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Dynamic Capabilities and Performance Improvement of Private Hospitals in China on the Basis of Resource-Based Theory: A Case Study of Foshan Chancheng Central Hospital (FCCH)

Zhou Jianze

Doctor of Management

Supervisors:
PhD Sandro Mendonca, Professor,
ISCTE University Institute of Lisbon

September, 2021

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iscte INSTITUTO UNIVERSITÁRIO DE LISBOA	**Dynamic Capabilities and Performance Improvement of Private Hospitals in China on the Basis of Resource-Based Theory: A Case Study of Foshan Chancheng Central Hospital (FCCH)**	Zhou Jianze

Declaration

I declare that this thesis does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university and that to the best of my knowledge it does not contain any material previously published or written by another person except where due reference is made in the text.

Signed: 周建泽 Date: 9th. October, 2021

Name: Zhou Jianze

作者申明

本人郑重申明：除了论文致谢中明确说明并致以谢意的部分外，所呈交的论文不包含任何他人或作者本人已用于获得任何教育机构的学位和证书而使用过的材料。同时尽我所知，除了文中特别加以标注引用的内容外，本论文不包含任何其他个人或集体已经发表或撰写的成果作品。

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Abstract

Based on the resource-based view, and by applying a dynamic capabilities theory, this thesis explains and illustrates how enterprises adapt to the changing environments, identify and discover opportunities and threats. The effective coordination and integration of internal and external resources enable enterprises to form a long-lasting and rapid resource model that can make enterprises to be adaptive to the changes in external environment, create more value with resources, and thus bring unique dynamic capabilities to enterprises to have sustainable competitive advantages. Dynamic capabilities can transform the old knowledge of enterprises to new knowledge or create new knowledge adapted to the new environment within the enterprise, thus changing the original capability structure of the enterprise and making the enterprise step forward. Dynamic capabilities are effective means for enterprises to obtain sustainable competitive advantage, which can only be obtained by the possession of dynamic capabilities. Taking the reform, development, strategy implementation and resource integration practice of Foshan Chancheng Hospital as an example, the research has important enlightenment significance for Chinese private hospitals to explore effective integration of internal and external resources and how to build their dynamic capabilities to improve competitive advantages and obtain good performance.

Keywords: competitive advantage; enterprise resources; dynamic capability; performance

JEL: D2; O3

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Resumo

Com base numa visão baseada em recursos, na teoria das capacidades dinâmicas, esta Tese pretende mostrar como as empresas se adaptam a ambientes em mudança, identificando oportunidades e ameaças no ambiente e reconstroem recursos internos e externos. A coordenação e integração eficazes de recursos internos e externos permitem que as empresas formem uma configuração de recursos rápida e duradoura que pode fazer com que as empresas se adaptem às mudanças no ambiente externo, criem mais valor com os recursos e, assim, tragam capacidades dinâmicas exclusivas dando aso a vantagens competitivas sustentáveis. Capacidades dinâmicas podem transformar o conhecimento antigo das empresas em novo conhecimento ou criar novos conhecimentos adaptados ao novo ambiente dentro da empresa, mudando assim a estrutura de capacidade original da empresa e fazendo a empresa dar um passo à frente. Capacidades dinâmicas são meios eficazes para as empresas obterem vantagem competitiva sustentável, que só pode ser obtida pela posse de capacidades dinâmicas. Tomando o desenvolvimento, a implementação da estratégia e a prática de integração de recursos do Hospital Foshan Chancheng como exemplo, a Tese discute ainda as formas fundamentais para os hospitais privados chineses integrarem efetivamente recursos internos e externos, construindo assim capacidades dinâmicas para sustentar vantagens competitivas.

Palavras-chave: recursos; vantagens competitivas ; capacidades dinâmicas ; desempenho
JEL: D2; O3

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摘　要

本文以资源基础观为研究基础，应用动态能力理论对企业如何适应变化的环境、识别与发现环境中的机会与威胁，以及重构内外部的资源这一现象进行解释和说明。企业内部和外部资源的有效协调和整合，使企业形成一种持久的、迅速适应外部环境变化的资源模式，并使资源创造更多的价值，为企业发展带来持续竞争优势的独特的动态能力。动态能力是企业获得持续竞争优势的一种有效手段，企业要想获得持续竞争优势就必须具备动态能力。以佛山禅城医院的改革发展、战略实施和资源整合为案例，对中国民营医院探索有效整合内外部资源，如何构建其动态能力提升竞争优势获取良好绩效的具有重要启示意义。

关键词:竞争优势；企业资源；动态能力；绩效

JEL: D2; O3

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My study for Ph.D. is coming to an end, and all the motivations and touches I have received during this period will continue to accompany me. Thanks to all the experts and professors who have taken the time to review the thesis and participate in the defence!

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从论文选题和构思，到课题的研究方法、参考文献查阅，到中期报告，直到最后的成文定稿，导师审核，每一步都倾注了老师大量的心血和汗水，对我细致耐心的帮助。Sandro老师不仅向我传授知识，还多次提醒我写作中注意的问题，掌握好论文进度，而且让我学会了分析问题和掌握解决问题的方法。他是一位知识渊博、阅历丰富，严谨又耐心的好教导，对我产生了很大的影响，使我受益良多并在今后工作中学以致用。在此，再次向Sandro致以崇高的敬意和诚挚的感谢！

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Chapter 1: Introduction

1.1 Theoretical significance

Over the past two decades, China has been developing rapidly, during which the key supporting factor is that the significant growth of many powerful large enterprises has given rise to the emergence of enterprises in many industries. Private hospitals are also part of them. However, the rapid development of many enterprises is attributed to good opportunities in China and the monopoly of industrial resources, those enterprises did not form their own competitive advantages of core competence. From the perspective of the long history of enterprise development, it is difficult for most enterprises to achieve their ideal performance. If enterprises are not capable in maintaining sustainable business operation, results will appear very soon, no matter if it is a success or failure. And some enterprises that were once huge successes in China's capital market quit the business arena early. Especially after the outbreak of the COVID-19 in 2020, some foreign enterprises that had been competing in the market for more than a century were hit critically and finally went bankrupt. Other enterprises survived, achieved good performance, and created great social value. Do these enterprises have some certain elements of success that are not possessed by those short-lived ones?

More Chinese executives have realized that if they want their enterprises to be bigger and more competitive in the complex and changing environment, enterprises need to integrate all resources, coordinate with different economic stakeholders through balancing resources, implementing strategies and coordinating interests, further utilize strategic structure to allocate and optimize enterprise resources, maintain and enhance their dynamic capabilities, and then improve the sustainable development of enterprises (Liu, 2010). Enterprises better allocate their resources and gain profits in the market thus to keep their advantages. However, enterprises can never have unlimited resources, and have to meet unlimited demands with limited resources. Consequently, it is vital to decide priorities. For enterprises, it is most effective to allocate these limited resources to the key factors that can bring benefits and positive influence, which is also the direction and inevitable requirement of enterprise management and development.

It is an urgent concern among scholars and practitioners that how Chinese enterprises

adapt to the dynamically changing environment through resource allocation and integration, and innovative management reform. The thesis takes Central Hospital of Chancheng District in Foshan City in China (hereinafter referred to as "FCCH" in short) as an example, and analyses in detail the dilemma, competition and challenges faced by China's private medical industry, and its future development through the process. The thesis, from the perspective of resources, reveals the rationality of applying dynamic capabilities theory to study Chinese enterprises' adaptation (Jiao, 2010) to changes in the dynamic and complex environment with the objective of maintaining fast growth of enterprises.

1.1.1 Transitional China enterprises required to be equipped with dynamic capabilities

The complex and rapid changing internal environment of China and economic globalization make domestic enterprises easily lose their existing competitive advantages, and new competitive approaches and strategies are needed to shape new advantages. China's technological advancement and economic globalization have provided more drivers for competition, and the original competition framework has been broken, which leads to many changes in the competition rules of many industries.

First, the advantages established by enterprises in the prior stable environment are eroded. By setting certain barriers to limit the erosion of one's existing competitive advantages brought by other enterprises, enterprises can form sustainable competitive advantages and obtain excess profits in the long-run. However, after the stable environment is gradually transformed into a turbulent and complex one with drastic changes, enterprises no longer have their previous imitation obstacles and are no longer competitive in the market, due to the time limitation of legal protection procedures, the change of government policies, the imitation and development of market channels, the weakening of the effect of economies of scale, and the elimination of intangible obstacles (Jiao, 2007).

Second, the advantages of Chinese market first-movers are also eroded. Enterprises entering the market earlier are able to get more obvious first-mover advantages than those late-comers, including technology patents, geographical advantages, strong brands and close cooperation with customers and suppliers. Yet, being pioneers in a certain time period does not mean it can last forever. In most industries, technology expansion runs fast, and the technology diffusion among enterprises weakens the comparative competitive advantages obtained by the first-movers from learning curve and scale effect. Because the consumer preference curve is constantly changing, brand loyalty will be reduced or broken, product conversion costs can be effectively avoided, and innovation can move fast in the market due

to major changes in game rules and industrial policies (Jiang, 2002). With the rapid imitation, follow-up and development of the market late-comers, first-movers' competitive advantages will be eroded one by one, ending with no effectiveness and function.

Third, the needs come from China's rapid economic development and cultural background. China is in the process of economic transformation and market opening, and the influence of policies leads to great varieties among different industries. When policies change greatly, industrial opportunities emerge, and strategic management based on competitive advantage analysis can be very instrumental. Due to the rapid development of China's domestic market and the integration with the world, industries' excessive profits are easily consumed fast, and the game between competitors can only be effective in a short time. Therefore, the accumulation of resources and capabilities becomes vital for Chinese enterprises. Chinese enterprises need to continuously update their capabilities in order to be adaptive to market environmental changes and maintain their strengths in competition. In emerging markets, the imitation among competitors runs particularly fast, technology diffusion and resource flow also witness less barriers, consequently, the dynamic management of enterprises' capabilities becomes more essential (Chen, 2006; Jiao, 2007).

Generally speaking, dynamic capabilities are the abilities of enterprises to identify the changes in the environment and build capabilities to adapt to the new environment, which can make the resources and capabilities of enterprises flexible to changes with time. They are the source of enterprises to use new market opportunities to create more strategic capabilities. In a dynamic and complex environment, changes in the market environment, aligning with international standards and self-development, will all hinder and influence Chinese enterprises (Jiao, 2010). It is an inevitable way for enterprises to win sustainable competitive advantages. If enterprises hope to gain sustainable competitive advantages, they must be equipped with dynamic capabilities, which is a means to gain sustainable competitive advantages (Chen, 2006; Cui & Jiao, 2009). It can be said that dynamic capabilities are the most effective means for enterprises to win long-term sustainable competitive advantage, which enables enterprises to gain the most favourable competitive advantage in the new time and space.

1.1.2 Dynamic capabilities being the inevitable way for Chinese enterprises to win sustainable competitive advantages

In an increasingly complex environment, the number of heterogeneous elements in it is increasing, and the frequency of changes is also growing higher. The only thing remaining unchanged is that enterprises must confront the ever-changing market changes (Jiao, 2007).

Generally speaking, enterprise competition in a dynamic environment has the following two characteristics: First, dynamic competition is characterized by high-intensity and high-speed competitive interaction. Competitors try to weaken their counterparts' competitive advantages and establish their own advantages continually and rapidly. Enterprises' first-mover advantages are temporary, and it is very likely that they are defeated by competitors in a short time as competitive advantages can barely be maintained for a long time. Second, the effectiveness of competitive strategy depends not only on time-first principle, but also on the prediction of counterparts' reaction and changes of the demand or competition rules (Yu, 2008; Zhang, 2006).

Enterprises must identify "good" and "bad" competitors when in a dynamic and complex environment. Good competitors can bring about strategic advantages to enterprises, and the interactions during the process are also conducive for competitive edges, for example, improving the current market structure, encouraging market development and limiting market access, while technological advancement and globalization provide many favourable drivers for competition. With the market becoming more and more complex and unpredictable. The information flow in the world enables competitors to perceive the behaviour of others more quickly and react soon, thus a dynamic competition pattern has been formed among enterprises, with the rapid development of market complexity, it is more difficult to predict the future market. Enterprises should closely and quickly grasp the comprehensive information flow so as to immediately perceive competitors' behaviours, and be able to quickly make effective responses and actions, and gradually form a good pattern of dynamic competition among enterprises. The decisive factors of dynamic competition are not only the quality of the product or service, but also the value of the product or service or the perceived value to the customers compared with the competitors. Enterprises cannot be satisfied with a good product, because some new supplies from competitors may fundamentally change consumers' understanding of the original products. Therefore, enterprises with dynamic competitiveness provide products with higher quality level, service value and customer perceived value than competitors (Jiao, 2007). When enterprises launch strategic shock waves, consumers and competitors constantly project, spread out and then turn back. So many levels of complex and interactive feedback and strategic behaviours determine the competition of enterprises (Zhang, 2008). Therefore, enterprises must seek speed and innovation in the dynamic and complex environment, and build the ability of dynamically adapting to the environment.

In a stable environment, if enterprises want to obtain and create sustainable competitive

advantages, they must have some more efficient internal factors and resource capabilities, which play a leading role in a stable environment. For example, taking the lead in entering the industry is rich in market attraction, strategic resources, core competence, entrepreneurship and excellent corporate culture (Wen, 2008) However, the rapid changes of many market factors affect the dynamic changes of the external environment of enterprises, which seriously weakens the foresight of business managers' business decisions. Generally speaking, in order to gain competitive advantage, enterprises should not only rely on the resource positioning in a certain period, but also examine the long-term operating performance. The established form of competitive advantage is very short and cannot be maintained for a long time, and the real competitive advantage can withstand the dynamic changes of the external environment and stand the long-term test of time. To gain sustainable competitive advantage, enterprises should not only know how to use strategic resources and core competence to adapt to the complex dynamic changes of external environment, but also entrepreneurs should foresee and gain insight into environmental changes and quickly make correct responses and actions (Jiao, 2007).

In view of various situations, enterprises are forced to implement feasible strategic plans and take innovative actions by controlling and utilizing all resources and capabilities, so as to quickly create new competitive advantages from existing competitive advantages and constantly surpass competitors, and then win competitive advantages in market competition.

1.2 Theoretical background

The seeking of competitive advantages has always been the theme of strategic research, and different definitions of resources are made by different scholars. In explaining the source of competitive advantages, the renowned positioning theory, capital advantage perspective and core competence (core competitiveness) theory have been proposed successively. Because the influence of environmental changes on the competitive advantages of enterprises is not included, these theories have profound internal defects. The thesis explores the dynamic capabilities of private hospitals in China from the resource-based theory, and takes Foshan Chancheng Hospital in Guangdong Province as an example to illustrate the sustainable competitive advantage of enterprises.

In the 1980s, Penrose (Edith & Planning, 1996) highlighted that management and entrepreneurial resources are the original drivers of enterprise growth. By using the industrial organization theory, Penrose explained the source of competitive advantage of enterprises

from an external point of view, and he argued that industrial structure is the main decisive factor for enterprises to obtain competitive advantage. With the accumulation of experiences, the efficiency of enterprises utilizing existing resources improves; however, there are always resources that are not fully utilized by enterprises, which leads to barriers in the continuous growth of enterprises (Tian, 2007).

In the middle and late 1980s, some scholars put forward the Resource-based view (RBV) based on Penrose's "Internal Firm Growth Theory" (Hai, 2012; Zhang, 2010), which holds that enterprises are composed by a series of resources with different attributes and distributed in different time and space, and the theory proposes that if enterprises have resources with attributes such as value, scarcity, unrepeatability and irreplaceability, enterprises can formulate corresponding policies based on these powerful resources to maintain sustainable competitive advantages (Yuan & Liu, 2005).

Wernerfelt (1984) believed that resources are the rational allocation and combination of different elements that enable enterprises to achieve many strategic goals when providing services or products for society. The competitive advantage of enterprises comes from having valuable scarce resources, which shows the importance of operating resources. These resources are the most effective match with the enterprise strategy and expected performance, such as technology leading degree, production capacity of machinery and equipment, production experience and close cooperation customers. Teece et al. (2009)proposed that the concept of "dynamic capability" is the ability of enterprises to quickly adapt to the complex dynamic changing environment and then acquire and create new competitive advantages by re-integrating, allocating and developing various internal and external resources. The components of resources include trade secrets, technological experience and technology, special production equipment (Tian, 2007).

Grant (1991) maintained that the source of competitive advantage of enterprises is having unique resources, including tangible resources and intangible resources. Tangible resources mainly refer to material resources, such as factory buildings, machinery and equipment, materials. Intangible resources based on knowledge mainly refer to organizational resources, technical resources, management resources and human resources, such as technologies, skills, tricks and talents that are not protected by patents but are not easy to be replaced.

Prahalad and Hamel (2010) believed that collective learning of each link in the internal value chain of enterprises is the source of creating sustainable competitive advantage, which is the most effective way to cultivate core competence. The core competence of an enterprise is the key factor of its sustained growth and an important source of competitive advantage, but

it is not necessarily able to bring continuous competitive advantage to the enterprise. Leonard-Barton (1992) believes that enterprises will be affected by some factors, which will lead to a certain degree of "rigidity" of their core competence, such as substitution effect, sunk cost effect and dependence on innovation path. Enterprises cannot update their core competence independently in time, and the problem of "rigidity" of core competence will make enterprises unable to adapt to the dynamic changes of complex environment, so the existing core competence will probably affect the sustainable development of enterprises (Hai, 2012).

According to Cao (2016) and Hai (2012), the dynamic capability theory is based on resource theory and core capability theory, and it is also the inheritance and continuous development of this theory, and has been rapidly developed in the field of strategic management. It is considered that enterprise growth is the process of acquiring resources and enhancing capabilities in the complex and changeable market environment, cultivating core competencies and creating new competitive advantages through different ways. According to the change of turbulent market environment, enterprises re-integrate and reconstruct resources to match and adapt to the rapidly changing environment, implement innovation to break the original competitive advantage and obtain sustainable competitive advantage and Schumpeter rent, and then improve and enhance their performance.

1.3 Practical background

Encouraging private medical institutions and enabling social forces to enter the medical and health field widely are two important parts of deepening the reform of China's medical and health system and meaningful measures to achieve the long-term goal of Healthy China. The resource allocation of medical institutions in China is on the rise, the number of institutions, human resources and number of beds are increasing as well. The increase in the number and investment of private hospitals in China far exceeds that of public hospitals, and the growth rate of outpatient and inpatient services is maintained at about 15%. However, there are many bottlenecks in the development of private medical institutions at present: first, lacking of standardized and effective implementation of policies and standards; second, lacking of policy environment for talent team building. In light of the different systems, medical technicians in private hospitals do not have the same promotion channels as those working in public hospitals. Third, technology and management level of private hospitals in China are uneven, which leads to people's prejudice against private hospitals. Therefore, China's private

hospitals should speed up the implementation of relevant policies externally and strengthen their standardized and refined management internally, so as to further develop.

