction more conducive to their own development. Meanwhile, during the communication and interaction with all parties, enterprises can also obtain the latest dynamics of policy adjustments in a timely manner, plan R&D projects in advance, optimize production processes, and calmly respond to the challenges brought about by regulatory changes. Regulatory agencies often disclose the directions and priorities of future policy adjustments on the ICH platform, and scientific research organizations also put forward suggestions for the optimization of industry policies based on cutting-edge research results. By closely monitoring such information, Chinese pharmaceutical enterprises can plan R&D projects in advance. If they learn that the approval of certain rare - disease drugs will be more lenient and receive more support in the future, enterprises can proactively initiate relevant R&D, concentrate resources to overcome technical challenges, and seize market opportunities. Drug quality standards, and other aspects in policies, enterprises can optimize production processes in advance, invest in equipment upgrades, and improve production technologies. Which ensures that they can quickly adapt after policy changes, calmly respond to the challenges brought about by regulatory

changes, and maintain their competitive edge in the international market.

5.2.2. Collaboration Networks

- **Licensing Agreements:**

  Under the licensing model, late-developing countries with weak R&D capabilities and little international experience can fill the technological gap through technology introduction, imitation and learning, make up for the lack of R&D investment, and achieve technological catch-up in a relatively short period of time. The enterprises typically face constraints in terms of their own R&D resources, lacking the financial and human capital necessary for in - depth exploration of new technologies. Through licensing agreements, they can directly access key technologies from international enterprises with advanced technological know - how, significantly shortening the protracted period required for independent R&D. Moreover, these enterprises can conduct analysis and imitation of the introduced technologies. During this process, they are able to cultivate their own technical talents and R&D teams, accumulating valuable R&D experience, which not only compensates for the scarcity of R&D investment but also enables enterprises to achieve technological catch - up within a relatively short period. For example, Hengrui Pharma's licensing deal with Treeline Biosciences provided upfront payments and milestone royalties, funding its domestic innovation efforts (Collabrium, 2023). According to the terms of the agreement, Hengrui Pharma is required to pay an upfront payment to Treeline Biosciences, which represents a direct investment in technology acquisition, ensuring the legal access to the technology. In addition, depending on subsequent R&D achievements and commercialization progress, Hengrui Pharma is also obligated to pay milestone royalties. This payment structure motivates Hengrui Pharma to fully promote the domestic transformation and innovative application of the introduced technology. After obtaining the technology license, Hengrui Pharma integrates it into its own R&D system. Leveraging the advantages of relatively low - cost R&D resources and a large pool of clinical research

samples in the domestic market, it optimizes and expands the introduced technology, applying it to domestic innovative drug R&D projects. The collaboration not only provides crucial technical support for Hengrui Pharma's domestic innovation efforts but also injects strong financial impetus into its R&D activities through capital investment. As a result, it propels Hengrui Pharma to continuously make new breakthroughs in the domestic innovative drug field, enhancing the enterprise's competitiveness in both the domestic and international markets.

- **Global R&D Alliances:**

  Going it alone makes it difficult to stand out in the highly competitive international pharmaceutical market. The IPM reveals that the key to a firm’s internationalization process lies in overcoming the Liability of Outsidership through strategic embedding in global networks, rather than merely following a path of gradual geographical expansion based on psychic distance. Internationalization does not stem from the gradual accumulation of market knowledge; instead, it begins with the identification of significant opportunities to acquire key strategic assets-such as R&D capabilities, regulatory knowledge, and high-end clients-by integrating into global innovation networks. Subsequently, firms make significant relational commitment decisions. The pace of a firm’s internationalization is directly linked to the depth of development of its network position. Global R&D alliances have become an important strategy for enterprises to acquire cutting - edge technologies and share R&D costs. By actively participating in the global R&D cooperation system, enterprises can collaborate with scientific research institutions and pharmaceutical companies from around the world. These partners each possess unique advantages. Scientific research institutions often have profound academic accumulations and advanced experimental equipment in basic research fields, providing leading theoretical support and technological exploration directions for R&D. Pharmaceutical companies from different countries may have amassed rich experiences in specific drug areas,

production processes, or market channels. By joining the global R&D cooperation system, enterprises can collaborate with scientific research institutions and pharmaceutical companies from all over the world. In the alliance, all parties share R&D resources, exchange innovative ideas, and jointly tackle technological challenges. Within global R&D alliances, all parties collaborate closely and fully share R&D resources. For instance, they share advanced laboratory facilities, valuable clinical data, and professional scientific research talents. Meanwhile, all parties actively engage in the exchange of innovative ideas. Team members from diverse cultural and professional backgrounds gather, and their minds collide to generate innovative sparks, offering multiple perspectives for solving complex technological problems. When faced with tough technological challenges, alliance members no longer fight alone but integrate their superior forces and jointly carry out joint research projects. B enterprise’s partnership with Novartis is a leading example (B enterprise Annual Report, 2021). The cooperation between the two is a powerful combination of strengths. Through resource sharing, B enterprise can leverage Novartis' global R&D facilities and advanced technology platforms to accelerate the progress of its own R&D projects. Novartis also benefits from B enterprise’s understanding of the Chinese market and patient groups, expanding its R&D layout in the Asian market.

- In terms of the exchange of innovative ideas, the two teams frequently hold seminars, sharing their experiences and insights in aspects such as drug R&D ideas, target selection, and clinical trial design, and jointly exploring new R&D paths. When tackling technological challenges in oncology drug R&D, the two sides jointly form a scientific research team, integrating the professional talents and technical advantages of both parties, and achieving significant breakthroughs at multiple key technical nodes. This cooperation not only enhances B enterprise's position in the international pharmaceutical field but also injects new vitality into Novartis' continuous innovation in the

global oncology drug market, fully demonstrating the immense advantages of global R&D alliances in promoting technological progress in the pharmaceutical industry and the development of enterprises.

- **Embedded Innovation:**

  Resources are not only the basis for the international expansion of enterprises, but also the inducement for the international expansion of enterprises. As a latecomer, China's innovative drug companies have been focusing not on using existing assets or resources, but on obtaining resources through international expansion, which can be successfully explored as long as appropriate complementary strategies and organizational forms are designed. However, it is not enough to rely solely on the enterprise's own resources to internationalize. The data findings show that Chinese innovative drug companies have received a large amount of financial support through financing, venture capital, listing, and the support of FDI. Many multinational pharmaceutical companies have reached strategic alliances with Chinese innovative drug companies through the establishment of strategic alliances, equity investment and the signing of strategic cooperation agreements, providing a large amount of financial support for the innovation and development of Chinese innovative drug companies, and alleviating the dilemma of insufficient funds for innovation and R&D of Chinese innovative drug companies to a certain extent. In addition, the construction of self-developed innovative technology platforms and systems requires Chinese innovative drug companies to prepare a large amount of R&D funds to provide financial support and guarantee for basic research on drug innovation and R&D. For example, D enterprise’s integration into AstraZeneca’s global R&D network enabled it to access proprietary target screening data and clinical trial resources, accelerating its innovation process (D enterprise, 2022).

- **Open Innovation Platforms:**

  Chinese innovative drug companies can establish a wide social network with the help of the open innovation platform, realize the integration and interaction

of global innovation resources, and improve their independent innovation capabilities (Luo and Tung, 2017). Due to the externalities of knowledge, R&D personnel can achieve a demonstration effect through close contact and cooperation with each other. On the one hand, Chinese innovative drug companies can learn explicit knowledge such as advanced management methods, R&D processing systems, and key technologies by embedding knowledge-intensive areas such as upstream and downstream industrial chains and industry-university-research networks, and on the other hand, they can obtain tacit knowledge that is difficult to concretize, such as R&D and management experience, through the establishment of a high degree of trust relationship within Chinese innovative drug enterprises. In addition, both parties involved in R&D cooperation in the innovative drug industry can strengthen the collision of ideas, use each other's R&D resources to achieve complementary advantages and disadvantages, and obtain synergies, so as to improve R&D efficiency. Firms like B enterprise collaborate with global partners to co-develop and co-commercialize products. For example, B enterprise's partnership with Novartis for the PD-1 antibody Tislelizumab provided access to Novartis's global distribution network and regulatory expertise, enhancing B enterprise's market reach (B enterprise Annual Report, 2021). It is worth noting that the internal knowledge level of Chinese innovative drug enterprises plays an important role in organizational identification and absorption learning, and the stronger the knowledge base within the enterprise, the stronger the ability to explore and identify external innovation sources (Cohen and Levinthal, 1989). When Chinese innovative drug companies have abundant resources and experience, they can quickly respond to changes in external technological opportunities and knowledge environment, and make correct judgments on the position and relationship of enterprises in the innovation network, so as to widely develop and effectively use the channels of knowledge exploration, screen and absorb valuable information resources. Through the accumulated professional knowledge,

Chinese innovative drug companies can further transform external knowledge and promote the generation of new ideas and technologies within the enterprise, and the internalized technical knowledge can directly affect the innovation performance of the organization.

5.2.3. Capital Recycling Mechanisms

- **Cross-Listings:**

  The construction of independent innovation and R&D capabilities of Chinese innovative drug companies is inseparable from a large amount of financial support. In order to achieve breakthrough technological innovation, Chinese innovative drug companies need to invest a large amount of R&D funds, and use the R&D funds for the development of drugs, medical equipment, medical raw materials, medical consumables and other sectors that require a lot of financial support. Taking the innovative drug R&D process as an example, during the initial basic research phase, companies need to invest significant funds in assembling professional research teams, purchasing advanced experimental equipment, and conducting various experimental studies to explore new drug targets with potential medicinal value. This process often takes several years and has a high degree of uncertainty in outcomes. When entering the clinical trial stage, the costs of Phase I, II, and III clinical trials increase exponentially. It involves recruiting a large number of subjects, strict trial monitoring, and complex data statistical analysis. Any shortage of funds in any link may lead to project stagnation. For Chinese innovative drug companies to achieve breakthrough technological innovation, they must conduct in - depth R&D in multiple sub - sectors that are highly dependent on funds, such as drugs, medical devices, medical raw materials, and medical consumables. In drug R&D, not only is it necessary to invest funds in the synthesis and screening of new drug molecules, but also to provide sufficient funds for subsequent clinical trials, drug registration, and other aspects. The R&D of medical devices requires substantial funds for technological breakthroughs, product design optimization, and production process improvement to meet the high - precision and high -