In Chinese competitive pharmaceutical market, only private hospitals that can timely adjust themselves, implement new strategies, and integrate and reconfigure internal and external resources can be successful (Hai, 2012).

1.3.1 History of China's healthcare reform

Since China's reform and opening-up, the medical and health system has undergone earth-shaking changes. The groping process from the reform brewing to the determination of ideas and the constant adjustment of programs has gone through many hardships and twists. Starting in the 1980s, the first round of healthcare reform was from 1979 to 2008, and the second round of reform was from 2009 till now. The first stage is an exploration stage. Application of economic and management means was encouraged in hospital operations, with an aim of reversing the poor operation of medical institutions, enhancing enthusiasm of hospitals with economic means, and gradually improving the management quality and operation efficiency of hospitals. The second stage is called as ice-breaking stage, in which the work mainly includes stopping the excessive marketization methods adopted in the last round of reform, further strengthening the government's responsibility in the basic medical and health system, safeguarding the commonweal nature of public hospitals, gradually establishing a basic healthcare system that covers urban and rural residents and realizing the goal that basic healthcare service is enjoyed by all the people.

(1) The first round of healthcare reform:

In 1979, the Minister of Health of the People's Republic of China (PRC) Qian Xinzhong proposed to "manage health services with economic means" (Sun, 2007). Ministry of Health of the PRC, Ministry of Finance of the PRC and Ministry of Human Resources and Social Security of the PRC jointly issued *the Notification of Strengthening Economic Management in Pilot Hospitals* (1979). Afterwards, the Ministry of Health of the PRC implemented "five sets and one reward", namely, the task, the number of beds, authorized registration, operation technology factors, and subsidy standards and rewards (Dong & Wang, 2007).

In 1980, the State Council of the PRC approved the Instruction Report of Allowing Individual Practitioners to Open Clinics of the Ministry of Health of the PRC, and the introduction of this competitive policy broke up the monopoly of state-run public hospitals in the health sector in China (Chen, 2011).

In 1985, China's Ministry of Health's policy report on health work reform, the reform

measures mainly include: ① the state finance increases the investment in medical and health funds; ② further relax the medical reform policy, implement the deepening reform, simplify administration and decentralization by the competent departments, and encourage the society to raise funds from various sources. ③ Medical reform is a complex project that can mobilize the enthusiasm and subjective initiative of many parties, ensure medical safety and improve medical quality, build high-quality service and improve management level, and help prevent and treat diseases and facilitate the people and the people. ④ People must adhere to the correct policies and guidelines, do a good job in rational medicine use and reasonable inspection, and put an end to unnecessary waste, but we should not only consider economic issues unilaterally (Ma, 1992). Since then, China's comprehensive medical and health reform has officially started.

In September 1992, the State Council of the PRC issued Opinions on Deepening Healthcare Reform from the Ministry of Health of the PRC. It encouraged medical institutions to take up the cause of healthcare with social capital that was raised in various forms and from multiple channels. The distribution form of equalitarianism such as “eating from the same big pot” should be eradicated, and wage policy such as structural pay, professional rank pay and performance related pay should be adopted to broaden the difference in various distribution ranks and levels. The total wages should be contracted out, including the balance and generated income, which should be at the disposal of the medical institutions themselves under the premise of guaranteeing the development of undertakings and fulfilling the tasks of science and education. It is supported to develop real economy and carry out enterprise-style management to operate independently and shoulders the responsibility for its own profits and losses; those hospitals that does not need fiscal subsidies can hire and authorize their employees autonomously; it is allowed to adopt those operation models and distribution forms such as “one hospital, two systems” and “one hospital, multiple systems”; it is also allowed to try to establish medical and healthcare institutions with shareholding system (Fu & Sun, 2009; Liu, 2011)

In 1997, Decision of the CPC Central Committee and the State Council of the PRC on Healthcare Reform and Development was issued by the State Council of the PRC, requiring to strengthen community health services. Since then, community medical institutions have been gradually developing (Li, 2011).

In February 2000, the State Council of the PRC published Guiding Opinions on Urban Healthcare Reform, which encourages cooperation, merger of medical institutions and

co-establishment of healthcare service group (Wang, 2005). The for-profit medical institutions should loosen the control of the service price to set the price and operate independently without breaking the law as well as paying taxes as required.

On July 28, 2004, *Guidelines for Hospital System Reform* formulated by the Ministry of Health was expected to be published (Wang, 2007), and this document concerned the reform of hospital property rights. At the end of 2004, the reform of shareholding system of China's public hospitals was halted.

On September 10, 2008, the executive meeting of the State Council of the PRC discussed *Opinions on Deepening Healthcare Reform* and decided to ask for advice from the general public (Wang & Hu, 2009; Zhang, 2009). The working group further revised the document and published an exposure draft of it.

(2) The 2nd round of healthcare reform:

In March 2009, the State Council of the PRC published *Opinions on Deepening the Healthcare Reform and Implementation Plan of Deepening the Healthcare Reform 2009-2011* (Zhong, 2012). The most important measures of reform are: ① accelerate the enhancement of the service and management ability of hospital operation, reasonably guide the general diagnosis and treatment to sink to the grass-roots community hospitals, and promote and form the system of graded diagnosis and treatment and community first diagnosis, so as to realize two-way referral. ② Gradually implement the zero-plus policy of hospital drugs, rationally adjust the price system of medical services, further increase the reimbursement ratio of medical insurance and constantly improve the compensation mechanism. ③ Actively explore the mode of separating government affairs from management and office, implement the independent legal person status of public hospitals, and explore ways of trusteeship, reorganization and merger to promote the rational flow of medical resources to achieve win-win results. ④ Health management departments standardize and implement the access conditions and policies of social capital for medical treatment, and encourage and guide multi-party capital to participate in the restructuring and reorganization of public hospitals and establish non-profit hospitals according to law. Accelerate the pilot reform of public hospitals, moderately and reasonably reduce the proportion of public hospitals, and hospitals of different natures should gradually form a new pattern of mutual promotion and common development. ⑤ Actively develop commercial health insurance to meet the diversified needs of health consumption.

In 2010, the Ministry of Health of the PRC and another four ministries issued *Guiding*

Opinions on Pilot Public Hospital Reform.

In 2012, during the 12th Five-Year Plan period, China deepened the reform of medical and health system, and further clarified that the key points of medical reform planning were as follows: ensuring the basics, strengthening the grassroots level and building the mechanism. That is, accelerating the construction and improvement of the universal health insurance system, consolidating and improving the national essential drug system, and comprehensively guiding and promoting the reform of public hospitals (Liao, 2017).

In 2013, the main work of deepening the reform of medical and health system in China mainly includes: further deepening the reform of medical and health system in China, promoting the construction and improvement of universal medical insurance system and implementing the pilot project of major illness insurance for urban and rural residents; Consolidate and improve the basic drug system; Promote and implement the new mechanism of grass-roots hospital operation; Actively promote the reform of public hospitals, social capital to run hospitals and other key tasks (Cai, 2010; He, 2014; Wu, 2019).

In 2015, the *Summary of Work on Deepening Reform of Medical and Healthcare System* pointed out that Three Medical Linkages of medical care, medical insurance and pharmaceutical industry should be advanced, so as to form the linkages between high-grade hospitals and grass-roots hospitals, inside hospital and outside hospital, as well as between different regions. It mainly covered public hospital reform, drug price reform, personnel system reform and salary system reform. It is required that all county-level public hospitals and pilot urban public hospitals should cancel the medicine mark-ups (excluding Traditional Chinese Medicine), decrease the unreasonable high price and consumption of drugs as well as the fees of checks by large equipment, and improve the price of medical services that show the value of the work of medical staff. Hospitals should adopt engagement system and position management system so as to realize the transition from fixed employment to contract employment, from identity management to post management. The system of performance related pay should be perfected so that it can reasonably broaden the gap between individual income gaps by adapting to the principles of getting more pay for more work and excellent remuneration for excellent performance. It is banned that hospitals set revenue targets for their staff, and the salary of medical staff should not be linked to business income of pharmaceuticals, consumables, medical examinations. The universal health insurance system should be completed with the goals that the coverage rate of basic medical insurance increases by more than 95% in 2015, that the per capita government subsidy standard of urban residents' health insurance and the new rural cooperative medical insurance is raised to 380

Yuan, and that the per capita individual contribution of urban residents is raised to no less than 120 Yuan and that of the new rural cooperative medical insurance to about 120 Yuan. The proportion of urban residents' medical insurance subsidies and the outpatient expenses within the scope of new rural cooperative policy reached 50% of all expenses and the hospitalization expenses within the scope of new rural cooperative policy reached 75% (Ma, 2015).

In October 2016, the *Outline of the Healthy China 2030 Plan* was issued, which was discussed in the meeting of Political Bureau of the Central Committee of the Communist Party of China on August 26th. The document proposed that "joint construction and sharing, health enjoyed by all" is the strategic theme of building a healthy China. The construction of healthy China requires considering people's health as the centre, reform and innovation as the driving force, prevention as the main task, and both Chinese and Western medicine as equals. A healthy lifestyle should be promoted to reduce the incidence of diseases, strengthen early diagnosis, early treatment, and early recovery to realise whole wellness.

On May 31st, 2018, China's National Healthcare Security Administration (NHSA) was established, which direct subordinate to the State Council of the PRC. NHSA's integrated responsibilities compose basic medical insurance and maternity insurance of urban workers and residents, new rural cooperative medical care, price management of medicine and medical services and medical assistance. The newly-established NHSA plans to make reasonable compensation at different levels to maximize relevant interests in a way of closely binding the bid price of medicine with the payment standard of medical insurance while taking into account different levels of medication and industry development.

In November 2018, *Document on Centralized Medicine Procurement in 4 + 7 Cities* was issued by the State Council of the PRC. This document shows that the Central Committee for Deepening the All-round Reform agreed that the State should organize pilot drug procurement centre in 11 cities, including Beijing, Tianjin, Shanghai, Chongqing, Shenyang, Dalian, Xiamen, Guangzhou, Shenzhen, Chengdu and Xi'an (Hu, 2018; Yu, 2019). The centralized medicine procurement helps to reduce drug prices to a greater extent in pilot cities and increase market share of generic drugs which has passed the consistency evaluation. Consistency evaluation can promote the substitution of domestic high quality generic medicines for importing outdated foreign patent medicines and squeeze out unreasonable medical expenditure. The quantity bargaining in centralized procurement has greatly reduced the marketing and sales expenses of pharmaceutical manufacturers, driving them to increase investment in new generic drugs and foster development of innovative drugs with more energy and financial resources so as to accelerate the upgrading of China's pharmaceutical

industry.

In 2019, a nationwide unified medical insurance system for urban and rural residents was launched and implemented, which mainly integrated reimbursement standards, coverage scale and essential drug catalogue. The ways of paying were actively explored such as category-based payment, capitation, diagnosis related groups-prospective payment system and *per-diem payment.*

Since the implementation of the new healthcare system reform, the total healthcare expenditure in China has increased from 1.8 trillion Yuan in 2009 to 5.8 trillion Yuan in 2018, with an average annual growth of 14.2%, and the total healthcare expenditure per capita has increased from 1,314 Yuan to 4,148 Yuan. The health expenditure of Chinese government has increased from 451 billion Yuan in 2009 to 157 trillion Yuan in 2018, with a cumulative expenditure of nearly 10 trillion Yuan, an average annual growth of 14.9% (Zhang, 2019).

1.3.2 Introduction to the development of private hospitals in China

In China's healthcare industry, private hospitals gradually emerged in the 1980s. In 2001, China opened its medical market and as a result private hospitals developed on a large scale. At present, the main formation modes of private hospitals are as follows: from privately-owned clinics, hospitals which changed their management system, self-management or shareholding cooperative hospitals through mergers and capital injection achieved by enterprises and individuals, and Sino-foreign joint ventures hospitals and Sino-foreign contractual hospitals. Generally, most private hospitals are specialized hospitals, traditional Chinese medicine hospitals and minority hospitals while a few of them are general hospitals and Western medicine hospitals. Private hospitals' characteristics such as flexible mechanism, emphasis on publicity, low price and excellent service meet people's increasingly diversified medical needs at different levels (Wang et al., 2011; Wang, 2008).

Table 1.1 Contrastive analyses of private and public hospitals

Differences	Private hospital	Public hospital
Source of capital	Capital from investors	Financial allocations from national and local authorities
Management system	Private hospitals are managed in an enterprise mode, in which the employment contract system is applied from the staff to the dean. In this way, it is ensured to manage the staff in a rational way, maximize its potential and optimize its social benefits.	Public hospitals are affiliated to governments at all levels and thus governments have the right of management of these state-owned assets and hospitals themselves do not ave legal ownership.
Mode of operation	Service items and prices can be adjusted according to the needs of patients and changes of medical market so that patients can get better service and more benefits.	Prices of medical services are set according to policies made by provincial (municipal) administration of commodity price.

(1) Analysis of the status quo

According to *Report on Supply and Demand and Development Trends of Private Hospitals in China from 2019 to 2025* published by Huajing Industry Research Institute, the number of hospitals in China has reached 32,000 by the end of November 2018, including 12,072 public hospitals and 20,404 private hospitals, accounting for 37.2% and 62.8% respectively. From January to November 2018, medical and healthcare institutions in China handled 7.54 billion patients, with an increase of 3.2% over the same period of last year, 470 million of whom were treated by private hospitals, accounting for 6.3% and with an increase of 13.6% over the same period last year.

According to *the China Health Statistics Yearbook 2018* issued by the Ministry of Health of the PRC, the total assets of the hospital industry in China in 2017 were 290.527 billion Yuan, among which the assets of private hospitals reached 229.599 billion Yuan, accounting for 7.90%; the net assets of the hospital industry were 168.76 billion Yuan, including 103.589 billion Yuan from private hospitals, accounting for 6.14%.

Private hospitals have made rapid growth in quantity. However, in terms of structure, their development is rather unbalanced. Private hospitals occupy a dominant position among specialized hospitals but they are still in a relatively inferior position among general hospitals and traditional Chinese medicine hospitals, which is mainly caused by the current competition pattern of the whole medical service industry. General hospitals are the most important part of China's current medical industry. They bear most of the medical needs and are much larger in the scale than specialized hospitals.

Over the past decades, private medical institutions in China have experienced the

development stage of small-scale with simple department setting, and then they have begun to develop their technology and scale. There are some successful cases in China, including general hospitals, specialized hospitals and clinics, such as Foshan Chancheng Hospital in Guangdong Province, Kanghua Hospital in Dongguan, which mainly cooperates closely with public hospitals in Guangzhou to develop. Kanghua Hospital targets at local migrant workers, focusing on developing special specialties such as maternity and assisted reproduction. As for specialized hospitals, hospitals such as those on obstetrics and gynaecology, ophthalmology and plastic surgery hospitals are the mainstream. High-end maternity hospitals are emerging in the first-tier cities such as Shanghai and Beijing, as well as some renowned ones such as He Mu Jia, Meihua and Mei Zhong Yi.

With capital entering the medical market, entities of social medical service are constructing a new market pattern. They aim at the mass market and want to build a medical system covering large general hospitals, specialized hospitals and primary medical clinics.

(2) Development tendency analysis

With the rapid development of China's economy, people's living standards have improved continuously; besides, the population aging is accelerating, thus the demand for medical services is steadily increasing. The medical service industry is about to enter a stage of rapid growth where commercial-oriented medical institutions will have better investment value if they have solid foundations. At first, China's medical services are undervalued at present but the value of medical service industry is going to return. Medical services are special commodities, and they are not only commonweal goods saving lives and injuries, but also high-quality commodities in short supply. With the deepening of the new healthcare system reform, the status quo of "emphasizing prescribing medicines and neglecting services" will be gradually corrected, and medical services will have their value returning under the market economy, which will also boost the prosperity of the medical service industry. China's medical market is characterized by public welfare of basic demand and marketization of high-end demand. The aim of medical reform is to make basic needs public and market-oriented high-end needs. The government has invested resources in public hospitals that embody public welfare one after another to maximize the cost performance of input and output. Minor illnesses are solved in primary hospitals, further improving the operational efficiency of the medical system. The course of medical reform and the development trend of the industry indicate that the demand for high-end medical care is gradually moving towards marketization (Huang, 2013). The middle and high-end consumers in the society will be free

to choose to buy different medical services with strong economic payment ability, and the marketization of high-end medical services will allocate medical resources more reasonably. In recent years, specialized hospitals with high-end needs such as obstetrics and gynaecology, medical beauty and stomatology have grown rapidly. Middle-to-high-end consumers pay more attention to medical services and quality than ordinary consumers, are insensitive to medical prices, and enjoy high-end medical insurance, so they have strong economic ability to pay high medical expenses.

The development of private hospitals in China in the next decade will be a critical period from quantitative change to qualitative change, from extensive to precise, from expanding to building up internal strengths. Private hospitals pay more and more attention to bringing real value to patients, actively focus on medical effect and medical value, and promote products to customers. Serving patients has become the core demand of the customers of private hospitals. In terms of strategic guarantee, private hospitals should broaden financing channels, improve capital efficiency, utilize talent resources efficiently, and focus on building talent team. For the development mode, hospitals should open up the industrial chain, realize the integration of insurance and medical care, promote the deep integration of Internet and medical care, and actively develop smart medical care. Currently, private hospitals in good conditions have performed brilliantly in the stock market. Since 2009, more than 10 social medical institutions have successfully gone listed in Hong Kong, such as China Resources Medical, New Century Medical and Jinxin Reproductive.

1.4 Research questions

In the increasingly fierce and competitive market, how Chinese enterprises build and develop their own dynamic capabilities is a realistic problem that needs to be solved urgently. Especially in the changing fuzzy competition, Chinese private hospitals must find a suitable source that can sustain their future competitive advantages; otherwise they will be easily eliminated by the market. How to build enterprise dynamic capability is a very important practical problem. Therefore, the research focus of this research includes: exploring the connotation of enterprise dynamic capability, its constituent dimensions and the relationship among the dimensions; Based on this, this thesis explores the methods of developing dynamic capabilities of enterprises and the influence of dynamic capabilities on enterprise performance.

1.4.1 Key problems to be solved

Facing the increasingly fierce and competitive market environment, Chinese enterprises must build their own dynamic capabilities under the new situation, which is an inevitable choice to win sustainable competitive advantages. At present, although scholars from China and other countries have done a lot of research on the dynamic capability theory, researches are scattered and only stay in the level of discussing relatively abstract concepts (Hai, 2012; Lin, 2008), which is of great ambiguity and lacks the support of in-depth study of theoretical framework and empirical research. Few studies have analysis of the connotation and dimension of dynamic capability, especially the empirical research on the dynamic capability of China's private medical industry. Because dynamic capability by nature is difficult to measure and inoperable (Huang, 2008), theoretical research and empirical research about this theory are separated from each other, and many problems are waiting to be studied and solved urgently. Research problems to be solved in the thesis are as follows:

First, research on the measurement system, identification system and activation mechanism of enterprise dynamic capability. Teece et al. (2009) put forward the concept of enterprise dynamic capability, but how to utilize it in practice is still not very clear to enterprises. The research on the utilization of enterprise dynamic capability is to explore the indicator system of enterprise dynamic capability and how to identify and activate it. What is the dynamic capability of enterprises? What elements does it contain and what characteristics does it have? Because of the research concept, connotation and characteristics of enterprise dynamic capability is not generally agreed at present. The thesis reviews and summarizes the previous studies in the research field through literature review, and then verifies it through an empirical case study of a private hospital under the current development background in China. Through analysing and discussing these research problems, this thesis studies the measurement and identification system of enterprise dynamic capability. Entrepreneurs, as one of the most important resources of enterprises, have a great influence on the activation of dynamic capability in their decision-making process, which plays an important role as drivers in the process of dynamic capability activation. After literature review, the author analysed the mechanism of activating dynamic capabilities which is under three decisive factors: entrepreneurship, organizational learning mechanism and incentives (Jiao, 2010).

Second, the research on the multi-level influence mechanism of enterprise dynamic capability based on interaction effect. Enterprise is a complex system formed by subjects at different levels, such as individuals, teams, organizational resources and external networks.

Single-level analysis has limitations, so it is necessary to use multi-level analysis methods to analyse complex phenomena occurring in management practice (Hitt et al., 2007). This research constructs a conceptual model of multi-level influencing factors of enterprise's dynamic capability, and explores the direct influence of multi-level factors on enterprise's dynamic capability from the levels of individual, senior management team, organization and external market environment, and whether there are substitution effects and complementary effects.

Third, discussion on the enterprise performance evaluation index system and evaluation system built that comprehensively reflects the enterprise's operating results and motivation by combining financial and non-financial indicators. Common performance evaluation index system can be divided into two categories: financial index and non-financial index. Financial index includes profit index, such as profit base, cash base and market price base. Operational indicators include asset turnover rate, inventory turnover rate and accounts receivable turnover rate; Debt service indicators, such as current ratio, quick ratio and asset-liability ratio. Non-financial indicators include customer perspective, such as customer satisfaction, customer loyalty, customer merger, customer profit analysis. Internal procedures include innovation, operation and after-sales service; Learning and growth perspectives are, such as employees, systems, organizational procedures (Wang, 2008) The specific application of the evaluation index system needs further in-depth study. What indicators should be adopted according to the actual business situation of the enterprise, and how to obtain data and check?

Fourth, stakeholder analysis. Enterprise value is not only the book value of enterprise assets, or the performance of an enterprise at a certain stage, but also the future profitability generated by the integration and operation of the enterprise's own resource system, as well as the expectation of the long-term development and value-added potential of the enterprise. Enterprise value is a comprehensive indicator to measure the overall quality and competitive advantage of an enterprise. It should consider and pay attention to the interests of contractual relations of enterprise development, including shareholders, creditors, managers, employees and customers (Li, 2010). Management pursues the maximization of enterprise value. What ways should we consider to drive the sustainable development and enhance the competitiveness of enterprises?

Enterprises are profit-oriented economies, and maximizing profits is the goal of enterprises. China's private hospitals not only bear the social responsibility of curing diseases and saving people, but also have the characteristics of pursuing profit maximization in business operation. The hospital's strategies such as improving employee loyalty, service

efficiency, patient loyalty and public image will inevitably increase the hospital's operating costs, but it can bring hospital competitive advantages. Comparing these benefits with costs in the simplest way, what will be the result? This is what hospital administrators are most concerned about.

In order to adapt to the rapidly changing environment, the fundamental purpose of dynamic capability is to obtain and maintain the competitive advantage of enterprises. What is the relationship between dynamic capability and the performance of private hospitals in China? In what context is it relevant? What are the driving factors that make private hospitals achieve good business performance? Resource-based theory is a new research perspective to explain the effect of enterprise-specific factors on enterprise performance. Based on the resource view theory and dynamic capability theory, this thesis takes Chancheng Hospital in Foshan, China as an example to explain the source of competitive advantage of private hospitals in China, and then the existence of competitive advantage of enterprises shows that there are performance differences among enterprises.

1.4.2 Innovations

The main innovations from the thesis are as follows:

First, the research focuses directly on the identification of dynamic capabilities and practical measurement of enterprise dynamic capabilities. The existing theoretical research on enterprise dynamic capability generally highlights the relationship between enterprise dynamic capability and competitive advantage, either staying at the stage of concept interpretation and discrimination, or taking enterprise dynamic capabilities as factors affecting the dependent variables. Hence, there are only few researches on the constituent elements, levels and dimension analysis and index system of enterprise dynamic capability. One research priority of the thesis is to focus on the identification and practical measurement of enterprise dynamic capability, and the research perspective is more fundamental and practical.

Second, from the perspective of entrepreneurs' innovation, the process mechanism of enterprise dynamic capability activation is clearly analysed. On the basis of the establishment of the enterprise dynamic capability identification system based on analytic hierarchy process, this research sorts out three key influencing factors of enterprise dynamic capability activation through literature: entrepreneurship, organizational learning mechanism and incentive mechanism.

Third, the case study of FCCH shows that the entrepreneur's advanced action dimension and risk-taking dimension, the shared vision and social integration dimension at the level of

senior management team, the contingent salary reward system dimension, the resource stock dimension and strategic alliance dimension at the organizational level have positive and significant impacts on the dynamic capability of enterprises. There is a substitution effect between the contingent salary reward system dimension and the resource stock dimension at the organizational level, while there is a complementary effect between the entrepreneur's advanced action dimension and the resource stock dimension at the organizational level.

Chapter 2: Research Content

Resource-based theory is a theory that explains the sustained and good performance of enterprises from the perspective of efficiency. This thesis focuses on "How do resources and dynamic capabilities affect enterprise performance?" The purpose of this question is to introduce the history of resource-based theory, clarify the basic theoretical implication of this school, and explore how to apply and improve this theory to make it more powerful in explaining sustainable performance differences. Through the literature review of resource-based theory and dynamic capability, this thesis explores how to use resource-based theory to build dynamic capabilities to improve the competitive advantage of private hospitals in China, and then improve hospital performance. Based on the research framework of dynamic capability of Teece et al. (2009) and Eisenhardt and Martin (2000), with Chancheng Central Hospital of Foshan City, Guangdong Province adopted as an empirical research object, the thesis dynamically investigates and analyzes the improvement of dynamic capability on enterprise performance, providing theoretical reference and strategic suggestions for those who hope to be in a complex competition.

2.1 Enterprise resources

Resource-based theory holds that enterprises are special aggregates of resources, sharing their own uniqueness and superiority compared with those owned by competitors, they can match the external environment properly with competitive advantages (Zhang, 2010). Major opinions of resources are as follows:

Penrose (1996) believes that enterprises' resources are unique source for enterprises to create new opportunities by changing potential service groups when meet external competition pressure. Enterprises have different uses and functions, which can generally be divided into two types: human capital and material capital (Li, 2009).

Wernerfelt (1984) believes that enterprise resources are long-term tangible and intangible assets, which can bring advantages or disadvantages to enterprises (Wu, 2009).

Dierickx and Cool (1989) hold that enterprise resources is the general term for basic elements (resource elements) and the relationship among the basic elements (resource

elements) of which enterprises is composed, that is, the relationship between elements that can create enterprise value and their combination (Wu, 2009).

Barney (1991) defines enterprise resources as all assets, capabilities, organizational processes, enterprise attributes, information and knowledge controlled by enterprises, which enable enterprises to conceive and implement their strategies and ultimately improve the efficiency of enterprises. Tangible assets are the necessities and sources of competitive advantages of enterprises' production and operation activities. They are highly transferable and versatile, but they cannot create higher value for enterprises, including financial resources, material resources, human resources and technical resources. Intangible assets play an important role in the competitive advantage of enterprises, and their strong specificity can create higher value, including enterprise brand, technical value, enterprise culture, trademark patent and management mode. Organizational ability is the organic combination of all assets, personnel and input and output in business activities, and the basic condition of enterprise survival and development is the continuous accumulation of organizational ability and intangible assets (Li, 2009; Wu, 2009).

In broad sense, resources, including enterprise capabilities, refer to tangible assets and intangible assets of enterprise development and implementation strategy, so it is difficult to give a clear boundary. Grant (1991) explained ability with accumulated resources, and thought that ability is the combination of team resources, and resources are the input elements of production process. Nicolai and Christian (1996) thinks that capability is all resources or assets owned by an enterprise. Sanchez et al (1996) think that resources are useful assets to identify and respond to market opportunities and threats. Guo (2001) thinks that enterprise resources are the resource elements controlled by enterprises and used to create enterprise value, as well as the general name of the relationships among the elements.

How to combine all kinds of resources effectively and create greater value for the enterprise constitutes the enterprise capability. The difference between enterprises is due to different resources and capabilities, which is gradually formed and accumulated by enterprises in the historical development process. Ability determines the depth and horizontal scope of business operation, and determines the output efficiency, cost level and enterprise productivity. Therefore, enterprise capability is the fundamental determinant of enterprise strategic decision and the formation and maintenance of competitive advantage. Due to the diversity of enterprise resources, there are great differences in the classification standards of enterprise resources. There are two types of resource classification: content and importance according to resources. First, enterprise resources are divided into physical resources and intellectual

resources according to their composition. Financial resources are monetized resources, which are obtained directly from the financial reports of enterprises. Intellectual resources are resources that create value for enterprises but cannot be measured directly by money. They are divided into human resources, structural resources and social network resources(Tian, 2007). Second, enterprise resources are divided into strategic resources, scarce resources, important resources and general resources according to their importance. Strategic resources are formed by the accumulation of internal experience and knowledge, and cannot be obtained through external markets. It is the source of the core competitiveness of enterprises, and the lack of such resources leads to the overall and long-term losses of enterprises. Scarce resources can be obtained through the external market, but the acquisition cost is relatively high, and the rights and interests are not guaranteed. Important resources are indispensable resources for business activities, such as management experience and technology (Yang, 2001). General resources obtained in external market with open prices are necessary for business activities of enterprises.

2.2 Theoretical construction of dynamic capability

Scholars agree on the standpoints of dynamic capability, and maintain that dynamic capability is the ability of enterprises to dynamically adapt to environmental changes and one of the important sources for enterprises to gain competitive advantage. The existing researches on dynamic capability theory mainly cover the motivation, connotation, elements and framework, influencing factors, action mechanism and formation mechanism of capability construction, which are mainly reflected in three aspects: enterprise dynamic capability and related concepts, the formation and connotation of enterprise dynamic capability, and the relationship between enterprise dynamic capability and performance.

2.2.1 Related concepts of enterprise dynamic capability

Enterprise dynamic capability reflects the behavioural orientation composed of concepts, culture and actions of enterprises, and also shows the pursuit of new business opportunities and new market entry tendency in strategic decision-making and practice. It is rooted in enterprises culture and concept system, affecting all aspects of strategic behaviours from strategic conception to implementation. It plays a decisive role in the competitive position of enterprises in the market (Jiao, 2010).

Enterprise dynamic capabilities are an adaptation mechanism to quickly adapt to the

complex and changeable dynamic environment in different periods. They reconstructs and combines enterprise resource allocation and operation practices, and "usually creates more valuable new resources by disruptive innovation" (Jiao, 2011). The basic components of dynamic capabilities are opportunity identification capability, technology identification capability and integration and reconstruction capability. ① The premise of dynamic capabilities is the ability of opportunity identification, which captures and creates new opportunities by learning to identify and respond quickly to the dynamic changes of complex environment. ② The foundation of dynamic capability is technical capability and organizational flexibility. Enterprises can update products and services by improving and enhancing organizational technology, structure and flexibility adaptability. ③ The means to realize dynamic capabilities is to integrate and reconstruct capabilities, and enterprises can change and improve their operation and management capabilities by integrating, coordinating and reconstructing capabilities.

Enterprise dynamic capability organization can successfully adapt to the complex and changing environment by implementing conscious actions and guidance, and as a predictive variable of competitive advantage, it determines the changing market behaviour, so that enterprises can grow and develop continuously. Enterprise dynamic capabilities are an innovative strategic decision-making mode of risk sharing and leading actions, including actions such as establishing organizational goals, common vision and creating competitive advantages. Many influencing factors work together to form the dynamic capability of enterprises, among which the evolution of dynamic capability is deduced by the organizational learning mechanism which works together with the process of tacit experience accumulation, knowledge externalization and knowledge coding activities (Jiao, 2010, 2011). This research studies capability from the enterprise level, and explores what elements of dynamic capability have an impact on performance under what circumstances.

2.2.2 Research framework of enterprise dynamic capability

Since enterprise dynamic capability has been put forward, it has attracted great attention from academia. However, it is still unclear what enterprises dynamic capability connotes, why it is used, how to identify, activate and build it, and what role entrepreneurs play in this process.

The following problems must be solved: What is the dynamic capability of an enterprise and how to measure it? What is the "use" of the dynamic capability of an enterprise? How to identify, activate and build enterprise capabilities (How)? In this research, theoretical review

and analysis and empirical research are combined to try to analyse the above problems comprehensively and systematically. Focusing on the presentation and analysis of the research framework of enterprise resource-based theory and dynamic capability theory, and taking the empirical investigation as the breakthrough point, this research emphasizes the combination of enterprise dynamic capability theory and concrete business operation practice, and constructs a theoretical analysis system of "What is enterprise dynamic capability, what is enterprise dynamic capability, and How to identify, activate and construct enterprise dynamic capability". The framework of this research specifically includes the theoretical background analysis of enterprise resources and dynamic capabilities, the construction of enterprise dynamic capabilities driven by entrepreneurial spirit from the perspective of organizational learning, the identification system of enterprise dynamic capabilities based on analytic hierarchy process, and the multi-level impact model of interactive enterprise dynamic capabilities. The main research contents are as follows:

First, from the perspective of entrepreneurs' innovation, multi-disciplinary knowledge is integrated to build a theoretical research and analysis framework of enterprise dynamic capability. On the basis of literature review, this research starts from the classical theories such as evolutionary economics theory, entrepreneur theory and strategic management theory, and combs and summarizes the theoretical research and analysis framework of enterprise dynamic capability. Introduce "entrepreneur", which is the most critical factor in the development and growth of enterprises, and rely on effective entrepreneur's decision-making ability to activate the dynamic capability of enterprises, and build the dynamic capability of enterprises through internal and external organizational learning, and finally build an entrepreneurial spirit-oriented dynamic capability-building mechanism based on the analysis framework of "dynamic mechanism-basic mechanism-path mechanism" (Jiao et al., 2008, page 16).

Secondly, the theory of enterprise's dynamic capability is tested by means of mathematical statistical analysis. The quantitative statistical methods of descriptive statistical analysis and correlation analysis are used to test the obvious problems in the measurement of dynamic capability index system of enterprises, and to test the intermediary effect mechanism between dynamic capability and performance of enterprises. Combing the relationship among entrepreneurship orientation, organizational learning and enterprise dynamic capability, organizational learning is the key driving factor of enterprise dynamic capability under the background of entrepreneurship orientation, and constructing the implementation mechanism of enterprise dynamic capability.

Thirdly, field interviews and enterprise questionnaires are used to obtain detailed empirical data. In-depth interviews were conducted with hospital executives and middle managers in Chancheng Hospital of Foshan City, Guangdong Province, and questionnaires were conducted in five hospitals in Guangdong Province to gain a better understanding of the dynamic capabilities of private hospitals. Then, a hospital questionnaire was designed and followed up based on literature research and interview results.

2.2.3 Research on dynamic capability mechanism

Due to the extreme complexity of enterprise dynamic capability, many problems have not been fully explained, especially the existing researches on dynamic capability lack reliable empirical research and measurement means. The existing research has not clearly solved the following problems: what are the elements of enterprises' dynamic capability? What are their performance mechanisms? What factors affect the dynamic capability? What path to it could be built? And what role entrepreneurs play in the process of building it. Therefore, it is impossible to answer such questions as how various resource fragments within an organization are transformed into dynamic capabilities at the overall level of the organization. To sum up, findings are that previous studies need to make up in the following aspects(Jiao, 2007, 2010).

First, the operability, identification system and activation mechanism of enterprise dynamic capabilities are studied.

Teece et al. (2009) proposed a "3P" analysis framework based on process, position and path, Zott (2010) argued three attributes (timing, cost and learning) of enterprise dynamic capability, and Liu (2005) put forward to improve the dynamic capability of aerospace enterprises through the training of integration capability and learning capability. However, there are few operational empirical studies on dynamic capability. For example, Williamson (2003) and other scholars criticized the lack of reliable empirical research and measurement methods. In this thesis, the framework of operational elements of enterprise capabilities is summarized through literature review and field interview, so that the dynamic capabilities of enterprises can be operated, thus laying a solid foundation for the resources and capabilities owned by enterprises to match with the dynamic cameras of their environment (Andrews, 1971), and further supplementing and perfecting the static research perspective of resource school (J. Barney, 1991), and "inertia trap" (Leonard-Barton, 1992) caused by previous path dependence (Burgelman, 1991), trying to enrich the related research on capability theory based on resource-based view in the field of strategic management (Jiao, 2007, 2010).

Dynamic capability is a set of capabilities that enterprises can adapt to the dynamic changes of complex environment and solve crises in time. At present, the research on the index system and operability of enterprise dynamic capability is not mature enough, and the research focus should be on designing the index system that reflects the connotation and structural dimension of enterprise dynamic capability with the change of time and space, and the empirical research of measurement operability.

Second, the research on the performance mechanism of enterprise dynamic capability.

Jantunen et al. (2005), under the background of manufacturing and service industry research, thought that entrepreneurship is an important source of competitive advantage of enterprises, and the dynamic capability and entrepreneurial orientation strategy of enterprises have a significant impact on the internationalization performance of enterprises. He Xiaogang et al. (2006) analysed the positive and beneficial effects of enterprise dynamic capabilities on enterprise performance by empirical research. The essence of enterprise dynamic capability is to continuously identify and capture opportunities by integrating and rebuilding resources to revise the capability update of operation (Jiao, 2010). The essence of enterprise dynamic capability lies in the adoption of this process viewpoint of enterprise dynamic capability reveals the performance mechanism of enterprise dynamic capability, which is innovative.

2.3 Key problems of strategic enterprise dynamic capability

Under the global economic integration, the interaction and influence of many factors among stakeholders have become the key problems to be solved by enterprises, such as intensified competition, technical barriers, changes in consumer demand, product life cycle, energy saving and emission reduction. With the dynamic and uncertain external environment, enterprises attach great importance to strategic integration and foresight. The strategy changes competition from traditional hostile relationship to win-win cooperation, and the strategic focus has changed from focusing on matching internal resources and external environment to integrating and reconstructing internal and external resource capabilities (Liu, 2010).

At present, the main problems in enterprise strategic analysis are that they are slow to respond to new factors and new changes in the internal and external environment of enterprises, and it is difficult to distinguish their priorities, so they do not know how to analyze their impact on enterprises; The main problems in enterprise strategic decision-making are that most enterprises only pay attention to the interests of shareholders and senior managers, neglect the interests of other stakeholders, and make strategic decisions

that ignore or even deviate from the interests of other stakeholders, thus causing many obstacles and even complete failures in the implementation of strategic decisions; The main problems in the implementation of enterprise strategy are that enterprises are unclear about their own knowledge and capabilities, lack of effective mechanisms and measures to acquire new knowledge and capabilities needed for the implementation of strategic decisions, and fail to effectively allocate enterprise resources to match the implementation of strategy (Liu, 2010).