reliability requirements for clinical use. The R&D of medical raw materials and medical consumables also faces financial challenges, and it is necessary to ensure the quality stability of raw materials and the safety and effectiveness of consumables. Cross-listings enable companies to tap into the power of global capital markets, attracting funds from international investors extensively. These funds are continuously channeled into domestic R & D projects, supporting companies to conduct cutting - edge pharmaceutical research. By listing on multiple stock exchanges, companies can reach different geographical and risk - preference investor groups. For example, listing on the New York Stock Exchange can attract American and global institutional investors who focus on long-term investment returns and have a strong interest in cutting - edge technology fields. Listing on the Hong Kong Stock Exchange can attract investors in Asia, especially in the Greater China region, who have a high degree of attention and recognition of the development prospects of Chinese local innovative drug companies. The funds brought by these international investors are continuously channeled into domestic R&D projects, providing strong support for companies to carry out cutting - edge pharmaceutical research. B enterprise's "A+H+N" triple listing strategy enabled it to fund its global expansion (B enterprise, 2021). B enterprise raises funds through simultaneous listings on the Shanghai Stock Exchange (A-shares), the Hong Kong Stock Exchange, and the NASDAQ in the United States (N-shares). Listing on the A - share market allows it to leverage the support of the domestic capital market for local innovative enterprises and attract a large amount of capital from domestic investors, which plays an important role in promoting the company's domestic clinical trials, establishment of R&D centers, and other work. Listing on the Hong Kong Stock Exchange facilitates its connection with international capital and expansion into overseas markets, attracting the attention and capital investment of many international financial institutions and investors. Listing on NASDAQ further enhances B enterprise's global visibility and influence in the biopharmaceutical field, attracting the funds of top global investment

institutions and providing sufficient financial guarantees for its global clinical trials, cooperation with top international research institutions, and other activities. Relying on this triple-listing strategy, B enterprise has successfully raised a large amount of funds, enabling it to vigorously promote its global business expansion, including conducting clinical trials worldwide, establishing R&D and production bases, and engaging in international cooperation and mergers and acquisitions, gradually growing into a globally influential innovative drug company.

- **Joint-Venture:**
- Establishing a joint venture in collaboration with cross-border enterprises represents a mutually beneficial strategy for companies aiming to acquire both capital and professional expertise. Cross-border enterprises possess extensive experience in resource integration and operation across international markets, which brings numerous advantages to such collaborations. Enterprises typically boast substantial financial strength, having accumulated vast assets globally and with diverse and stable sources of funding, they are capable of providing ample initial capital and continuous financial support for the subsequent development of the joint venture. For some internationally renowned pharmaceutical companies, their annual revenues can reach billions of US dollars or even higher, and they have robust financial reserves. When forming a joint venture with domestic enterprises, they can swiftly inject a large amount of capital, which can be utilized for constructing new manufacturing plants, purchasing advanced equipment, and initiating large-scale R&D projects. This is often beyond the reach of many domestic enterprises relying solely on their own capabilities. The infusion of these funds lays a solid material foundation for the development of the joint venture, enabling the enterprise to start at a relatively high level and rapidly launch various business activities. In the realm of professional expertise, cross-border enterprises have unparalleled advantages. Through long-term competition in the international market, they have amassed rich industry experience. In the drug R&D process, after countless trials and explorations,

they have mastered sophisticated techniques and methods covering the entire complex process, from drug target screening and compound synthesis to clinical trial design and implementation. For instance, when conducting R&D for drugs targeting rare diseases, they can accurately identify potential therapeutic targets based on their accumulated experience over the years, significantly increasing the success rate of R&D. Moreover, cross-border enterprises also possess keen market insights. Through in-depth research and analysis of markets in different regions around the world, they are well-versed in the differences in consumer demand preferences, policy and regulatory environments, and market competition dynamics across various regions. Such market insights can assist the joint venture in accurately seizing market opportunities, promptly adjusting product strategies and market promotion plans, and ensuring that products can precisely meet the needs of the target market, thereby enabling the joint venture to stand out in the fierce market competition. In conclusion, establishing a joint venture with cross-border enterprises offers a rare opportunity for enterprises to obtain capital and professional expertise, and it serves as an effective approach to drive the rapid development and enhance the competitiveness of enterprises.

- **Product Innovation:**

  Biopharmaceuticals involve a variety of disciplines, such as biology, chemistry, medicine, engineering, etc. The development of biopharmaceuticals needs to be supported by solid basic research and applied basic research, which is of great significance for improving the quality of innovative pharmaceutical products. Basic research is the study of the principle, theory and methodology of exploring natural laws and phenomena, which is the source and driving force of scientific and technological innovation, and the basis for original scientific discoveries and breakthrough technological inventions. Applied basic research is oriented to solving practical problems and relying on basic research results and is research with application prospects. Chinese innovative drug companies need to increase support in

terms of strategic planning, R&D investment, and talent training, break through key core technologies, and improve innovation capabilities and industrial foundation capabilities. For example, D enterprise's emphasis on global innovation and best practices enabled it to gain recognition in developed markets.

- **Policy Understanding:**

  Chinese innovative drug companies should actively encourage employees to exchange and share experiences on a global scale, so as to stimulate their innovation potential and motivation. In different countries and regions, between different organizations and teams, through the establishment of a global innovation culture to share and exchange innovative ideas, methods, technologies and achievements, a cross-border and cultural differences of innovation cooperation and competition atmosphere and mechanism are formed. The establishment of a global innovation culture is conducive to promoting the flow and creation of knowledge, stimulating the motivation and potential of innovation, improving the efficiency and quality of innovation, and enhancing the influence and value of innovation. In order to build a successful global innovation culture, Chinese innovative drug companies must have an open mind and a global vision, respect different cultures and values, and integrate the different cultures of various countries into an organic whole. B enterprise's hiring of former FDA reviewers as advisors exemplifies this approach (B enterprise, 2021).