It is needed to further learn and utilize the western and Chinese enterprise dynamic capability theory, learn and master the measurement, sample statistical methods and empirical tests of dynamic capabilities of enterprises, and then supplement the dynamic theory with the local actual background. Take private hospitals in China as a case study to find an effective way to measure operability and improve enterprise performance, and help promote the practical application of dynamic capabilities theory in the commercial market (Jiao, 2010).

2.4 Performance mechanism of enterprise dynamic capability

2.4.1 Relationship between dynamic capability and performance of enterprises

We should study the dynamic capability theory deeply, as many problems need to be further discussed and solved. For example, does dynamic capability promote enterprise performance? How to effectively cultivate and build enterprise dynamic capabilities in the complex and changeable competitive environment? What are the influencing factors of enterprise dynamic capability? What is the difference between dynamic capabilities of enterprises and enterprise performance under the influence of different degrees of turbulent environment? Especially when there is low environmental turbulence, does the dynamic capability of enterprises still have value? What is the relationship between enterprise dynamic capability and performance, and what are the effective ways and means to influence and improve performance? In view of the influence of path dependence, social complexity and causal uncertainty on the accumulation of enterprise capabilities, it is necessary to further strengthen the empirical research on the relationship between enterprise dynamic capabilities and competitive advantages (Hai, 2012; Lu, 2019).

This thesis analyses the above problems through literature analysis and empirical research, with a view to contributing to the research on the practice and theory of organizational management and strategic management. It is proposed whether the measurement dimension of

dynamic capability is effective or not, which needs to be tested by its effect on enterprise performance. First, without considering the influence of other factors, the relationship between dynamic capability and enterprise performance has uncertainties, which has both positive and negative effects. Second, the relationship between enterprise dynamic capability and performance may need to be viewed from different dimensions. For specific dynamic capability dimensions, it may have different impacts on enterprise performance. Third, there are some mediating variables between dynamic capability and performance, such as innovative behaviours, operation competency and social capitals (Jiao, 2010).

2.4.2 Two-dimension model of enterprise performance: short term financial performance and long-term competitive advantage

Enterprises' performance is analysed from different angles, which is influenced by the differences of analysis level and strategy. Measure and evaluate enterprise performance from different aspects, such as financial indicators such as return on assets as a method to measure enterprise performance (Venkatraman & Ramanujam, 1986). Enterprise performance is not only financial indicators, but also non-financial indicators that affect the operation of organizations, such as brand awareness, corporate image, customer satisfaction and social responsibility. Dowlatshahi (Cao & Dowlatshahi, 2004) measured the performance from the aspects of market growth, enterprise profit rate, product and process innovation and enterprise reputation, according to the manager's perception score of each project (Jiao, 2010; 2011). This thesis summarizes the performance measurement and evaluation indicators in previous studies.

Table 3.1 Measurement and Evaluation Index of Enterprise Performance

Author and date	Measurement and evaluation indicators of performance
Stuart & Abetti (1987)	Increase rate of sales and success rate of innovation
Clark (1999)	Market shares, sales growth, satisfaction and loyalty of customers, branding rights and interests
Peng & Luo (2000)	Sales level and return rate of investment
Sarkar et al. (2001)	Market performance: sales volume growth, market shares, market expansion and R&D
Pavlou (2004)	Competitive advantages: efficiency of procedures and product's effectiveness
Jantunen et al. (2005)	International performance: sales volume, market shares, profitability and brand popularity
Dowlatshahi (2006)	Market growth rate, profit margin, innovation of product and procedure, reputation of the enterprise
Wu (2007)	Average return rate of investment of enterprise in the first two years
Hean et al. (2007)	Financial performance: profit, sales growth, market share; non-financial performance: achievement of the initial goal, safe employment opportunities, satisfaction level of performance

In the past, corporate financial indicators were usually used to measure performance by scholars, and the impact of dynamic capability on performance was investigated. Multiple accurate measurement tools were used to measure corporate performance in the way of supervisor self-assessment (Venkatraman & Ramanujam, 1986). Churchill et al.(1984) found that the self-assessment method of subjective identification does not expand the relationship between dependent variables and independent variables, but can provide the same results as objective data and superior evaluation methods (Jiao, 2010).

The first three years' performance data of the enterprise are described to reduce random fluctuation and abnormality of data, and compared with competitors with similar scale in the industry to eliminate the influence of enterprise scale factors. The performance evaluation is carried out by means of multi-recommendation.

Enterprise performance is divided into short-term performance and long-term performance, and short-term financial performance is the basis of long-term competitive advantage. Short-term performance is measured by financial performance or business performance, while long-term performance is measured by competitive advantage (Zou, 2009). Why use subjective evaluation method (Jiao et al., 2008)? ① It is difficult to obtain real data of enterprises, especially private enterprises. ② Many related factors affect absolute financial data. Direct comparison of objective financial data between enterprises may lead to misunderstanding, which will affect the data quality of questionnaire statistics. Adopting absolute financial performance will increase the reliability of research.

2.5 Structural dimension of enterprise dynamic capability

The existing research on dynamic capability has obvious shortcomings: First, the concept of dynamic capability lacks scientific and common definition; second, the dynamic capability theory lacks a feasible behavioural framework. Therefore, the research on dynamic capability needs to be further deepened. Since Teece has put forward the concept of dynamic capability, more than 20 scholars have defined the concept of dynamic capability (Hai, 2012). Because of the confusion of concept definition, scholars have great controversy on the dimensions and measurement of dynamic capability. In this thesis, the structural model of dynamic capability is constructed through a large number of literature studies, and the mechanism of the construction dimension on enterprise performance is analysed and discussed through empirical research. The dynamic capability performance mechanism of private hospitals in China is discussed by taking Foshan Chancheng (FCCH) as an example. Factor analysis is

used to analyze the dimension of enterprise dynamic capability structure, which consists of five dimensions: information utilization capability, resource acquisition capability, resource integration capability, resource reconfiguring capability and resource release capability (Hai, 2012).

(1) Information utilization ability

With the change of the competitive environment in the global market, the competitive advantage of enterprises has changed from the original competition of product quality and market to the competition of knowledge and technological innovation. The future development situation of enterprises and the measurement of enterprise value are closely related to enterprise informationization and information processing ability of enterprises. In this thesis, the ability of information utilization is defined as the ability of enterprises to collect and update information related to environmental changes and spread it effectively within the organization (Hai, 2012).

Teece (2007) thinks that information is the core element of dynamic capability and the microscopic basis of influencing enterprise performance. In the volatile market environment, enterprises constantly scan and monitor the information of market environment changes, obtain continuous information flow, and dynamically adapt to the external environment. Information gathering activities include investigating customer needs, technical possibilities, understanding and evaluating potential needs, structural evolution of industries and markets, responses of suppliers and competitors (Hai, 2012). After the information is filtered, enterprises spread it among the members of the organization, so that the department and all the staff can work together towards the goal of customer satisfaction.

Obtaining information will indirectly influence enterprise performance in many approaches, which is also the basis of enterprises to gain profits. The ability of processing, processing and utilizing information is an important manifestation of enterprises' information ability. Hambrick (1982) believes that in the complex and changeable external environment, if enterprises are sensitive to the information of market changes and pay attention to the collection, analysis and utilization of information such as competitors, market demands and government-related policy changes, they can take countermeasures before competitors. As Teece (2007) said, information utilization ability is the starting point and foundation of environmental cognition, and the primary element of enterprise dynamic capability.

(2) The ability to acquire resources

The acquisition of superior resources is the key for enterprises to survive in the fierce market competition and maintain their lasting competitive advantage. The heterogeneity of

resources owned by enterprises leads to the difference of competitiveness among enterprises. Wernerfelt (1984) thinks that resources are any advantage or weakness of a company, and these tangible and intangible resources include brand name, internal technical knowledge, employed skilled employees, trade contracts, machinery and equipment and capital. Wang (2005) believed that enterprises must gain resources and utilize them to create great performance to keep sustainable development, which is the key to grow. Makadok (2001) believes that the acquisition of superior resources has an important impact on enterprises' competitive advantage, obtaining superior resources has a very important influence on enterprises' long-term competitive advantage (Hai, 2012). Only when enterprises have scarce resources can they form a lasting competitive advantage, and it is difficult for them to flow freely between competitive markets.

(3) Resource integration ability

Resource integration is an organizational ability for enterprises to gain sustainable competitive advantage, and it is the ability for enterprises to adapt to environmental changes and integrate knowledge, technology and human resources inside and outside the organization. Collis (1994) thinks that the ability to integrate enterprise resources is valuable. Integration ability involves the management behaviour of enterprises across organizational boundaries, and the ability to integrate internal and external resources through cross-departmental and cross-enterprise communication, cooperation and sharing (Hai, 2012).

According to the competency school, enterprises can build their competency system through resource integration. Teece et al. (2009) thinks that in the dynamic market environment, the competitive advantage of enterprises comes from both the unique resources and the allocation of resources. Amit and Schoemaker defined enterprise capability as the capability of applying organizational process to allocate resources (Amit & Schoemaker, 1993).

Alberto & Technovation (1998) think that integration ability is the foundation of dynamic ability, and the ability of an organization to integrate internal and external resources and information to solve problems and improve performance. Clark and Fujimoto (Robertson, 1992) thinks that the differences of enterprise coordination practices have an important impact on enterprise performance, which will last for a long time. The ability of resource integration is an important source for enterprises to gain competitive advantage and high performance (Hai, 2012).

(4) Resource reconfiguring ability

In order to adapt to the dynamic changes of the environment, enterprises constantly reconstruct resources to achieve internal and external changes (Hai, 2012). The influence of reconstruction ability on enterprise performance is mainly manifested in strategic performance. Teece et al. (2009) believed that the ability of enterprises to change in turbulent environment is an important source to gain competitive advantage. It is called a "highly flexible" enterprise that has the ability to restructure. Zahra and George (2002) put that innovation ability and strategic flexibility are the most important factors for enterprises to gain competitive advantage in the dynamic market. Wang et al. (2003) proposed that enterprises should respond effectively to unexpected situations through organizational flexibility, and finally achieve the goal of improving competitive performance.

Protogerou et al. (2005) thinks that it is possible to reconfigure the asset structure of enterprises to realize the necessary transformation of internal and external environment, that is, the process of reconstruction or transformation. He (2006) thinks that in the dynamic market competition, enterprises need to keep strategic flexibility. In addition to entrepreneurs' strategic response ability, strategic flexibility also depends on the ability of enterprises to make rapid strategic adjustments to entrepreneurs' strategic response.

(5) Resource-releasing ability

According to Eisenhardt and Martin (2000), the release of resources is an important representation of the dynamic capability of enterprises. Leask and Parker (2007) maintained that if enterprises adopt the same strategy in the same market, the competition will be more intense (Hai, 2012), and the ability to divest assets in the dynamic changes of the competitive environment will have a direct positive impact on the competitive advantage and performance of enterprises.

Generally speaking, in the dynamically changing market environment, enterprises continuously collect and update the information flow of external environment changes, and dynamically integrate, reconstruct and release resources, so as to make the resources of enterprises match with the dynamics of knowledge and environment, so as to gain competitive advantage. Enterprise dynamic capability is a multidimensional conception, and clearly distinguishes the subdivision difficulty of multidimensional construction of enterprise(Hai, 2012).

2.6 Measurement of dynamic capabilities

Enterprise performance is a multidimensional and complex construction, which refers to the

business benefit and performance of managers in a certain period of operation. There is no generally accepted view on the measurement of enterprise performance in academia.

Because of the complexity and difficulty in the nature of measuring dynamic capability, there are great differences in the measurement model in academia. Because of the infinite cycle of capability (Collis, 1994), the analysis of the connotation and dimension of dynamic capability is still at some abstract and vague discussion level, lacking systematic and in-depth operability research (Hai, 2012; Li & Wang, 2004). To help guide the practical application of dynamic capabilities of enterprises, only by systematically integrating closely related dimensions can dynamic capabilities and performance be more conceptual and operational. In this thesis, the connotation, dimension and structure of dynamic capabilities are deeply studied by using enterprise strategy theory, and the promotion path of dynamic capabilities and competitive advantages of enterprises are deeply analysed (Hai, 2012), which provides theoretical support and practical guidance for enterprises to accelerate the cultivation and promotion of dynamic capabilities (see also Castaldi and Mendonça, 2022; Mendonça et al., 2021, 2022).

Through literature review, it is found that there are mainly the following methods to measure enterprise capability: ① Measurement of capability characteristics. Hendeson et al. (1994) used indirect methods to measure capability characteristics, for instance, the scarcity of capability was measured by the difference of enterprise performance, the continuum of which was also used to measure the difficulty in simulating capability. Wilcox and Zeithaml (2003) directly measured core competence from the aspects of tacit, robustness, embeddedness and consistency. ② The measurement of ability components. Berghe (Larry, 2001) measured the core competence of enterprises from the perspective of technology composition. ③ Comprehensive measurement. Leonard-Barton (1992) measured enterprise capabilities from four aspects: technical knowledge, technical system. Schroeder et al. (2002) measured enterprises' capability in combination with process activities, equipment resources, internal learning and external learning (Hai, 2012).

Copmell (1977) made an in-depth study on the measurement indicators of enterprise performance, and classified them into five categories, namely, overall performance, productivity, employee satisfaction, profit or return rate, and employee turnover rate. Ruekert et al. (1985) divided organizational performance into efficiency, effectiveness and adaptability. Venkartraman and Ramanujam (1986) believed that enterprise performance should be measured from three aspects: financial performance, business performance and organizational

efficiency. Many researches in the field of management usually measure the performance of enterprises with such indicators as return on assets, return on earnings per share and return on sales.

Researchers should be objective, scientific and reasonable when determining the measurement index of enterprise dynamic capability. The quality of measurement index is very important, which has a direct impact on the effect of hypothesis testing. At present, the ability measurement index has no extensive popularization value, and its reliability and validity need to be further tested. Through the in-depth investigation of multiple cases, this thesis makes an exploratory analysis on the dynamic capability of enterprises, and then uses statistical software to test the data, so as to determine the measurement framework system of the dynamic capability of enterprises that is in line with China's national conditions. Many scholars study dynamic capability operation, and the measurement methods used are mainly as follows (Hai, 2012):

(1) According to the components of enterprises dynamic capability measurement

Lawson and Samson (2001) applied the dynamic capability theory to investigate enterprise innovation, and thought that in a dynamic and complex environment, dynamic capability should be measured from seven elements, including vision and strategy, capability foundation, organizational intelligence system, management of new ideas, organizational structure and system, organizational culture and technical management. Caloghirou et al. (2004) studied the influence of industrial factors and enterprise factors on enterprise profits, and thought that learning ability, coordination ability and transformation ability should be used to measure dynamic ability (Jiao, 2010). According to Wang and Ahmed (2007), dynamic ability consists of the following three aspects: ① Adaptability. Focus on the ability to search effectively, discover and capture new opportunities in the market, and make a flexible balance between the exploratory and utilization strategies of enterprises. ② Absorptive capacity. An enterprise's ability to discover and effectively use external valuable information and transform it into commercialization. ③ Innovation ability. The ability of an enterprise to constantly match its own innovation behaviour and process with the overall innovation orientation and develop new products or services. Wilson and Daniel (Wilson & Daniel, 2006), from the perspective of marketing channels, put forward seven dynamic capability action forms in the multi-marketing channel reform.

He et al. (2006) thought that it could be based on customer value orientation (Prahalad & Hamel, 2010), technology and its supporting system (Larry, 2001; Prahalad & Hamel, 2010), organization support system (Chandler, 1962; 1990; Nelson, 1982), institutional support

mechanism (Leonard-Barton, 1992), the motive force of renewal (Collis, 1994), and the strategic isolation mechanism (Dierickx & Cool, 1989; Jiao, 2010). It is considered that the dynamic capability of Chinese enterprises can be measured from the aspects of market potential, organizational learning, organizational change, organizational flexibility and strategic isolation. Li (2005), using multiple case studies and starting from the origin of dynamic capability, thinks that dynamic capability is identified from the aspects of environment, strategy/tactics, products, resource structure and competitive advantage, and consists of opportunity identification capability, value chain allocation and integration capability, resource allocation and integration capability. By means of case studies and large sample surveys, these scholars measure the dynamic capabilities of enterprises from their constituent elements.

(2) According to the characteristics of enterprise dynamic capability to measure

Hendeson and Cockburn (1994) measured the scarcity of capability by the difference of capability level among enterprises, then measured the non-imitability of capability by the persistence of difference. Enterprise dynamic capabilities should be measured by reconfiguration, integration, quick response and ability to learn.

(3) Measuring the dynamic capability by integrating various business activities of enterprises

Sher and Lee (2003) measured organizational learning from the aspects of learning new knowledge, decision-making quality, communication and coordination ability, reaction ability, integration ability of new product development, knowledge accumulation ability, resource utilization ability and customer relationship ability. Jantunen et al. (2005), when studying the relationship among entrepreneurship orientation, dynamic capability and international performance, measured the dynamic restructuring capability by the number of enterprise restructuring activities in the previous three years and the success of implementing these activities. Cepeda and Vera (2007) measured dynamic capability from the perspective of knowledge management through knowledge reconfiguring capability in an empirical model (Jiao, 2010).

Scholars mainly measure the dynamic capability from the component elements. As the validity of measurement indicators directly affects the accuracy and appropriateness of theoretical assumptions, and there are great differences in economic systems, social systems, cultural environments, ., among enterprises in different countries, the relevant capability measurement indicators do not necessarily have extensive popularization value, and the reliability and validity of the questionnaire must be further tested in a specific context, thus a

thesis must be objective, scientific and reasonable when determining the dynamic capability measurement indicators of enterprises (Jiao, 2010).

2.7 General conception and research design

2.7.1 Content framework

According to the above-mentioned research problems to be further solved, based on the review and analysis of the existing theoretical literature, the overall writing ideas of this thesis to study dynamic capabilities and enterprise performance are roughly as follows: ① Based on the comprehensive analysis of the theory of enterprise dynamic capabilities by academic circles, further explore and analyse its constituent factors and indicators, identification system and activation mechanism, and thoroughly study and fully analyse the direct effect, intermediary effect and moderating effect between dynamic capabilities and enterprise performance. ② The mechanism of enterprise dynamic capability building is realized through organizational learning based on entrepreneurship orientation (Jiao, 2010). ③ The multi-level influence mechanism of dynamic capability includes entrepreneurs, senior management team, organizational resources and external environment. The specific sub-studies are as follows:

(1) This research deeply studies the identification system, activation mechanism and operability of enterprise dynamic capabilities. Firstly, this research studies the dimension of dynamic capability structure, and the first problem to be solved is what are the constituent factors and index system, which is the basis for the relationship between dynamic capability and enterprise performance to exert the mediating and moderating effects. Through reading a large number of documents, we find out the concept connotation, extension and types of dynamic capability, and determine the specific indicators of measurement.