- **Partner Selection:**

  Chinese innovative drug companies need to actively participate in the global cooperation between industry, academia and research, and establish an effective collaboration mechanism to ensure the smooth progress and sustainable development of industry-university-research collaborative innovation. Through cooperation with academia and scientific research institutions, Chinese innovative drug companies can achieve collaborative innovation and resource sharing and knowledge sharing to improve the

efficiency and success rate of R&D and innovation. By integrating the advantages of industry, academia and scientific research, we can give full play to the synergistic effect and jointly achieve breakthrough technological innovation and reduce the risk and cost of innovation, so as to enhance the competitiveness and influence of enterprises. The industry, academia and research parties involved in industry-university-research cooperation carry out strategic cooperation in different ways and at different levels, so as to form different types of collaborative innovation networks. For example, D enterprise's collaboration with global investment banks facilitated its entry into developed markets.

6.Research limitation and future research direction

This dissertation makes significant contributions to the understanding of Chinese pharmaceutical firms' internationalization by extending traditional theories, revealing industry-specific resource mobilization mechanisms, and providing actionable strategies for practitioners. It expands traditional theories, reveals the resource mobilization mechanisms specific to the pharmaceutical industry, and offers practical strategies for practitioners. By delving deep into relevant theories, this study breaks through the limitations of traditional theoretical frameworks in explaining the internationalization of emerging - market enterprises. It innovatively integrates the dynamic capabilities theory, institutional theory, and resource - based theory, providing a novel perspective for analyzing the development of Chinese pharmaceutical enterprises on the global stage. The research findings clearly highlight the crucial importance of dynamic capabilities, institutional interactions, and strategic resource utilization in achieving global competitiveness. Dynamic capabilities enable enterprises to keenly perceive the dynamic changes in the international market, rapidly integrate and restructure internal and external resources, and adapt to the changing competitive environment. Institutional interactions emphasize the mutual influence between enterprises and the institutional environments at home and abroad, enabling enterprises to rationally utilize institutional rules and policy support to reduce institutional risks

during the internationalization process. Strategic resource utilization focuses on how enterprises accurately identify, acquire, and efficiently utilize key resources to build unique competitive advantages.

When exploring the internationalization process of Chinese innovative pharmaceutical enterprises, this dissertation mainly investigates why they choose developed markets as the first - batch destinations for internationalization and how they mobilize resources during this process. Developed markets possess mature medical systems, large consumer groups, and advanced technologies and regulatory standards, which hold great attraction for Chinese innovative pharmaceutical enterprises eager to enhance their brand image, acquire cutting - edge technologies, and gain market recognition. Through a combination of case analysis and questionnaire surveys, this research deeply analyzes the strategic decision - making processes and resource mobilization strategies of enterprises in the initial stage of internationalization. The collected data are processed using thematic analysis to extract key information and core themes. Although some valuable results have been obtained, laying a certain foundation for subsequent research, several limitations have also emerged during the research process.

In terms of sample selection, the dissertation selects only two enterprises for case analysis, which makes it difficult to fully demonstrate the diverse models and complex situations of Chinese pharmaceutical enterprises on the internationalization path. Enterprises of different sizes, at different development stages, and with different technological advantages have their own characteristics in the internationalization path, limited cases fail to comprehensively summarize these differences, which affects the credibility of the research results. There is a large number of Chinese pharmaceutical enterprises, and enterprises of different sizes vary significantly in resource allocation, market expansion capabilities, and strategic planning. Small - scale enterprises may rely more on flexible innovation strategies and localized resources, while large - scale enterprises have stronger financial strength and global layout capabilities. Enterprises at different development stages also have different internationalization goals and paths. Starting-up enterprises may focus on technology licensing and R&D cooperation to accumulate experience and resources, while mature enterprises tend to engage in large

- scale overseas mergers and acquisitions and direct market entry. Enterprises with different technological advantages also adopt different strategies in the internationalization process. For example, enterprises with leading technologies in the biopharmaceutical field may focus more on cooperation with top international research institutions to promote further technological innovation and application, while enterprises with advantages in traditional chemical pharmaceuticals may focus more on optimizing production processes and reducing costs to expand into international markets. Due to the limited number of only two case enterprises, it is impossible to comprehensively summarize these differences, which greatly affects the credibility of the research results. The future research can focus on the research questions, such as what are the systematic differences in the internationalization strategic decision-making mechanisms and resource allocation patterns among Chinese pharmaceutical enterprises of different scales, different technological routes, and at different internationalization stages? What are the impact paths and functional boundaries of different internationalization models on the technological innovation capabilities of Chinese pharmaceutical enterprises? Under which mode are enterprises more likely to achieve sustainable development? What kind of action mechanisms do different types of resources play in the internationalization of emerging market enterprises?

In addition, the questionnaire survey only interviews seven enterprise managers, which is likely to lead to deviations in the research conclusions and fails to accurately reflect the actual cognition and practice of the entire industry. Employees in different departments and at different levels within an enterprise have different perspectives on the enterprise's internationalization due to their different positions and responsibilities. Senior managers focus on strategic planning and decision-making, middle level managers are more concerned with coordination and resource allocation at the execution level, and front-line employees are directly involved in daily business operations and have a more intuitive sense of the problems and challenges in actual work. Interviewing only a few managers cannot comprehensively cover these diverse perspectives, making it difficult for the research conclusions to represent the true situation of the entire industry. Besides, the interaction of external environmental

factors such as international relations, policy changes, and cultural differences in the internationalization process of enterprises has not been studied thoroughly enough. Therefore, it is difficult to comprehensively analyze the challenges and opportunities faced by innovative pharmaceutical enterprises in the internationalization process. Tensions or relaxations in international relations may directly affect the investment environment and market access of enterprises in overseas markets. Policy changes, such as adjustments in drug approval policies and tax policies, can have a significant impact on the R&D, production, and sales of enterprises. Cultural differences pose many challenges in aspects such as product promotion, brand building, and enterprise management. Due to the lack of overall analysis of the interactions of these external factors, it is difficult to comprehensively analyze the challenges and opportunities faced by innovative pharmaceutical enterprises in the internationalization process. Therefore, Future research can follow the perspectives, for example, how do the changes in international relations affect the choice of internationalization paths for Chinese innovative pharmaceutical enterprises? What impacts do different cultural adaptation strategies have on the overseas commercialization of innovative drugs?In the Chinese context, the nation has achieved remarkable and rapid advancements in technology and pharmaceuticals, positioning its biopharmaceutical industry beyond the “traditional developing country” level and into a transitional state between “developing” and “developed”. The sector is characterized by a dual reality of breakthroughs in specific segments alongside ongoing catch-up efforts at the systemic level. For instance, in innovative drug R&D, China has developed 1,775 First-in-class drugs, accounting for 19% of the global pipeline, and presented 20% of all studies at the 2025 ASCO conference-including 11 Late-Breaking Abstract (LBA) studies that underscore its advancing capabilities in oncology and other specialized fields. However, this progress coexists with significant structural challenges. The FDA approval rate for Chinese innovative drugs remains only 1.7%, and clinical conversion efficiency stands at 12%, still notably below the 14.3% average of international competitors (frostchina, 2024). These gaps reflect persistent weaknesses in end-to-end capabilities from laboratory innovation to commercial maturation. The duality segment-specific leadership coupled

with systemic fragilities illustrates what may be termed China's "atypical developing economy" status within the global value chain. While the country has leveraged industrial clusters to achieve overtaking in certain niches, it continues to face deficits in foundational competencies such as clinical trial design rigor and regulatory adaptability. Moving forward, closing these gaps will require sustained global collaboration and indigenous innovation across the entire R&D value chain. Thus, future research should focus on examining how such a hybrid and transitional positioning challenges and refine existing theories of internationalization, innovation diffusion, and capability upgrading in global industries.

What's more, to further improve the research in this field, it is recommended to expand the sample selection scope, select a number of innovative pharmaceutical enterprises of different sizes, from different regions, and at different development stages for comparative research. Enterprises in different regions are affected by local industrial policies, resource endowments, and market demands, and will show different development paths in the internationalization process. For example, enterprises in coastal areas may have earlier access to international markets due to their geographical advantages and be more open and innovative in the internationalization process, while enterprises in inland areas may have unique advantages in internationalizing by utilizing local characteristic resources. Through the study of enterprises in multiple regions, a more comprehensive understanding of the regional differences and common characteristics of the internationalization of Chinese pharmaceutical enterprises can be achieved. Secondly, increasing the sample size of the questionnaire survey is an effective way. The questionnaire ought to cover the staff of different departments and levels of the enterprise to obtain a more comprehensive understanding of the industry. Specially, future research directions should consider the impact of external factors in various aspects such as politics, economy, and culture on the internationalization of innovative pharmaceutical enterprises, construct a more complete theoretical system, and continuously track the long term dynamic development of enterprise internationalization, research their strategic adjustments at different stages, and provide

more practical suggestions for the internationalization of Chinese pharmaceutical enterprises. There is a need to deeply analyze how the stability of political situations, the continuity of policies, and changes in international relations in different countries affect enterprises' investment decisions, market access, and operational management in local areas. For example, political unrest in some countries may lead to frequent policy changes and increase investment risks for enterprises, while good international relations may create more favorable market access conditions for enterprises. Besides, it is necessary to explore the mechanisms by which factors such as fluctuations in the global economic situation, exchange rate changes, and the local economic development level affect enterprises' cost control, market demand, and profitability. Economic recessions may lead to a decline in market demand, and exchange rate fluctuations can affect the import and export costs of enterprises and the value of their overseas assets. What’s more, what is of necessity is to study how differences in cultural values, consumption habits, and business cultures in different countries and regions affect enterprises' product positioning, brand building, and marketing strategies. Such as in some countries that attach importance to traditional medical cultures, enterprises may need to conduct publicity in combination with local cultural characteristics when promoting innovative drugs, while in regions where the business culture values efficiency and innovation, enterprises' ability to make quick decisions and innovate may be more favored.

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Appendices

Appendix 1. Interview guide

Questionnaire

Institutions: _____

Interviewee (Title and Name): _____ ___

Interviewer: _____

Expanding the international market helps Chinese pharmaceutical companies increase product added value, achieve economies of scale, and maximize profits. After reviewing relevant literature, it was found that new theories are needed to supplement the internationalization behavior of developing countries. My dissertation chooses the internationalization of Chinese innovative pharmaceutical enterprises to analyze their location selection and resource utilization during the internationalization process. In the process of studying the internationalization of Chinese pharmaceutical enterprises, it is necessary to analyze specific cases to obtain sufficient first-hand data. The purpose of this survey questionnaire is to interview relevant information about your company's internationalization process. The questionnaire consists of a total of 22 questions, each lasting about 3 minutes, and the total interview process lasts about one and a half hours. In order to better collect data, this interview will be recorded, but everyone's personal information will be anonymous. Before the interview begins, all participants will sign a consent, and your responses will be of great help to my research.