(2) Combing and analysing the theoretical research of dynamic capability and enterprise performance, and empirically testing the direct effect, intermediary effect and moderating effect of their relationship through case questionnaire. Further explore and test the transmission mechanism of the relationship chain between dynamic capability and enterprise performance, and try to reveal how to promote the process of enterprise performance improvement (Jiao, 2010).

(3) Study and construct the multi-level influencing factor model of enterprise dynamic capability. Based on the above research foundation, the hypothesis that dynamic capabilities

are useful to enterprises is established, and then the influencing mechanism of dynamic capabilities of enterprises is further investigated. We usually use the multi-level analysis method to understand the complex phenomena in enterprise management practice. The enterprise is a complex system formed by different levels of subjects, including individuals, teams, organizational resources and external networks, while the single-level analysis method has great limitations (Hitt et al., 2007; Jiao, 2010). This thesis explores the formation mechanism of dynamic capabilities of enterprises, and constructs a multi-level conceptual model of influencing factors to provide operable reference for enterprises to shape dynamic capabilities.

(4) Study the effective mechanism of building enterprise dynamic capability. Dynamic capability refers to the ability of enterprises to quickly adapt to the dynamic changes of the environment. The entrepreneurial orientation of innovation, advance action and risk-taking within enterprises plays an important role in building and improving the dynamic capability of enterprises (Lawson & Samson, 2001). Teece (2007) holds that enterprise members with high dynamic ability are entrepreneurial. Tsoukas and Mylonopoulos (2016) believe that entrepreneurship uses knowledge flow and dissemination to promote organizational learning and organizational capacity development, and knowledge and learning play an important role in dynamic capacity development. Therefore, this thesis focuses on analysing the relationship and internal mechanism among entrepreneurship, organizational learning and enterprise dynamic capability, and finally analyses the construction mechanism of enterprise dynamic capability.

Chapter 3: Literature Review

Some predecessors of resource-based theory: There are at least four categories of previous research. The emergence and development of resource-based theory have important influences: (1) traditional research on unique capability; (2) Ricardo's analysis of land rent; (3) Penrose's research (Penrose, 1959); (4) Economic research on antitrust.

3.1 Previous research on resource-based theory

3.1.1 Traditional research on unique capability

For quite a long time, scholars have been trying to answer "Why do some enterprises always outperform others?" Before the interpretation of it from the economics perspective became dominant (Porter, 1979), the answer to this question mainly focused on the unique capabilities of enterprises. Unique capability is considered to be a variety of characteristics that can enable an enterprise to achieve its strategic goals in a more efficient and effective way than other enterprises (Bagenda et al., 2018; Hitt et al., 2011).

Among the unique capabilities that people are trying to find to explain the sources of lasting performance differences among enterprises, comprehensive management capability is one of the first unique capabilities to be paid attention to. The general manager refers to the manager to whom the managers of each specific functional department in the enterprise report. Generally speaking, the general manager should take full responsibility for the overall profit and loss of the enterprise. Even if they are not responsible for the overall profit and loss of the enterprise, most of them will be the head of the cost centre. No matter who is in charge of the profit or the cost centre, the general manager has an important influence on the strategy decided by the enterprise and the ability of the enterprise to implement the strategy it has formulated.

In view of the important influence of the general manager on enterprise strategy, it is natural to draw the conclusion that enterprises with "high quality" general managers often have better performance than those with "low quality" general managers. In this sense, selecting high-quality general managers is the most important strategic choice an enterprise can make, and cultivating high-quality general managers is the most important mission of business schools (Gordon & Howell, 1959; Pierson, 1959).

Emphasizing the general manager as a unique capability of an enterprise is not only important in the field of strategic management, but also in some other closely related fields. For example, until the early 1950s, a large part of the research on business history was limited to the study of individual entrepreneurs and enterprises. Traditionally, apart from personal biography and corporate history, business historians are reluctant to discuss economic trends that may lead to different forms of business organization in a broader sense, let alone the efficiency characteristics of these different forms of organization. Like strategic management, for business history, the explanation for the growth and success of enterprises is nothing more than the growth history of those who founded and managed these enterprises (Chandler, 1984).

Undoubtedly, it is a basic consensus that the general manager has a significant impact on the performance of enterprises. It has always been a traditional topic in the field of leadership behaviour and leadership ability to examine the skills and competencies of leaders and to explore the influence of these skills and abilities on their enterprise performance (Finkelstein & Hambrick, 1996). Some representative studies in this field focus on discussing the department managers as the implementers of change, and emphasize the influence of these "transformational leaders" on enterprise performance (Tichy & Devanna, 1986). Most critics can specifically cite those general managers who have made important contributions to the improvement of enterprise performance. Popular books, articles and seminars that describe what qualities make an excellent business leader (Bennis, 2003; Kotter & Cohen,2002; Zenger & Folkman, 2002; Ulrich,1997; Kotter, 1996; Pfeffer, 1994; Kanter et al. 1992; Bennis & Townsend, 1989), are good examples of the universality of the creed that regards leaders, especially general managers, as the most important determinant of enterprise performance.

Unfortunately, this kind of research to explain the differences of sustained performance among enterprises through general managers has significant limitations. First of all, even though people accept the idea that comprehensive management decision is the most important factor affecting enterprise performance, the characteristics and features that a "high-quality" general manager should possess are still vague and difficult to refine. In fact, the characteristics of a "good" general manager are as vague as those of a "good" leader (Yukl, 1989). In literature of case studies, different types of general managers can be proved to be very effective. For example, John Connelly, the former president of Crown Cork & Seal, dabbled in almost every aspect of his company (Hamermesh 1989)**,** but other successful chief executives (CEOs) were more inclined to delegate most of their daily affairs to others (Stogdill, 1974), but both types of general managers are very effective.

Secondly, the general manager may be an important and unique capability of the organization, but not the only one. Emphasizing the one-sided general manager's role in the

company's excellent performance often makes people ignore other enterprise characteristics that contribute to performance. For example, an enterprise may have a high-level general manager, but it lacks other resources needed to gain performance advantages; Or conversely, even if an enterprise does not have unusual management talents, it may also gain performance advantages because it has other resources. In short, the general managers in the organization are similar to football coaches to a great extent: when the results of the game are good, they get too much praise; When the result of the game is poor, they are criticized too much.

Selznick, a sociologist, is one of the pioneer scholars who first realized that the general manager's management capability is only one of several unique capabilities owned by enterprises. In a series of articles and works, especially in his masterpiece *Leadership in Administration* (Selznick, 2011), he examined the relationship between institutional leaders and unique abilities.

According to Selznick's point of view, institutional leaders in organizations not only perform general management functions, such as decision-making and administration, but also create and define the goals and missions of the organization (Selznick, 2011). In more lastest terms, institutional leaders should be able to create a vision to unite their members (Finkelstein & Hambrick, 1996; Collins & Porras, 2005)**.** Institutional leaders should also organize enterprises in a way that reflects their fundamental goals and visions. Selznick believes that with such an organization, institutional leaders can concentrate on defending the unique value and characteristics of the enterprise-the unique vision of the enterprise-from internal and external threats. However, it is not difficult to see that enterprises with unique capabilities have the power to obtain excess performance, and their leaders, as builders of vision and system-not just decision makers and administrators-will be an important source of performance advantages (Selznick, 1957).

The analysis of Selznick's unique capability has many merits, but limitations also worth attentions. Most importantly, Selznick's analysis only focuses on top managers (institutional leaders, which are the ultimate source of competitive advantage of enterprises) and a single tool (the development of organizational mission, which is used as a means for top managers to develop unique capabilities). Although these may explain the performance differences among enterprises, they are not the only possible explanations.

3.1.2 Riccardo’s analysis on land rent

The research that regards general managers and institutional leaders as explanations of differences in enterprise performance emphasizes the role of senior managers. However, another research that has had an important impact on the development of resource-based theory—Ricardo's analysis of land rent—has traditionally hardly regarded the role of

managers as an influencing factor of enterprise's outstanding performance. On the contrary to previous studies, David Ricardo paid more attention to the economic impact of primitive, non-expandable and indestructible natural endowment (Riccardo, 1817). Many early studies in this field focused on the analysis of the economic effects of owning land.

Different from other factors of production, the total supply of land is relatively fixed. In the case of high demand and high price, the supply of land cannot be significantly increased. This factor of production, which has a fixed supply and does not change with the price change, is completely inelastic. In this situation, the owners of production factors with high quality and inelastic supply capacity may get economic rent. As mentioned earlier, economic rent refers to the minimum amount paid by the owner of a certain factor of production that exceeds the amount required to induce this factor to enter the production process.

Ricardo regards land as a factor of production. Suppose there are several plots of land suitable for growing wheat, and the fertility of these different plots varies from high (low production cost) to low (high production cost). Then, the long-term supply curve of wheat in this market can be described as follows: at low prices, only the most fertile land is used for cultivation; When the price rises, the output comes from the most fertile land plus slightly fertile land; With rising prices, even the poorest land has been cultivated.

Now consider the situation where there are two different types of enterprises. Both enterprises follow the traditional profit maximization logic, that is to say, by producing products with marginal cost equal to the output (Q) of marginal revenue. However, this profit-maximizing decision makes enterprises with sub-fertile land get economic rent because the average total cost is lower than the market price.

In the traditional economic analysis, owning fertile land to get economic rent will induce other enterprises to enter the market and acquire land for wheat production. However, at a given market price, all the land that can produce wheat and generate no less than zero economic profit has been used for production. Especially, according to the hypothesis, there is no more fertile land left and fertile land can't be re-created, which is why the land supply is inelastic. In this way, compared with enterprises with poorer land, enterprises with more fertile land and lower production costs will achieve a higher level of performance, and because the supply of fertile land is inelastic, this difference in performance will continue.

Certainly, there are at least two situations that will challenge this lasting performance advantage. First, the market demand moves to the lower left. This will force enterprises with poorer land to stop production, and at the same time reduce the economic rent of enterprises with more fertile land. If the market demand moves far enough to the lower left, the economic rent may disappear completely.

Secondly, enterprises with poorer land may find some ways with lower cost to improve

the fertility of their land, thus reducing the performance advantage of enterprises with more fertile land. For example, enterprises with poorer land can use cheap fertilizer to improve the fertility of the land, reduce their own production costs and make them closer to the initial costs of enterprises with more fertile land. The existence of these cost fertilizers shows that although the land supply is fixed, the fertility of the land is not necessarily constant. If there are enough enterprises that can continuously improve the fertility of their land, then the initial rent that enterprises with more fertile land can get will disappear, and enterprises competing in this market can only expect to get zero economic rent.

Traditionally, most economists implicitly assume that there are only a few factors of production whose supply is inelastic (Hirshleifer, 1980). Most economic models assume that if the price of a certain factor rises, more of it will be produced, the supply will increase, and the supplier will only get normal economic profits. However, according to the resource-based theory, a large amount of resources used by enterprises are inelastic and may be the source of economic rent. Therefore, although the labour force itself may not be inelastic, the labour force with high skills and creativity is inelastic; Similarly, although individual managers may not be inelastic in supply, managers who can work effectively in a team may be; Although senior managers may not be inelastic in supply, senior managers with institutional leadership qualities may be. Enterprises that own (or control) these resources can make full use of them to obtain economic rent.

A question neglected by Ricardo which yet is very important in the resource-based theory is: "How did the farm with more fertile land possess that land?" Or, more precisely, "What did the farms with more fertile land pay for these lands?" The basic resource theory is that if the price paid by farmers to obtain more fertile land reflects the economic rent that this land can create, then the value of these economic rents should be reflected in this price. Then, even if the farm with more fertile land appears to perform better than the farm with poorer land, it is actually not.

3.1.3 Penrose

Edith Penrose published the book The Theory of Enterprise Growth in 1959, which aims to explore the process of enterprise growth and the factors that restrict it. Traditional economic models use the assumptions and tools of neoclassical microeconomics to analyze the growth of enterprises (Penrose, 1959). For Penrose, the most important thing is whether the assumption that the enterprise is modelled correctly as a relatively simple production function can be established. In other words, the traditional economic model assumes that enterprises only observe the supply and demand conditions in the market, and then convert these conditions into the output that can maximize the profits of enterprises (Nelson & Winter,

1982).

The abstract definition of "enterprise" has its value in some situations. However, when trying to understand the constraints of enterprise growth, Penrose thinks this abstract concept is useless. On the contrary, he believes that an enterprise should be understood as a management platform that connects and coordinates many individual and team activities. Secondly, enterprises should be a group of productive resources. The manager's task is to fully develop the productive resource bundle owned by the enterprise by coming to Taiwan through the management of the enterprise. According to Penrose's theory, the growth of an enterprise is subject to: (a) productive opportunities, which exist as a function of the productive resource bundle controlled by the enterprise; (b) The management platform used by enterprises to coordinate the use of these resources.

In addition to analysing the growth capability of enterprises from the perspective of enterprises, Penrose made several other contributions to Resource-based theory. First of all, he observed that there are significant differences in the productive resource bundles controlled by enterprises. Thus, even enterprises in the same industry are heterogeneous in nature; Secondly, Penrose adopted a broader definition of productive resources. Traditional economists (including Riccardo) mainly focused on the supply of inelastic resources (such as land), while Penrose began to study the competitive significance of inelastic productive resources such as management team, senior managers and entrepreneurs (entrepreneurs). Finally, Penrose realized that even if the category of productive resources is expanded, there may still be other sources that lead to enterprise heterogeneity. Therefore, in his analysis of taking entrepreneurial talent as a possible productive resource, Penrose found that compared with other entrepreneurs, some entrepreneurs are more versatile, some are more creative in raising funds, some are more ambitious, and some have better judgment.

3.1.4 Economic research on antitrust.

As a research field, economics has always been used to reflect the social and political implications of its theory constructed. One of the most important aspects that economists use to guide social policies is anti-trust control. Based on the conclusion that social welfare is the largest in a perfectly competitive market, economists put forward various tools to describe what impact an industry will have on social welfare when it is in a state of imperfect competition. Furthermore, whether there are remedies (if any) to increase competition and improve social welfare.

One of the most obvious manifestations of an industry in a state of imperfect competition is that the whole industry is dominated by only one enterprise (i.e. monopoly) or a few collusive enterprises (i.e. oligarchy). In both cases, according to the analysis of traditional

economic theory, the market price will be higher than that in the competitive market, so the social welfare will also be reduced.

This method used to analyse social welfare and antitrust has developed into the so-called "structure-behaviour-performance" (SCP) paradigm (Bain, 1956). SCP paradigm holds that the industrial structure of an enterprise determines the scope of activities (so-called behaviours) that the enterprise can engage in, and further, it will also affect the performance of enterprises in that industry. Those enterprises that operate in an industrial structure different from perfect competition can choose to operate in a way that significantly reduces social welfare. In this extreme case, firm performance determinism holds that any lasting outstanding performance enjoyed by an enterprise must, by definition, reflect the non-competitive corporate behaviour that runs counter to social welfare.

Beginning in the early 1970s, a small number of antitrust scholars began to question SCP theory and seek ways to establish relevant antitrust control policies, the most famous of which was Harold Demsetz. In 1973, Demsetz (1973) published a paper in the *Journal of Law and Economics*, arguing that industrial structure was not the only determinant of enterprise performance. More importantly, he believes that an enterprise's achievement of lasting outstanding performance cannot be regarded as conclusive evidence that the enterprise must engage in anti-competitive activities. Indeed, prior to the resource-based theory, Demsetz believed that some enterprises can obtain lasting performance advantages, either because they are lucky or because they are better at positioning customer needs. Demsetz (1973, page 3) wrote: Excellence can be attributed to the great uncertainty of an enterprise plus luck or extraordinary insight in management ... Even though the profits generated by enterprise activities may be eroded by competitive imitation, because it is costly to obtain information and difficult to copy skills, the enterprise will achieve growth and high rate of return in a period of time…

Excellent capabilities can also be interpreted as the competitive basis for gaining monopoly power. In a world where information is expensive and the future is full of uncertainty, enterprises that can seize the opportunity to provide better services to customers do so because they expect to benefit by seizing opportunities that their competitors ignore or are difficult to quickly imitate.

Although it was put forward in the process of discussing anti-Tobias regulation, Demsetz clearly foresaw some important principles of the logic of resource-based theory. Interestingly, Demsetz put forward his own views based on an alternative method of SCP antitrust theory. Since Porter (1979, 1980) traced his theoretical roots back to SCP paradigm, Demsetz foresaw the dispute between resource-based theory and Porter's theoretical framework in a certain sense.

So far, we can conclude that the resource-based theory has become an important explanation of lasting outstanding performance among enterprises in the field of strategic management. It is not without foundation, but deeply rooted in economics and sociology. These theoretical tributaries have been integrated and revised to become the current resource-based theory.

3.2 Review of the development of resource-based theory

The resource-based theory originated from Marshall's Firm Growing Theory in the 1920s and promoted by scholars including Penrose. In the 1980s, Wernerfelt made a comprehensive explanation on it and in the 1990s, Hamel and other experts began to make in-depth application of it. Then, the theory gradually develops into one of the significant enterprise management theories at the moment. The emergence of the Resource-Based Theory is not accidental but the unquestionable product in the knowledge economic era, which offers theoretical guide for the planning and implementation of enterprise development strategy.

The resource-based theory contains two hypotheses: "What is enterprise?" and "What do an enterprise's long-term competitive advantages source from?" There are three schools regarding the resource-based theory, namely, the outlook on enterprise resources, the outlook on capability and the knowledge theory, all of which have a consistent way of thinking, that is, in essence, an enterprise is a unique organization that is made up of elements including products and business, and the competitive advantages come from those elements with special natures. The possession of such rare, unique and inimitable resources and capabilities lead to a long-term difference among enterprises. Enterprise which own unique resources for long are easier to gain sustainable competitive advantages and excessive profits. The essence of the resource-based theory is that setting an enterprise as the study object, focusing on each resource that owned by the enterprise, putting enterprise internal resources as the basis and starting point, improve the enterprise's competitive advantages and gain excessive profits by discussing unique resources and special capabilities.

The founder of the resource-based theory Penrose (1959) puts forward the "Organization Non-Equilibrium Development Theory", becoming the pioneer adopting economics principles to discuss the relationship between enterprise resources and enterprise growth. He believes that enterprise is the complex that "is established in the managerial framework with different resources" and "gains human or non-human resources to provide the market with products or services for profits", and that "enterprise growth depends on effective utilization of the

existing resources". The internal resources and capabilities lay a solid foundation for enterprise performance and development direction. Enterprise growth is an infinitely dynamic and changing operational and management process of constantly discovering unused resources. The management resources are the source of enterprise growth and it is of prominent significance to break through the limitation of management service supply and release management capabilities.

Rumelt (1980) points out the gap of resource endowment among enterprises, Wernerfelt (1984) raises the concept of resource location barrier, and Barney (1991) puts forward the heterogeneity of enterprise internal resource basis. He defines enterprise resources as "all assets, capabilities, organizational procedures, enterprise specificity, information and knowledge that controlled by an enterprise, which enables the enterprise in question to draft and implement strategies that improve efficiency and performance".