A. Interviewee Background

How long have you been in your present position?

Interesting background information on interviewee:

What is your highest degree? _____

What is your role and responsibility in this company? _

B. Motivation of internationalization

Q1: Does the enterprise have the intention of internationalization or has entered the stage of internationalization? What stage of development is the enterprise currently at?

Probes: Why have the company internationalized? Why did your company consider to be internationalized? Is the enterprise currently ready or has it started internationalization? What is your current attitude towards the internationalization development of the enterprise?

Q2: If the enterprise has been internationalized, what is the proportion of sales revenue in the overseas market of the enterprise?

Probes: What is the current status of the company's overseas operations?

Q3: What are the motivations for your enterprise's internationalization?

Probes: What does your company develop into overseas markets for?

Q4: As a pharmaceutical enterprise, what are the goals and strategic consideration of enterprise internationalization?

Probes: What are the factors that affect the internationalization of enterprises? What will the enterprise achieve in the future?

C. International location selection

Q5: What kind of drugs does your company mainly deal in? Generic drug or innovative drug? Why?

Probes: What are the main products of the enterprise? Is there a product line that differs from competitors?

Q6: What difficulties do you think companies are currently facing in the development of China's pharmaceutical industry?

Probes: What hinders the internationalization development of Chinese pharmaceutical enterprises? Lack of funding, lack of policy support, technical disadvantage

Q7: where were first batch international host countries for your company? Developing market or developed market? Why?

Probes: Which locations did your company choose to explore overseas markets? Which

areas were more conducive to the development of pharmaceutical enterprises?

Q8: What are the main forms of your company's current overseas business? Why?

Probes: What are the current ways for enterprises to develop in overseas markets?

Q9: What opportunities did your pharmaceutical enterprise face when entering the international market (developed market)? Any example?

Probes: What factors are conducive to the internationalization of your enterprise?

Policy, business operation status

Q10: What challenges did your pharmaceutical enterprise face when entering the international market (developed market)? Any example?

Probes: What factors hindered the internationalization of your enterprise?

Funding, technical limitations, talent

D. Internationalized resource sources.

Q11: Under what circumstances did your enterprise decide to internationalize? Before or after gaining profits in the Chinese market?

Q12: What resources did your pharmaceutical enterprise need for internationalization? What have been met and what are still limited?

Probes: What factors are needed to support the internationalization of your enterprise? Have these conditions been met by the enterprise at present? How did your company get these resources? Any example?

Q14: Did the government offer any support to your company? What? How did you get this support from the government?

Probes: What role does the government play in the internationalization of enterprises? What assistance can be provided?

Q15: In your opinion, what aspects did institutions provide support for the internationalization of your pharmaceutical enterprise? Any other institutions you would expect to gain support from?

Probes: What support does your company currently need from the government to expand into the international market?

Q16: What is the main capital source of the enterprise to internalize?

Probes: Where did the enterprise obtain funds?

Operating profit, borrowing, government loans, investments

Q17：From the current internal environment of the enterprise, in what aspects does your enterprise have resource advantages? What are the opportunities and threats faced?

Probes: What resources are currently sufficient for the enterprise?

Funding, technology.

In what areas are there shortcomings?

E. Internationalization competitive landscape

Q18: What is the external competitive environment currently facing the enterprise in terms of internationalization?

Probes: Is there fierce competition in the external environment?

Q19: Who do you think are the current competitors of your company? In what aspects is your company competitive compared to them?

Probes: Which pharmaceutical companies in the industry have brought competitive pressure to your business?

Q20: What resources do your competitors mobilize during internalization?

Probes: What resources are commonly used by other pharmaceutical companies to explore overseas markets?

Q21: What is the internationalization mode of your competitors? What's the rationale if your enterprise adopts the same/different mode?

Probes: Do you understand how competitors enter the international market? Can your company also choose these methods?

Q22: What are the areas for improvement for internationalization comparing to your competitors?

Probes: What experiences can the internationalization of other pharmaceutical companies bring to your business development?

Thank you very much for your answers. The information you provided will be of great help to this study. The collected information will only be used for this study, and in approximately one month, participants will have the right to review the organized

interview information in advance. After the data is organized, the recorded content will be destroyed, and relevant paper materials will also be processed, it is necessary to protect everyone's privacy.

Appendix 2. Interview extract

Interview extract	Code
B enterprise ● The company has entered internalization stage and being one of the most leading progresses among Chinese biotech. (B2) ● Yes, B enterprise has entered the stage of internationalization and has 10K+ colleagues in over 40 offices on five continents. (B4) D enterprise ● We have entered the stage of internalization in terms of drug development. (D3) ● Yes, to go global is one of the key company strategies of D enterprise. (D4) ● Currently, the internationalization is still in the development phase. (D7)	strong motivation for internationalization
B enterprise ● Approximately 50% of total B enterprise revenue is from oversea market currently. (B1) ● 35%-40% of revenue from overseas and the proportion is increasing. (B2) ● The expansion of B enterprise's global activities is strong. (B4)	High revenue from foreign markets
D enterprise ● Current we do not have overseas operation, to my knowledge. (D1) ● Overseas markets have not contributed revenue to D enterprise sales yet. (D3)	Get no revenue from foreign markets

● The expected approval will be in next year, thus currently no sales force in the oversea market. (D6)	
B enterprise ● To grow its market share, B enterprise made the strategic decision to enter foreign markets. (B3) ● Market share, Overseas funds, R&D cooperation. (B4) D enterprise ● Meanwhile we need proceeds from bigger market to sustain our RnD investment for future pipelines. (D1) ● Firstly, we aim to further increase the sales of our products by tapping into overseas markets. (D4) ● From my point, the main reason is oversea funds, and then market share. (D5)	Increasing market share
B enterprise ● The internationalization of the company is aimed at making profits as soon as possible. (B5) D enterprise ● The motivations for our enterprise's internationalization are diverse and multi-faceted. Firstly, we aim to further increase the sales of our products by tapping into overseas markets. By expanding our presence globally, we can reach a wider customer base and ultimately drive revenue growth. (D4)	Growing profit
B enterprise ● Strategic considerations include 1. Pursue better financial return; 2. Ensure equality of access to medicine. (B2) ● Most important factor is if the company can continuously self-develop or license-in global blockbuster with global right. (B6)	Goals and strategic consideration

● Key factors including clinical operations, supply chain, local commercialization, local hiring. (B7) D enterprise ● In long run, be recognized and respected as a Truly Innovative Chinese Biopharma MNC (D1) ● In the long-term, internationalization not only strengthens the products' competitiveness, but also expand their market opportunities to maximum the products' market potential. (D4) ● For me, a meaningful clinical benefit will be most important consideration. (D6)	
B enterprise ● There are many factors that affect the internationalization of enterprises, including not only R&D capabilities, but also commercialization capabilities, production capabilities, etc.(B6) D enterprise ● Secondly, we seek to collaborate with partners in overseas markets to jointly conduct new clinical trials and expand the indications for our products. (D4)	R&D cooperation
B enterprise ● But as a medical company, especially a famous family company like Baekje that has gone out from China, scientists must have gained a lot of experience. I hope there are good medicines in China that can benefit the world. (B3) D enterprise ● Thirdly, one of our company's core values is global innovation. We firmly adhere to this value and believe that internationalization is crucial to achieving our vision of being a leading player in the global healthcare industry. By entering overseas markets, we can stay abreast of the latest trends, technologies, and	Technology

best practices, enabling us to continuously innovate and improve our products and services. (D4)	
B enterprise ● We are in lack of funding due to so called “capital winter” and comparatively lower affordability of innovative drugs in Chinese market. (B1) D enterprise ● Especially when the company targets innovative drugs, the risk will be extremely high. However, most of Chinese biotech rely on the first launch product too much, which means they cannot afford the failure. (D5)	Low margin
B enterprise ● The current challenge in China industry we are facing is lack of funding and too competitive. (B3) D enterprise ● Funding might be a big issue, because internationalization development might cost unexpectedly high, especially when the company itself have has limited experience with international study operation and mainly relies highly on oversea third parties. (D6)	Lack of funding
B enterprise ● we chose to pursue overseas authorization in the US market currently considering the geopolitical risks and lack of funding. (B2) ● In the current early stage of our company's overseas expansion, the primary form of our overseas business is overseas authorization. (B7) D enterprise ● For clinical trial operation, D enterprise cooperates with overseas CROs; for commercialization, D enterprise is seeking a business partner to license out the commercial rights in ex-China regions. (D4)	Easiness of direct sales in oversea markets

B enterprise ● Opportunities: competitive prices however similar or even better efficacy. (B1) D enterprise ● Developed markets are usually innovation friendly and enjoy high level of affordability. (D2) ● we faced two key opportunities: (1) High Acceptance and Openness to Innovative Drugs; (2) International Recognition through Conferences(D5)	Competitive benefits
B enterprise ● US market is usually the first market to tap upon(B2) ● The first branch of B enterprise is in the US(B3) ● For B enterprise, the United States and Australia are the first batch to explore foreign markets(B6) ● Developed markets though it depends on regulatory progress which is not totally under self-control(B7) D enterprise ● For our company, the first batch of international host countries were primarily developed markets, particularly the United States and Europe. (D1) ● US is the first batch of countries we are targeting. (D3) ● Developed market, such as US & EU(D7)	developed markets as locations
B enterprise ● Certain countries provide advantageous policies and regulatory frameworks(B5) D enterprise ● 1) Regulatory Standards and Market Access: Developed markets like the US and Europe have established and rigorous regulatory frameworks for pharmaceutical products. Securing approval in these markets is a strong indicator of the safety, efficacy, and quality of our drugs, which can then facilitate market entry in other countries. (D4)	Advantageous policies in international markets