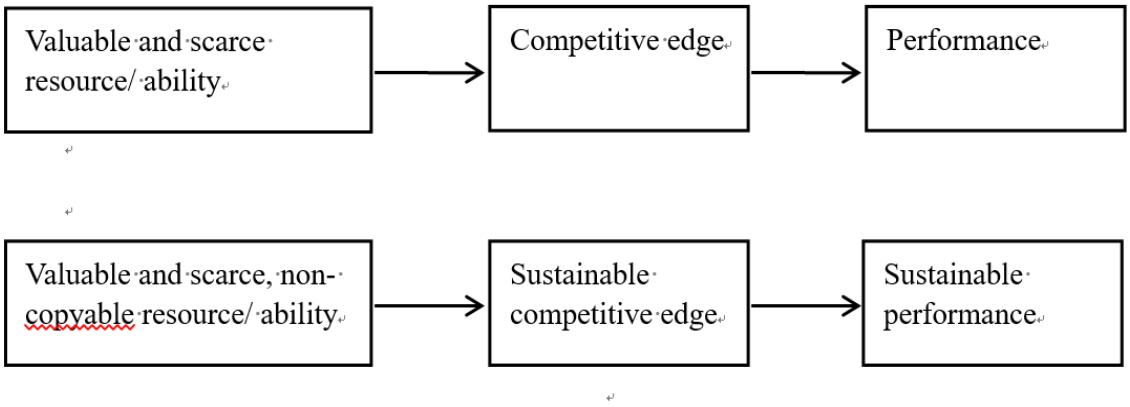

Figure 3.1 Barney (1991)'s concept model

Prahalad and Hamel (1990) put forward "core capability", signalling that the Capability Theory has developed into a new phase. They define core capability as "the collective knowledge of an organization, especially the knowledge of how to coordinate various production skills and how to integrate multiple technological streams". Three criteria to identify core capability are: the capability to provide possibility to enter dozens of product market, the capability to create outstanding value of use for customers with terminal products and the capability to make competitors hard to imitate.

Teece and Pisano (1997) put forward dynamic capability. These sholars pay an increasing attention to the function of internal resources and capabilities in enterprise growth.

Penrose (1959), Wernerfelt (1984) and Barney (1986) hold that enterprise is "a unique resource complex", and that the long-lasting competitive advantages of an enterprise originate from its special resources and strategic assets that are hard to be imitated and traded.

Prahalad and Hamel (1990) as well as Teece and Pisano (1997) think that enterprise is "a complex with unique capabilities" and that the long-term competitive advantages of an enterprise source from the core capabilities or dynamic capabilities of an enterprise.

Kogut and Zander (1992), Spender (1996) deem that enterprise is "a unique complex of knowledge" and that social knowledge embedded within an enterprise constitutes the source of competitive strengths in a long term.

The Resource School considers that every organization is a unique complex of resources and capabilities and lay a foundation for enterprise competitive strategies. The key of enterprise strategic management, to the largest extent, is to cultivate and develop an enterprise's unique strategic resources and optimize the allocation of such a unique capability, i.e. core capability. The establishment of core capability requires an enterprise's continuous accumulation of different resources that are necessary for strategy making as well as learning, transcendence and innovation. After reaching a certain level of core capability, the enterprise can create its own special, inimitable, irreplaceable and exclusive strategic resources by a series of combination and integration so as to gain and maintain sustainable competitive advantages. Meanwhile, the Resource School admits the importance of industry analysis, holding that the significance of enterprise capability can only be reflected in the environment of industrial competition. Hence, the strategic thoughts of the Resource School can be concluded as: industrial environment analysis and enterprise internal resources analysis -- drafting of competition strategy -- implementation of competition strategy -- accumulation of strategic resources and establishment of core capabilities that fit the industrial environment -- gaining competitive advantages -- performance achievement.

The birth of the Resource School has greatly changed enterprises' strategic management thoughts, which is shown as below. First, an enterprise's competitive advantages come from its unique rare resources and capabilities, so the key of competitive advantage building should lie in the integration and control of rare resources and capabilities. Second, the strategic merger of element market does not suffice to build competitive advantages while strategic alliance is an effective way to integrate static resources and capabilities and further forming competitive advantages. Third, the success of an enterprise comes from resources and capabilities that are valuable and available at a lower cost than their value. Consequently, the key factor to ensure a successful strategy is to look for special resources accumulated inside the enterprise instead of the universally significant factors that are suitable for a majority of successful companies. Fourth, technology patents have a limited protection on an enterprise's competitive advantage; it is the sustainable innovation that can protect them. Fifth, without

the diversification of enterprise core capabilities, enterprise performance will be reduced. The refocusing on "return to the basic" is the direction of diverse development.

The Enterprise Capability Theory is based on the Enterprise Internal Growth Theory, whose origin can be traced back to classic economist Adam Smith's Division of Labor. As the main topic in the strategic management theories from the 1980s to the 1990s and greatly developed after the 1980s, the theory includes the "Enterprise resource-based theory" (Wernerfelt, 1984), "Enterprise Knowledge-Based Theory" (Demsetz, 1988) and "Enterprise Core Capability Theory" (Prahalad & Hamel, 1990). The Enterprise Capability Theory holds that the unique ability of an enterprise is the source of enduring competitive advantages. Capability is the key skills and invisible knowledge of an enterprise. It is the intellectual capital owned by an enterprise. Since the special capability is given, the emphasis of the studies is on the use of it.

3.3 Resources and enterprise performance

As is believed in the resource-based theory, valuable, scarce and inimitable resources can serve as the source of competitive advantage. In the field of strategic management, most empirical research on resource bases focus on identifying the attributes of resources that are predicted by the resource-based theory and that are fundamental to the company's performance, and examining whether these expected performances exist or not. Scholars have examined the impact of corporate resources of various types on performance, including the history of enterprises (Collis, 1991; Barnett, Greve, et al., 1994; Rao, 1994), employee proprietary technology (Hall, 1992, 1993; Glunk & Wilderom, 1998), corporate integration capabilities (Henderson & Cockurn, 1994), corporate innovation capabilities (Bates & Flynn, 1995; Mcgrath, et al., 1996), corporate culture (Moingeon, et al.,1998) and the network location of companies (Baum & Berta, 1999; McEvily & Zaheer, 1999). Various methods have been used to examine the impact of corporate resources on performance, including large sample surveys, small sample surveys, case studies and simulation experiments. In general, the conclusions of those studies are consistent with the expectations of the resource-based theory.

However, there are still some studies that produce results which are inconsistent with expectations of the resource-based theory. For example, the analysis of vertical integration by Poppo & Zenger (1995) complied with the transaction cost economics instead of the resource-based theory. Similarly, Scherer et al. (1998) suggested that compensation policies

can influence the cooperation between a company and its employees, but environmental conditions are more essential in such cooperation. Those similar results show that, in the resource-based theory, further research is needed in determining whether, where and when different resources have value (Priem & Butler, 2001).

Further studies on the impact of resources and capabilities on corporate performance include significance of the company's proprietary knowledge for the development of technological process (Pisano, 1994), comprehensive capabilities and familiarity in capacity development (McGrath, et al., 1995), capabilities of identification, communication and creation (Zander & Kogut, 1995) and the emergent strategy of company's proprietary resources (Brush & Artz, 1999). In their widely-acclaimed paper published in the Strategic Management Journal, Miller and Shamsie (1996) examined property-based and knowledge-based resources of the US film industry, and studied their impact on performance. Other researches on knowledge-based resources include research on stocks and flows of organizational knowledge (De Carolis & Deeds, 1999), research on negative effects of non-local learning (Greve, 1999), research on the integration of knowledge in product development (Hoopes & Postrel, 1999), research on the transfer of intellectual property from universities to companies (Stevens & Bagby, 1999), and the tacit knowledge of teamwork in the NBA (Berman, et al., 2002).

Schoenecker and Cooper (1998) studied the role of company resources and organizational attributes in determining the entry timing of a company. Ruiz-Navarro (1998) focused on the recognition and acquisition of complementary capability when a company underwent changes. Maskell (1998) investigated the resource agglomeration of low-tech manufacturing companies. Other scholars assessed: the performance effect of total quality management (TQM) projects (Reed, et al., 1996); the proper and sustained rent of human resources (Maijoor & Witteloostuijin, 1996); senior executives and organizational capital (Glunk & Wilderom, 1998); organizational obstacles of innovation (Dougherty & Hardy, 1996); and modes of inter-organizational imitation (Haunschild & Miner, 1997). Judge and Douglas (1998) researched on how to integrate environmental management factors during the strategic planning process. Further researches on resources and capabilities include relationship capability (Lorenzoni & Lipparini, 1999), corporate governance (McGuire, 2000), localized learning (Maskell & Malmberg, 1999), age dependence (Henderson, 1999), isolating mechanism (Oktemgil, Greeley & Broderick, 2000), the address of an airline in its competitor's central market (Gimeno, 1999), technological competitiveness and inimitability (DeCarolis, 2003) and management vision concerning innovations and breakthroughs of

patents (Ahuja, et al., 2005). When Yeoh and Roth (1999) researched the potential sources of the sustained competitive advantage in the pharmaceutical industry, Pettus (2001) identified the resource development path of the deregulated trucking industry. Douglas (2003) found that in medical industry, the service-related strategic competitiveness was positively related to financial performance. Hansen, Perry and Reese (2004) used the multiple Bayes estimation to conduct a long-term research on the relationship between the management decision-making and economic performance.

3.4 The historical origin of dynamic capability theory

Competitive advantage has always been the research topic. The core concept of "competitive advantage" can be traced back to 1930s, after the combination of advantage with competition was performed, and then the concept of "competitive advantage" was gradually widely used.

In 1959, Penrose, a professor at Johns Hopkins University, published the book *Enterprise Growth Theory*, which constructed an analytical framework of enterprise resources-enterprise capabilities-enterprise growth, and revealed the internal driving force of enterprise growth. Penrose put forward a profound question in the book "Theory of Enterprise Growth"-is there any internal force in the nature of enterprises that can not only promote the growth of enterprises, but also inevitably limit its growth speed? This question itself and its answer are the subversion of neoclassical economic equilibrium theory (Hai, 2012). Penrose (Edith & Planning, 1996) believes that enterprises is a management organization, and it is also the integration of human resources and material resources, but also an aggregate of productive resources with different uses and determined by management decisions over time. Therefore, she deeply analysed the prominent features and functions of enterprise resources and capabilities as the basis of enterprise growth, and regarded resources and capabilities as the source of sustainable competitive advantage for enterprises.

In the early 1980s, Porter's articulated his vision on "structure-behaviour-performance", which is unique to the dominant industrial organization theory (Ge & Xiao, 2008). Porter (1985) thinks that the competitive advantage of enterprises comes from their industrial structure and their relative market position in this product. The external market opportunities and competitive relations determine the external competitive advantages of enterprises. Different competitive forces determine the industrial competition of enterprises, mainly including the competition of existing competitors, the market entering new competitors, the threat of substitutes, the bargaining power of buyers and suppliers,. Under their joint action

and influence, enterprises can obtain sustainable competitive advantages, such as "completing activities by means lower than competitors' costs, planning novel and unique ways to create customer value, and gaining higher than average industrial level profits by occupying a certain market segment" (Hai, 2012).

Wernerfelt (1984) put forward the resource-based theory to solve the problem of "why enterprises in the same industry have different performance". He believes that the root of competitive advantage lies in the attributes of resources and capabilities owned by enterprises. This theory holds that enterprises is composed of a series of resources with different attributes and distributed in different time and space, and proposes that if enterprises has resources with heterogeneous and unique attributes, it can formulate corresponding innovation strategies and gain competitive advantages on the basis of these advantageous resources (Hai, 2012). In the process of development, the sustainable competitive advantage of enterprises is stronger through the complementarity of resources and related systems. Identifying and resetting key resources plays a very important role in the sustainable competitive advantage. He analysed the growth and development of enterprises from the perspective of internal resources of enterprises. This theory lays a foundation for the development of enterprise capability theory.

In 1990, Prahalad and Hamel published the article *Enterprise Core Competence* in *Harvard Business Review*, and considered that core competence is the source of competitive advantage. However, core competence does not necessarily bring sustainable competitive advantage to enterprises. Leonard-Barton (1992) thinks that the core competence of enterprises also constitutes the disadvantage of enterprises, and points out that due to factors such as sunk cost effect, substitution effect and path dependence of innovation, the long-term accumulation of core competence of enterprises will lead to inertia that is difficult to adapt to environmental changes, that is, core rigidity. If enterprises cannot update their core competence, then core competence will eventually become core rigidity, which will cause enterprises to fall into "inertia trap" (Hai, 2012).

Grant (1996) and Spender (2004) emphasized the importance of knowledge-based organizational capability, and studied the influence of knowledge on enterprise boundaries, behaviour, performance. The commonness of these theories is that they all emphasize the advantage barrier or isolation mechanism of enterprises to win in the competition, ignoring the analysis of the external environment of enterprises, thus ignoring the dynamic characteristics of market demand (Hai, 2012).

Teece et al. (2009) published the article *Dynamic Capabilities and Strategic Management* in the *Journal of Strategic Management*, which marked the formal establishment of the

framework system of dynamic capability theory, and the dynamic capability theory developed rapidly in the contemporary strategic management field. Teece et al. (2009) defines dynamic capability as the ability of enterprises to adapt to the rapidly changing external environment and to construct, integrate and reconfigure internal and external capabilities. In recent years, more and more scholars have joined in the research of dynamic capability theory, which has become an important theory in the field of contemporary strategic management.

3.5 Analysis of the evolution of enterprise dynamic capability theory

Throughout the development of strategic management theory, the theory of studying the internal elements of enterprises represented by resource school and ability school has played a very important role, gradually opening up the true face of enterprises called "black box" by neoclassical economics, and making people understand why some enterprises have long-term strategic strength and competitive advantage, while others fail (Jiao, 2007). With the passage of time, the resource school and the ability school have been constantly questioned by scholars (Leonard-Barton, 1992); Augier & Teece, 2007; David & Gary, 1994; Teece et al., 2009; Louçã and Mendonça, 2002; Castellaci et al., 2005; Caraça et al., 2009; Mendonça, 2006).

For the resource school, firstly, the definition of resource concept is vague, and a unified concept of enterprise resource has not been formed. The main resources of enterprises include human resources, financial resources, natural resources, management resources and technical resources, but they have not been fully recognized in academia. Secondly, due to technological development, resources are no longer scarce, rare, difficult to imitate and difficult to replace as advocated by the resource school, and more and more resources in the same market system are homogeneous. Thirdly, the resource school emphasizes the internal growth of enterprises and the accumulation and application of internal resources, so as to form and create strategic advantages. However, it does not give enough consideration to how enterprises adapt to the changes of external environment, especially the dynamic technology and uncertain technical environment (Jiao, 2007). Fourthly, the resource school's explanation of the source of long-term competitive advantage of enterprises has not given a feasible method to identify, cultivate and maintain resources, and has not put forward a practical operational way or idea to effectively manage the accumulation and use of resources.

Competency school holds that, firstly, competence is the key skill and tacit knowledge owned by enterprises, and a kind of intellectual capital owned by enterprises. It is the source

of enterprise decision-making and innovation, but scholars gradually find that the adjustment of enterprise competence is greatly restricted by the original complementary assets of enterprises. Complementary assets are special assets of enterprises, which are irreversible investments made by enterprises when they establish their existing capabilities, and have value only when they are connected with specific products, technologies or modes of operation. Secondly, Prahalad and Hamel (2010) published the article "Enterprise Core Competence", the core competence theory, a branch of competence theory, has been paid attention to and developed rapidly. However, with the deepening of research, the limitations of core competence are highlighted. Thirdly, Leonard-Barton (1992) first studied the problem of ability rigidity. He believes that after many years of accumulation and formation of its unique capabilities, enterprises will intentionally or unintentionally reject other capabilities and form a rigid capability, which is mainly manifested as: burnout, lack of motivation and enterprising spirit; Unwilling to penetrate into new business areas, narrow vision, and only satisfied with successful products or markets (Jiao, 2007); Being conformist, afraid of taking risks, only believing in past successful experiences, and trying to maintain existing abilities. Due to the path dependence of enterprise historical development, the specificity of enterprise assets, sunk cost effect, substitution effect, the static efficiency of one-sided pursuit of core competence, the limitation of linear thinking mode, the cognitive ability and inertia of enterprise members (Simon, 1976), and people's fear of uncertainty and risk aversion tendency (Jiao, 2007). Fourthly, the special ability of enterprises is the source of its lasting competitive advantage. However, the characteristics of capability itself determine that enterprise capability has strong inertia. This inertia makes it difficult for enterprises to obtain lasting competitive advantage in super-competitive environment, whether it is special competence or core competence.

With the strengthening of the trend of global integration, the market and industry environment in which enterprises are located tend to be complex, dynamic and uncertain, and the competition among enterprises as the main body of market competition becomes more intense. Some enterprises are short-lived in business history for various reasons, such as CEO's lack of foresight and ability of continuous learning, that is, entrepreneurs have not continuously updated their mental models and built dynamic transition ability beyond different life cycle stages within enterprises (Wu, 2013). Therefore, the static equilibrium formed by enterprises in the past stable market environment is constantly broken, and the competitive advantage of enterprises often cannot persist. Therefore, theoretical research and business practice urgently need the emergence of new theories.

Teece et al. (2009) formally put forward enterprises dynamic capability theory in the Strategic Management Journal from the perspective of dynamic matching, the capability theory has exerted great influence in the academic and business practice fields. Teece et al. (2009) think that the dynamic capability of enterprises is the capability of integrating, constructing and reorganizing internal and external competencies to adapt to the rapidly changing environment (Cui & Jiao, 2009). Kogut and Zander (1992) describe the organizational process with joint capabilities, through which enterprises synthesize and acquire knowledge-based resources and create applications of these resources. Amit and Schoemaker (1993) emphasized that only by integrating the organization's unique capabilities or strategic assets can it produce sustainable competitive advantages. Because the theory of enterprise dynamic capability emphasizes the integrity, complexity and dynamics of enterprises, and has the potential to explain the source of sustainable competitive advantage of enterprises, many scholars have done in-depth research and discussion on this, which greatly enriches the theory of enterprise dynamic capability.

3.6 Connotation and characteristics of enterprise dynamic capability

3.6.1 Connotation of dynamic capability of enterprises

There are many concepts similar to dynamic capability in the early theoretical circles. Lawrence and Lorsch (1967) put forward the concept of integration ability. Thereafter, R. Amit and Sehoemaker thinks that "capability" is the ability to allocate resources, an intermediate product produced within enterprises, and provides strategic flexibility for enterprises (Amit & Schoemaker, 1993). In fact, this concept of capability already includes dynamic capability. Kogut and Zander clearly distinguishes resource allocation ability (i.e., dynamic capability) from general functional ability. Henderson & Cockburn (1994) divided organizational competence into two types: component competence and construction competence (Hai, 2012).

David J. Teece (2009) thinks that the competitive advantage of a company depends on its management and organizational process, and is determined by the location of its (unique) assets and its development path. There are two key words in the concept of dynamic capability: the first one is "dynamic", which mainly means that organizations can update their capabilities to adapt to environmental changes. When the timing of market entry is decisive, technology changes rapidly, and future competition and market are difficult to predict,

specific innovation response is needed. The second key word is "capability", which mainly emphasizes updating, integrating and reorganizing internal and external knowledge and resources to match the change of environment, which is also the key of enterprise strategic management. To maintain the continuity of competitive advantage, enterprises must develop existing internal and external specific capabilities and develop new capabilities on this basis.

With the enhancement of market dynamics, market mechanism determines the connotation of dynamic capability. Eisenhardt and Martin (2000) thinks that the influence of market mechanism on dynamic capability is mainly reflected in three aspects: first, the stability of dynamic capability will weaken with the enhancement of its dynamics; Secondly, the characteristics of dynamic capabilities will change with the enhancement of market dynamics, and it will be more difficult to maintain and obtain; Finally, the contingency and fuzziness of dynamic capability will change with the enhancement of market dynamics. In the past, it was fuzzy because of its complexity and difficulty to observe, but it was fuzzy because of its simplicity in highly dynamic market. Therefore, dynamic capability is necessary for the survival and development of enterprises, and the highly dynamic market environment only further enhances its position in the operation of enterprises, and changes and adds new connotations (Hai, 2012).

Markets and superior market positions are becoming increasingly vulnerable, and it is no longer possible to rely on a particular existing ability. The key prerequisites for sustainable competitive advantage should be transforming ability and the ability to rapidly develop new organizational capabilities. The advocacy of dynamic nature seeks to constantly update organizational capabilities in order to meet the requirements of a rapidly changing environment. The concept of dynamic capability not only revises the resource-based theory within the market, but also defines organizational resources as dynamic and flexible (Helfat & Peteraf, 2003).

Table 3.2 Framework analysis of the three elements of dynamic capabilities by David J. Teece

Organization and management processes	Dynamic capabilities are embedded in a unique coordination and integration approach	Coordination/integration; learning; reconfiguring and transformation
Asset position	The competitive advantage of a company is determined by the specific assets the company owns	Technical assets, complementary assets, financial assets, reputation assets, structural assets, market (structural) assets, organizational boundaries
Development path	Path dependence affects the development of enterprise capabilities	Technical opportunities and valuation

Source: Teece et al. (2009)

Teece et al. (2009) believe that dynamic capability is embedded in the "organization and management process" of enterprises. Zott (2010) also followed the definition of dynamic capability given by Teece et al. (2009), and defined dynamic capability from the practice or process of enterprise resource allocation. Zollo and Winter (2002) proposed that dynamic capabilities is about improving enterprises' efficiency The practice created through collective learning activities is also a stable model obtained by adjusting the operation mode, rules and practices of enterprises.

Eisenhardt and Martin (2000) explained the dynamic capability from the aspects of organizational practices and processes, and proposed that the dynamic capability is the process for enterprises to cope with or create market changes by acquiring, integrating, reconfiguring and releasing resources (Hai, 2012). Therefore, dynamic capability is also the organizational and strategic practice for enterprises to reconfigure their resources in the process of market collision, division and growth.

The management and organizational processes play three roles: coordination and integration, learning, refactoring and transformation. Coordination and integration refers to the coordination of activities within the organization and the integration of activities outside the organization and technologies. Learning refers to improving the quality and efficiency of task execution through repetition and experimentation, and continuous learning activities can maintain sensitivity to environmental changes (Hai, 2012). Reconfiguring and transformation refers to the ability for an organization to sense the necessity of reconfiguring its asset and complete its internal and external transformation.

Table 3.3 Comparison of concepts of dynamic capabilities

	Traditional concept of dynamic capability	Redefined concept of dynamic capability
Definition	Process for learning process	Special organizational strategy processes that managers use to change their resource base (such as product innovation, strategy

		decision-making, alliances)
Heterogeneity	Heterogeneous	Heterogeneity in details of commonalities (such as the best practices)
Mode	Complex analysable process	Depending on the power of the market, it may be a complex analysable process or a simple empirical process.
Result	Predictable	Depends on changes of market, predictable or unpredictable
Competitive advantage	Sustainable competitive advantage comes from dynamic capabilities that Meet VRIN conditions	Competitive advantage comes from dynamic capabilities that are valuable, somewhat scarce, equivalent, replaceable and interchangeable
Evolution	Unique path	A unique path formed by a learning mechanism such as practice

Source: Eisenhardt & Martin (2000)

In most cases, management capability is a key element of dynamic capabilities, which helps enterprises to seize new opportunities (Teece, 2007). Helfat and Martin (2015) wrote that one of the important manifestations of dynamic management capability is that enterprises design new business models and implement them as planned (Qi, 2013).

Dynamic capabilities of enterprises are hard to be duplicated by competitor enterprises, because they come from enterprises' unique managers, experience gained in the development and organizational culture. Since dynamic capabilities are a unique and precious kind of general resource, thus strong dynamic capabilities can be the solid foundation for enterprises to maintain its sustainable competitive advantages.

Table 3.4 Conceptual definition of dynamic capabilities

Scholar and time	Concept definition
Teece & Pisano, 1994	Dynamic capabilities are a subset of enterprise capabilities that enable enterprises to create new products and technologies to respond to changing conditions in market and environment. The premise of the dynamic capability concept is that those enterprises which rebuild resources faster than their competitors so as to grasp new market opportunities can achieve better performance.
Teece et al., 1997	Dynamic capabilities are the ability to integrate, build, and refactor internal and external capabilities to respond to fast-changing environments. Dynamic capabilities reflect the ability of an enterprise to capture innovative competitive advantages under given path dependence and market position.
Petroni, 1998	Dynamic capabilities consist of two dimensions: resource assets (internal assets of enterprises) and market assets (external assets of enterprises)
Eisenhardt & Martin, 2000	It refers to the process that enterprises utilize resources to adapt to market changes and even create market changes, especially the process of integration, refactoring, acquiring and abandoning resources. Therefore, dynamic capabilities are organizational and strategic processes that enable enterprises to complete their allocation of new resources as markets emerge, conflict, differentiate, evolve and die.
Teece, 2000	The ability to perceive and seize opportunities quickly and accurately

Yadong, 2000	Dynamic capabilities are what create, accumulate and enhance unique resources and abilities that bring economic returns to enterprises in the pursuit of a sustainable competitive advantage in the international market.
Delmas, 2001	Dynamic capabilities refer to the ability of an organization to manage, effectively coordinate, reconfigure internal and external competencies, and respond to market changes in a short period of time.
Subba & Narasimha, 2001	Dynamic capabilities are the knowledge characteristics that produce diverse businesses
Griffith & Harvey, 2001	Global dynamic capability is a means of resource allocation that is difficult to be imitated, including effectively coordinating inter-organizational relations, which can give the enterprise a global competitive advantage.
Shaker and Gerard, 2002	Dynamic capability is the redefinition of absorptive capacity, which is about creating and utilizing knowledge to enhance enterprises' ability of gaining and maintaining their competitive advantage. It is a change-oriented capability that helps enterprises refactor and restructure their resource base to meet changing needs of customers and strategies of competitors.
Zollo and Winter, 2002	Dynamic capability is a group behaviour that is for learning and has a stable model, with which the organization systematically creates and modifies operational customs to achieve efficiency improvements.
Lee et al., 2002	Dynamic capabilities are a new source of competitive advantage about how enterprises respond to changes in the environment.
Rindova and Taylor, 2002	Dynamic capabilities evolve at two levels: at the micro level, they evolve through the improvement of enterprise custom capabilities; at the macro level, they evolve through the refactoring of market capabilities.
Zott, 2003	Dynamic capabilities are embedded in the knowledge process of organizations, pointing to organizational change and evolution, and they enable organizations to refactor their resource base and adapt to market changes to gain competitive advantage.
Winter, 2003	Dynamic capability is a high-order capability. General or zero-order ability refers to the ability to allow enterprises to survive in the short term, while dynamic capability refers to those abilities to expand, modify and create general capabilities.
Helfat and Peteraf, 2003	Dynamic capability is not a capability in itself, but a special custom. Organizational ability does not need to use "dynamic capability" as an intermediary to learn, change and adapt, but can continuously evolve through this special custom.
Verona and Ravasi, 2003	Dynamic capabilities are a subset of organizational capabilities that enable organizations to create new products and technologies to respond to dynamic market and environment.
Pavlou & Sawy, 2005	Dynamic capabilities emphasizes that the realization of dynamic capabilities mainly depends on the refactoring process, which includes sensing market changes, improving absorptive capacity and integrating enterprise resources and innovative knowledge.
Zahra et al., 2006	Dynamic capability can help enterprises redeploy and allocate their resources (change-orientation) to be adaptive to changing customers' demands and competitors' strategies. It refers to the ability to reconfigure resources and customs of an enterprise in a way that the primary decision maker envisions and considers appropriate.
Branzei and Vertinsky, 2006	As for product innovation, dynamic capabilities include the ability of enterprises to acquire and absorb external knowledge and then transform it into new and unique capabilities and ideas, and harvest

	these ideas by pioneering and effectively industrializing new or improved products.
Helfat et al., 2007	Dynamic capability refers to the ability of an organization to purposefully create, extend or modify its resource base.
Wang and Ahmed, 2007	Dynamic capability refers to the behaviour orientation of an enterprise to continuously integrate, restructure, renew, and re-create resources and capabilities, upgrade and reconfigure core competencies against environmental changes so as to capture and maintain competitiveness.
Teece, 2007	Dynamic capabilities can be divided into three types of capabilities: (1) the capability to perceive and adapt to opportunities as well as threats; (2) the capability to grasp opportunities; (3) the capability to enhance, combine, protect, and reorganize when necessary the tangible and intangible assets of the enterprise to remain competitive.
Wang and Ahmel, 2007	Dynamic capability is an enterprise's behaviour orientation of constantly integrating, reconfiguring, updating and rebuilding resources and capabilities. The most important thing is to upgrade and transform its core capabilities to respond to the changing environment and achieve and maintain its competitive advantage. The main components of dynamic capability are adaptability, absorption and innovation. A company continuously integrates, reconfigures, renews and rebuilds its resources and capabilities to cope with the changing environment in order to obtain and maintain the competitive advantage.
Cepeda & Vera, 2007	According to the definition made by Zahra et al. (2006), dynamic capabilities are abilities of an enterprise to reconfigure resources and practices in a way that its main decision-makers imagine and think is appropriate.
Prieto and Easterby-Smith, 2008	Dynamic capabilities are understood as knowledge generation, knowledge integration, and knowledge refactoring, and they are direct influenced by knowledge management strategies such as empowerment, assessment, management support, trust and learning atmosphere.
Guo, 2008	Dynamic capability is defined as a complex open system that is composed of various elements such as knowledge, resources, and processes that can continuously create new demands and new values to achieve mutual evolution with other stakeholders.

In the field of strategic management, the theory of dynamic capability has become an important tool to study the sustainable competitive advantage. Scholars' practical empirical research on the concept of dynamic capability is realizable, but it undermines the unity of research. This thesis holds that the improvement of enterprise performance is not directly influenced by dynamic capabilities, but market dynamics plays an important role in the development and evolution of enterprise capabilities. When the dynamic market environment oscillates more, enterprises will build dynamic capabilities to adapt to the rapid changes of the outside world. Enterprise dynamic capability is beneficial to long-term performance, but there is an indirect relationship. Through the intermediary role of enterprise strategy and capability development, when the enterprise's special capabilities and strategic decisions are consistent, dynamic capability will create and enhance higher performance.

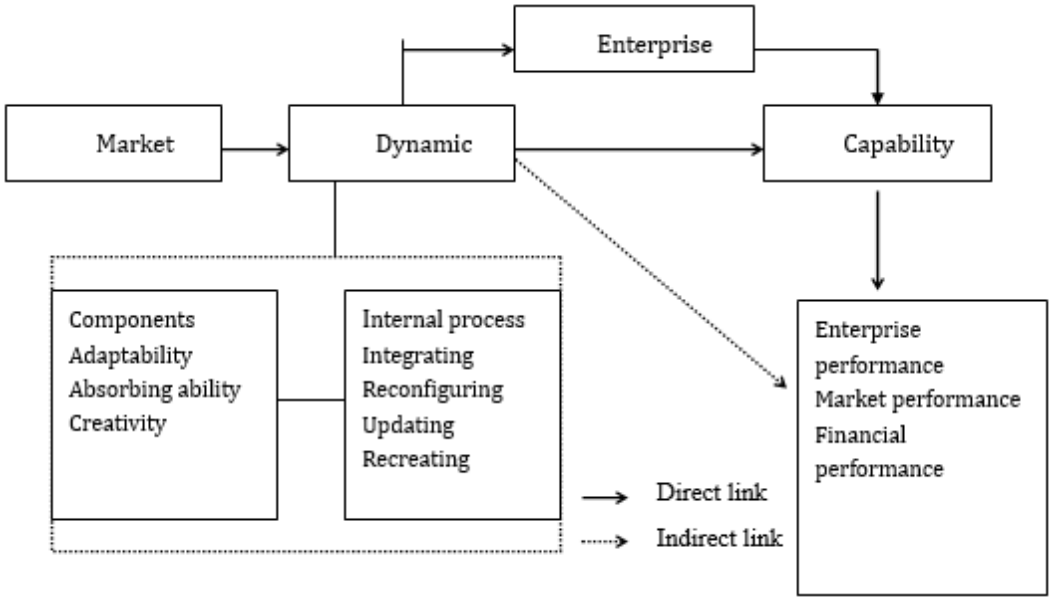

Figure 3.2 Process model of enterprise dynamic capability

Only by forming and continuously improving the dynamic capability, enterprises can continuously gain sustainable competitive advantages in numerous three-dimensional spaces composed of time points and space points, and finally their foundation will last forever.

3.6.2 Characteristics of dynamic capabilities of enterprises

Through literature review of dynamic capability and further understanding of the connotation of it, it can be concluded that the characteristics of dynamic capability include complexity, openness, systematicness, dynamics and contradiction. Next, these characteristics of enterprise dynamic capability are analysed from the perspectives of complexity theory, system theory and contradiction management theory, so as to lay a foundation for a deeper understanding of the connotation of enterprise dynamic capability.

(1) Complexity. Eisenhard and Martin (2000) think that different environmental conditions require corresponding dynamic capabilities. In a medium dynamic market, the change occurs in a stable industrial structure, and dynamic capability is a predictable process, which depends on existing knowledge and linear execution to achieve predictable results. On the contrary, in the rapidly changing market, the industrial structure is chaotic. At this time, in the emerging industrial structure, the dynamic capability is impromptu. Managers must concentrate on using simple impromptu conventions to pay attention to the problems that have occurred now, instead of locking themselves in the past experience. It is this seemingly "chaotic" state that makes enterprises hold sustainable competitive advantages.

(2) Openness. Zahra and George (2002) think that the open characteristics of dynamic capabilities encourage enterprises to continuously absorb the information in their environment, create and develop new knowledge, so that they have the flexibility to compete in the rapidly changing market.

(3) Systematicness. According to the system theory, the whole system is greater than the sum of its parts, and the combined characteristics cannot be explained by the characteristics of isolated parts (Jiao, 2010). In fact, the dynamic capability of enterprises is a system, which shows different forms in different stages of development and functional directions of enterprises, including production and manufacturing capabilities, strategic decision-making and organization and coordination capabilities, research and development and product innovation capabilities, human resources and resource integration capabilities (Griffith & Harvey, 2001). The development of the role of dynamic capability in enterprises depends on the good combination of these parts, and finally produces a synergistic effect of 1+1>2.

(4) Dynamics. In essence, dynamic capability essentially is a dynamic unbalanced state (Jiao, 2010). While breaking a series of equilibrium states, enterprises have gained temporary advantages. In the dynamic and complex super-competitive environment, the ability is continuously cultivated, developed, applied, maintained and discarded, which is endless and forms a positive feedback enhancement loop (Teece, 2007). Entrepreneurs and senior managers of enterprises must identify their unique resources according to the historical evolution path of enterprises, decide the new fields and opportunities to enter, break the existing market balance seriously, constantly and unexpectedly, respond to opportunities quickly and reconfigure the internal and external resources of enterprises, and form a series of temporary and incompatible new advantages (Ambrosini & Bowman, 2009).

(5) Contradiction. There are many contradictions in enterprises: the contradictions caused by the inconsistency of the objectives of various stakeholders, the contradictions caused by the scarcity of various resources, the contradictions caused by the different values of enterprises or individuals, and the contradictions caused by the differences of interests of all parties (Wang, 2003). Enterprise dynamic capability focuses on the future of enterprises, and its purpose is to create resources for future development of enterprises, which requires a lot of long-term accumulation and investment (Ambrosini & Bowman, 2009). However, in the actual operation of enterprises, the leaders of enterprises will always pay attention to the present and financial indicators such as the market share of enterprises unconsciously (Cui & Jiao, 2009; Jiao, 2010). Top managers of enterprises must find an appropriate point in seemingly opposite poles, seek balance among seemingly opposite contradictions, seek

progress in contradictions, and solve contradictions in progress, thus creating competitive advantages that competitors cannot imitate and copy in the dynamic process (Schreyögg & Kliesch-Eberl, 2007).

3.6.3 Influencing factors of enterprise dynamic capability

Eisenhardt and Martin (2000) found that the mistakes of enterprise managers also played an important role in the formation of dynamic capabilities. Success often immerses leaders in joy, but cannot get enlightenment and useful experience from past experience. Great failures can also hinder learning. On the contrary, small mistakes can stimulate employees' learning to a greater extent, because people will pay more attention to the process and will not hinder the normal learning (Jiao, 2010).

During the long-term evolution of capabilities, Kim (1998)noticed the importance of crisis to the development of dynamic capabilities. The feeling of failure in the internal environment is helpful to the establishment of the learning mechanism. These crises prompt members to keep learning, which leads to the formation of learning mechanism.

Sun et al. (2006) think that there is a close relationship among organizational learning, organizational knowledge evolution and dynamic capability expansion. This thesis discusses the interaction mechanism between dynamic capability, organizational practices, knowledge assets and organizational learning and the cyclic process of organizational knowledge evolution based on organizational learning. Sher and Lee (2003) think that knowledge management can improve dynamic capability. It is found that in this process, the application of information technology can promote the exogenous and endogenous knowledge of enterprise management, and then enhance the dynamic capability (Jiao, 2010).

Jiao et al. (2010), from the perspective of corporate entrepreneurship orientation and based on organizational learning theory, found that organizational learning is the key driving factor of dynamic capability, which plays an intermediary role between innovation, advanced action and dynamic capability. Cui Yu et al. (2009), starting from the learning theory, put forward the "dynamic mechanism - basic mechanism - path mechanism", analysed the mechanism of improving dynamic ability. It is considered that the driving force of dynamic capability of enterprises is the need of entrepreneurs to constantly surpass and realize themselves, and the basis of promotion is to acquire the resources and knowledge needed by enterprises through the network, and transfer them to enterprises for internal dissemination and replication by using the learning agent mechanism, so as to change and improve the operational capability and enhance the ability of dynamically adapting to the environment.