B enterprise ● After gaining profits in the Chinese market. (B1) ● B enterprise originated in China and went global after achieving certain success in the Chinese market. (B4) ● I think the sweet spot for a China originated company to enter US market is when its product has achieved Proof-of-Concept clinically in China. (B6)	enter the international market after making profits in China
D enterprise ● D enterprise decided to go global from the day it was born. Before gaining profits in the Chinese market. (D2) ● From very beginning when setting up the product development plan without gaining profits in China market. (D3) ● Our company decided to internationalize from the very inception of our company. (D7)	Enter the international market before making profits in China
B enterprise ● Ability to navigate through local regulatory system, ability to mobilize clinical development resources and execute clinical trials, efficiency in execution. (B2) ● R&D - very limited, there are a lot of pipelines but so far very few successful examples. (B5) ● sufficient fund; professional and supportive board of directors(B7) D enterprise ● If D enterprise is to set up a new team overseas, a big funding is needed. (D1) ● For the internationalization of our pharmaceutical enterprise, we identified several crucial resources. Firstly, funding has been a significant factor. Secondly, policy support and government assistance have been crucial in navigating regulatory requirements and accessing foreign markets. (D4) ● 1. Enough budget 2. Experienced team located outside	knowledge-based resources and funding

of China who are proficient in international policy and local practice. (D5)	
B enterprise ● Local government can provide special rewarding designations for companies who successfully launch products in oversea markets(B1) ● The implementation of laws that promote pharmaceutical innovation and worldwide trade can aid governments in facilitating international expansion. (B3) ● Creating a business environment suitable for international trade(B7) D enterprise ● The Chinese government has top level design of introducing policies to support innovative drugs from development to market access and funding. (D2) ● Yes, found and good policy is provided by governance. (D3) ● Collaboration with local government for pipeline development, which means not only direct investment, but also preferences at policy level, and also help to ensure a stable development environment for the company in many aspects(D6)	Government support
B enterprise ● Sufficient patent protection system is a necessity for successful expansion into ex-China markets. (B3) ● Institutions can help protect intellectual property rights and patents globally(B5) ● The country should introduce corresponding tax exemption/reduction policies and policies that are conducive to BIOTECH financing(B7) D enterprise ● Sufficient patent protection system is a necessity for	Other institutions support

successful expansion into ex-China markets. (D3) ● Currently, regulatory agencies have provided guidance on navigating foreign regulatory frameworks and achieving compliance in international markets. (D6) ● I think the investment companies can support the fundings related to internationalization. (D7)	
B enterprise ● For B enterprise, capital source is mainly from investments. (B1) ● B enterprise mainly depends on investor support(B2) ● B enterprise's current funds are mainly focused on investment and financing, followed by milestone payments for some products in cooperation with other companies. (B4) ● investment of the company's own balance sheet cash(B6) D enterprise ● I think the investment companies can support the fundings related to internationalization. (D2) ● Mainly from investments, borrowing and product selling. (D5) ● As a biotechnology company, our primary capital source for internalization remains investment from investors. (D6)	Investment as main capital source
B enterprise ● Local American or European pharmaceutical companies will see B enterprise as a potential competitor and will use all their resource to stop its medicine from going to market or being approve. (B2) ● Competition is fierce as always, no exception in biotech business. (B4) ● I think the competition is very fierce. Many of our competitors are also in the process of	Fiercely competitive environment

internationalization. (B5) ● Taking Bazaar as an example, as a PD-1 drug, Bazaar faces fierce competition in both the Chinese and international markets(B6) ● AstraZeneca, AbbVie, Johnson & Johnson, and Merck are important international rivals and leaders in the immuno-oncology space. Jiangsu Hengrui and other Chinese biotech firms compete with B enterprise as well, particularly in the PD-1 inhibitor sector. (B7) D enterprise ● US pharma market is most competitive market in the world. (D2) ● Local product which coming from big pharma is a strong competitor for us. They have better foundation and awareness globally. (D4) ● Yes, of course, there is fierce competition in the external environment. (D6)	
B enterprise ● Chinese companies often leverage external partnership to navigate through international competition. (B3) ● AZ or AbbVie is a long-established company, and enjoys strong political backing in the US, as well as a good rapport with doctors. (B6) ● Based on their exploration of international market resources, license-in business model and short-cut to some faster progress in R&D are very advantageous. (B7) D enterprise ● Financial institutions to help broke partnering deals(D1) ● Johnson & Johnson mobilized various resources during internationalization, including financial capital for investments, human capital through hiring local talents, technological expertise for manufacturing and research,	leveraging R&D resources and policy support

distribution networks for reaching global markets, and strategic partnerships with local companies or governments to navigate regulatory frameworks with cultural differences. (D3) ● Partnerships and Collaborations, Finance and Investment, Research and Market Intelligence, Regulatory Affairs and Compliance(D5)	
B enterprise ● Mostly only two methods - self-development or R&D.(B1) ● A lot of other companies will go for foreign licensing because the biotech investment market is really poor now. (B4) ● 1)direct sales in major markets; 2) out-licensing commercialization rights to qualified partners; 3) deploy distributors for promotion and distribution activities. (B6) D enterprise ● Competitors often enter the international market through various strategies, including licensing. One common approach is through "license-in" and "license-out" agreements. (D3) ● Take B enterprise as an example. They set up teams in parallel in US and China from very beginning, so they have both teams who are proficient in the two important regions. I believe this is one of the success factors. (D4) ● There are many different kinds of internationalization mode taken by local companies. Oversea authorization seems to be a trend. (D7)	Accessing to commercial rights and distribution networks
● B enterprise ● Successful internationalisation requires the ability to navigate global regulations. (B4) ● B enterprise relies solely on its own R&D strength and	Improvement

cash flow support accumulated from successful domestic commercialization for commercialization. (B6) D enterprise ● For example, one competitor stated that it became profitable the second year after its product launch thanks to a big deal of initial and milestone payment from its overseas BD partner Summit’ (D4) ● One point is each region is specific though we share same policy global wide, local expertise could bring better delivery or maybe different delivery. (D5)	