At the level of external environment, turbulence and change of external environment will promote the production and promotion of dynamic capability of enterprises (Barreto, 2010; Wang & Ahmed, 2007; Li, 2008). Enterprises in a turbulent and complex environment need to constantly adjust their business strategies, design and provide new products and services, so as to respond effectively to different customers' needs, better meet customers' changing preferences and respond effectively to competitors' actions in time (Anand et al., 2009; Jiao, 2010).

Chapter 4: Research Methods

In this thesis, research methods are mainly chosen according to the research objectives and content. In general, this thesis is developed from theoretical construction to empirical testing. This thesis defines the core concepts of resources and enterprise performance. After the review of the related theories of resources, this thesis theoretically analyses the relationship of different factors affecting performance improvement of enterprises, and then verifies its analysis by studying specific cases.

4.1 Research techniques

In order to study the above contents and achieve the expected research objectives, this thesis adopts literature method, case method, questionnaire method and econometric model for theoretical and statistical analysis.

4.1.1 Qualitative research methods

Qualitative research methods include behavioural research, case study, ethnological research and grounded theory, and qualitative research methods and data collection techniques include interview, observation and literature research; Qualitative research methods and data analysis techniques include classification, hermeneutics, semiotics, narration and metaphor (Ding, 2015).

(1) Case study.

Case Analysis Method, also known as Case Study Method, a type of empirical research, was developed at Harvard University for a long time. It is later applied to the educational practices, by Harvard Business School, in cultivation of senior managers and management elites. The boundary between case study and realistic situation is not particularly obvious. It focuses on studying the current phenomena in realistic situation, which is different from other research methods in the following aspects: ① Compared with experimental method, the main difference lies in the different environmental control. Case study is full of uncertainty in the face of actual situation; the experimental method deliberately separates phenomena from situations, for example, the laboratory focuses on a few variables by means of environmental

control. ② Compared with the historical research method, the key difference is that the research object is at different time points (Chen & Liu, 2010). The case study method focuses on the current phenomenon, while the historical study method focuses on the past time point, and the events and information studied cannot be obtained directly through interviews and observations. In this thesis, preliminary investigation and interview, data collection, historical data consulting and other ways are conducted to further understand the specific practical operation of Chancheng Hospital to improve enterprise performance, and further prove the existence of different variables in empirical research.

Case study involves a detailed study of an example. All individuals, social groups, organizations or events can be regarded as "cases" worth studying. Because it can reflect important practical problems, case studies are often selected by researchers. In case studies, the selected cases are usually typical representatives of a specific category.

Compared with the investigation, the case study takes a very unique research perspective. It does not try to control variables, or collect data from carefully selected samples, but only describes specific interactions around this case in detail, for example, case study for organizations, that is, using data from different sources to study various aspects of organizations, with the aim of establishing a more accurate and rich organization description than investigation and study.

(2) The qualitative research method and data collection technology adopted in this thesis.

① Interview. Interview is a technique in which researchers extract information or opinions from interviewees face to face. Interviews can be structured, that is, researchers ask questions to interviewees according to a pre-established interview plan. It can also be unstructured, that is, researchers randomly ask questions to interviewees according to the field conditions. The questions raised by researchers can be subjective, that is, the interviewees can play freely to the questions. It can also be objective, that is, the interviewee can only answer within the pre-set answer range. Interviews allow researchers to get clear explanations of problems directly from interviewees.

② Observation. Observation is to monitor and record events happening around researchers or specific aspects of their environment. Observation can be assisted by making plans or task lists. Researchers should observe independently and ensure the objectivity of observation. For example, the observation of the same event by two observers produces the same record. On the contrary, because participatory observation requires researchers to become a part of the observed event or environment, researchers will inevitably have an

impact on the observed event or environment in participatory observation.

③ Literature review. Research necessarily involves collecting new data, such as interview records or questionnaire feedback. However, the fact is that there are a lot of potential data which can be used for research with thesis or computer as the carrier. If these data can be used directly, researchers can save a lot of research time. There are two ways to use the existing data: firstly, check the existing data, and then determine the research topic; secondly, determine the research topic, and then look for the existing data which is helpful to the research topic.

Literature retrieval is to systematically collect recognized literature related to research topics, and its main purpose is to summarize literature. Several forms of literature expression include books, periodicals, conference papers, CDs, company reports, dissertations, manuals, software. The specific methods of literature review include extraction, record and summary, filling and retention, good habits and computer management.

How to express one's understanding of the research field, and use the obtained literature to write a literature review so as to lay the foundation for the research? The purpose of writing literature review is as follows: first, to understand the current state of research field; The second is to emphasize the possibility of research that is clearly identified or ignored; The third is to strengthen the research problems and objectives; The fourth is to avoid repeating the existing work of others; The fifth is to find out the research methods and techniques that are helpful to the research; Sixth, form one's own critical viewpoint.

Based on the above purpose, the literature review should provide a consistent point of view describing the research topic, which can be obtained not only by referring to the past and existing literature in the research field, but also by discussing the omissions and prejudices that have been identified and studied. If read and comprehend articles and books solely related to the research field, researchers will face some difficulties in achieving the above goals. Only on the basis of reading and digestion, and through critical evaluation and understanding of relevant literature, can a high-quality literature review be written.

(3) The qualitative research method and data analysis technology adopted in this thesis.

① Classification. Qualitative research usually produces a large amount of data. When dealing with qualitative data, the first thing to do is to divide it into manageable parts, which is classification. It is best to classify the data at the same time when collecting data. For example, after asking the interviewee questions with specific topics, the interviewee's answers should be classified into corresponding topics immediately and recorded. However, because

the research topics of interest have not yet been finalized, the classification at the beginning of the research is usually not easy, and a large number of preliminary studies are needed.

② Narration. Narration is defined as telling a story or fact, especially a story or fact recorded with the first person perspective. Narration has always been the main term in literary discussion and analysis.

4.1.2 Quantitative research methods

The quantitative research method is investigation and research, and the data collection technology of quantitative research method includes objective measurement and questionnaire; Quantitative research methods Data analysis techniques include data precoding and descriptive statistics.

(1) The quantitative research method and data collection.

① Objective measurement. Objective measurement is a technique designed to measure variables. According to different measured variables, objective measurement has many forms. The main purpose of establishing objective measurement is to ensure the objectivity of measurement, that is to say, measurement must be independent of other factors and not affected by other factors. Standard objective measurement is an objective measurement which is widely used under different conditions to ensure the stability and consistency of measurement.

② Questionnaire. The questionnaire has almost the same purpose as the interview, except that it is usually printed and can be completed without the researcher on site. All questionnaires are structured. When the questionnaire subjects are asked to answer in any form they want, the questions in the questionnaire are subjective. On the contrary, if the questionnaire objects are asked to choose from the given answers in advance, then the questions in the questionnaire are objective.

Since the questionnaire can be distributed by mail or e-mail, it is especially useful for research that needs answers from a large number of samples. At the same time, since ambiguous answers to questions are not allowed in the questionnaire, questions appearing in the questionnaire should be given meaningful answers.

(2) Quantitative research methods and data analysis.

Descriptive statistical analysis includes a series of basic statistical analysis, which can achieve an elementary interpretation of the raw data of the research object and the data of the questionnaire content, such as the average and the standard deviation of the overall sample,

which is helpful to deeply observe the distribution characteristics and internal structure of the data. In this thesis, the organizational characteristics of the investigated objects and the population characteristics of the observed variables are explained by descriptive statistical analysis.

Another common way to describe and summarize a set of data is to calculate a number that can represent this set of numbers, among which the most common one is the "average value" of this set of numbers. The average value is calculated by adding all the individual measured values that make up a group of numbers, and then dividing by the number of measured values.

Another way to describe the centre point of a set of numbers is median. When calculating the median value, it is started with arranging a group of numbers in ascending (or descending) order. The median is the number in the middle of this series of numbers.

The last way to summarize a set of numbers is to explain the "pattern" or "most common value" of numbers. It is only the most frequent number in a set of numbers. A group of numbers can only have an average value and a median value, but there may be several most frequently occurring numbers in this group of numbers at the same time.

In any group of data, it is possible to calculate the degree of dispersion between a single measured value and the average value, or the degree of closeness to the average value, which is called calculating standard deviation. There is a standard deviation for any set of readings or quantitative data. Calculate the standard deviation according to the following steps: ① first, calculate the average value of this group of numbers; ② for each number in this group, calculate the difference between it and the average value, and if this number is greater than the average value, use it to subtract the average value; If this number is less than the average value, subtract this number from the average value; ③ calculate the power of each difference; ④ adding the results of all powers; ⑤ divide the sum of powers by the number of this group; ⑥ calculate the square root of the number and get the standard deviation.

4.1.3 Technical route map

The statistical tools and methods used in this thesis, the content that can be tested, and the statistical process to verify the hypotheses is further explained as follows.

(1) Validity Analysis. Validity analysis is carried out by factor analysis method, which has three main purposes: ① the items with scattered factor loads are screened out and the questionnaire is revised; ② to test the extent to which the empirical measurement reflects the

true meaning of the concept through validity analysis and to test the structural validity of the formal scale, that is, whether the sub-scales accurately reflect the concept to be measured; ③ according to the results of factor analysis, assign values and name each variable (Liu, 2006).

(2) Reliability analysis. Reliability refers to the degree to which a questionnaire measuring a variable measures the real situation of the variable. According to the internal consistency analysis of the main measurement variables in this thesis, the reliability analysis of each conceptual level of the questionnaire is carried out. The consistency of each measurement variable under the same concept is measured by Cronbach α value, and the questionnaire is finally verified according to whether each conceptual level measures a single concept and the internal consistency degree of the items of the scale, so as to form the questionnaire data for formal statistical analysis (Liu, 2006).

Summarize the conclusions of theoretical analysis, empirical test and statistical analysis, and form the final research conclusion with equal emphasis on logic and structure(Jiao, 2010). This thesis focuses on grasping the theoretical front, collecting investigation data, adopting scientific research methods, and combining the general research ideas of management science around the propositions to be studied.

4.2 Research methods

The research method adopted in this thesis strives to realize the combination of normative logic analysis and empirical statistical research. Normative logical deductive analysis has laid a solid theoretical foundation for raising, understanding, analysing and discussing problems in this thesis, while detailed and credible empirical research provides a large sample of enterprise practice test for analysing the relationship between different variables and proposing process mechanism and realization mechanism. The adoption of different research sub-problems and research processes is embodied in the following two aspects: normative logic analysis and empirical research.

(1) Normative logic analysis

This thesis adopts normative analysis method consisting of literature review and observation. Normative analysis mainly answers the questions of “how to” and “should or not” (Li, 2004). In order to fully understand the concept of resource-based theory and enterprise performance improvement activities, we need to read a lot of relevant domestic and foreign literature. By summarizing those studies, the author concluded similar facts of different scholars in their own researches, and take those facts as the basis of this thesis.

Under the guidance of research objectives and research questions, we understand the existing research ideas, methods and results of related topics at home and abroad through systematically retrieving and reading relevant literature. Then we summarize, analyse and comment on the shortcomings of existing research to find out possible theoretical innovation points and specific research content. Research on Chinese and foreign literature is fundamental to theoretical innovation. Observation is an intentional perception of things, through which the observer can better understand the nature and meaning of things (Jiao, 2007). Based on substantial review of Chinese and foreign literature and observation of the growth and development of some enterprises, the author puts forward the research questions and establishes the theoretical model and hypothesis.

(2) Empirical statistical analysis

The vitality of the theory comes from the support of empirical statistical research, so this thesis also pays attention to the development of empirical statistical research. Like most researches in this field, the thesis takes enterprises as research units and objects, and collect relevant information by issuing questionnaires. Taking the managers of Foshan Chancheng Hospital and other five hospitals in Guangdong Province as the main objects, the respondents were asked to fill in the questionnaire anonymously when distributing it. At the same time, the diversity of the sources of the questionnaire also ensures that the system difference in data collection can be effectively reduced, thus ensuring the reliability and authenticity of the data. The first-hand information obtained from this can not only be combined with the literature to form our research hypotheses, but also become important information to support the theory.

The statistical research method of large sample questionnaire is a method of collecting research materials and data from the research subjects through written forms and strictly designed psychological measurement items or questions (Wang, 2000), therefore, the questionnaire in this thesis is mainly designed by combining in-depth interviews with literature retrieval. In the process of questionnaire design, the questionnaire was designed through the following three aspects. For each "potential variable", this thesis tries to explore and quote the specific problems of measuring the variable in previous studies. If the measurement from previous research cannot be found, specific questions will be designed according to the literature retrieval and analysis of the factors affecting this potential variable. In this way, designing questions based on the previous research can improve the credibility of data collection needed for this thesis (Jiao, 2010). After full theoretical discussion and formation of research hypotheses, a large number of research samples were collected on the basis of field research and questionnaire distribution, and use SPSS social science statistical

software package to make factor analysis and correlation analysis on the dynamic capacity of private hospitals. As the final data to verify the theoretical hypotheses, the investigation results can further deepen the discussion results from a neutral perspective.

The combination of theoretical research and empirical research. Zhang (1995) pointed out that western economic research can be divided into empirical research and theoretical research. Theoretical research refers to putting forward a more perfect explanation of the old economic phenomenon or the new economic phenomenon on the basis of absorbing and evaluating the views of previous scholars. Empirical research refers to the use of existing economic theories and models to discuss a specific problem, and the use of statistical analysis methods in the process of discussion, and the test of existing theories and models. These two research methods are complementary to each other, and the combined application can make the research on related issues deeper and more perfect. Based on the combination of literature research and practical observation, this thesis makes a normative empirical demonstration of the internal mechanism in the process of enterprise performance improvement. Scientific research method is the prerequisite for the correctness of this research conclusion, so it needs to be considered comprehensively from rationality and thoroughness. All the above methods permeate all aspects of this thesis, and they are different but complement each other, forming a complete research framework.

4.3 Research process and framework

(1) Sampling method

The purpose of questionnaire research in this thesis is to further analyses the structural dimension of enterprise dynamic capability on the basis of interview and investigation, and then to study the performance mechanism and multi-level influence mechanism of enterprise dynamic capability. The research samples in this part mainly come from three public tertiary hospitals (one in Guangzhou and one in Dongguan) and four private hospitals (one in Foshan, one in Zhongshan, one in Zhuhai and one in Zhanjiang) in Guangdong Province. Through the understanding of these sample hospitals, the structural dimension and measurement index system of enterprise dynamic capability are finally studied. The questionnaire is filled out by relevant personnel who are familiar with the hospital situation, such as senior managers and middle managers of the hospital. Questionnaires are distributed through interviews and electronic networks, so as to ensure that the number of samples can meet the requirements of statistical analysis. 100 questionnaires were distributed and 90 valid questionnaires were

recovered, with an effective recovery rate of 90%. When issuing the survey, the respondents are required to fill it out anonymously. At the same time, the diversity of the sources of the questionnaire also ensures that the systematic errors in data collection can be effectively reduced, thus ensuring the reliability and authenticity of the data.

(3) Research framework

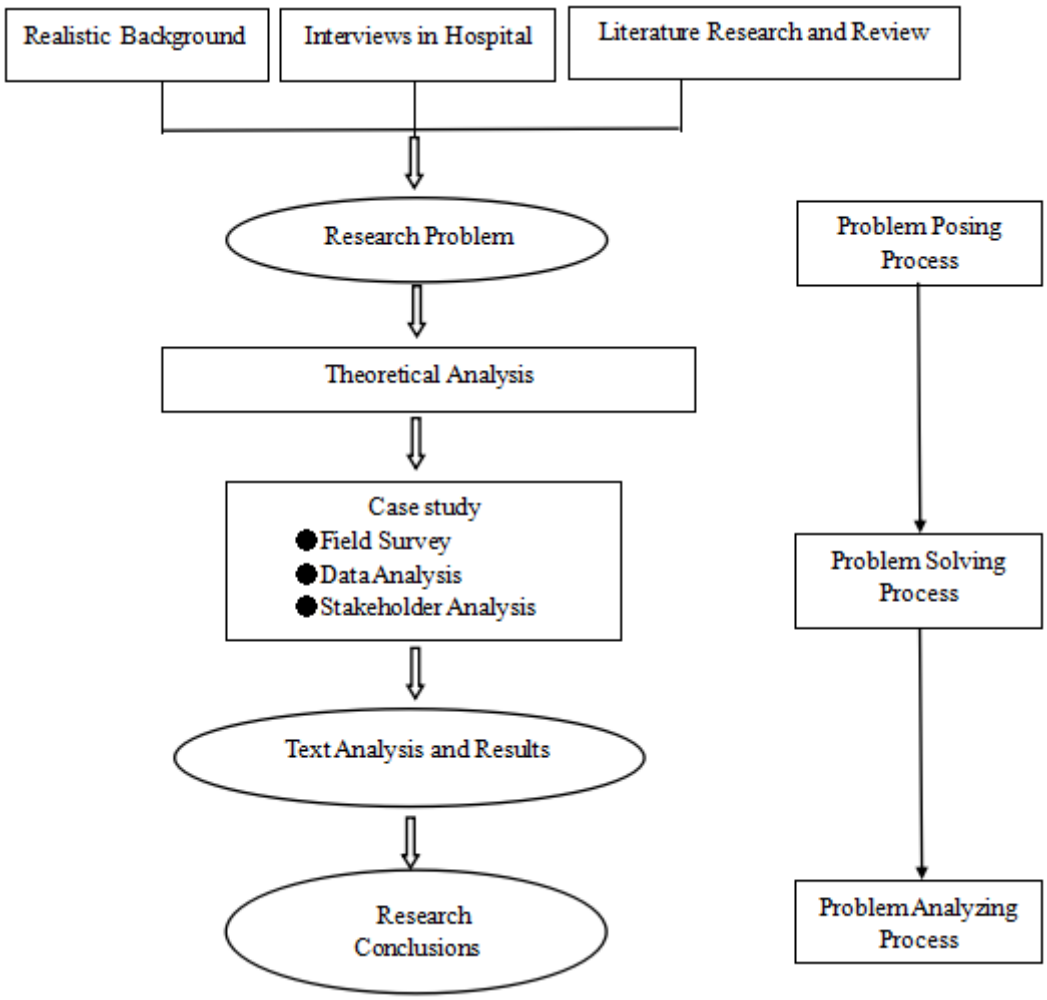

Figure 4.1 Framework of research process

4.4. Research design

Since 1980s, many countries have adopted neoliberal economic policies, resulting in the decrease of government direct funding for non-profit organizations and the drastic reduction of government funding for welfare undertakings. "Market failure" has led to an increasing demand for social services provided by non-profit organizations, and non-profit organizations have expanded rapidly (Johnson, 1999). The resources used by non-profit organizations to

meet the social needs are very limited, and they are faced with the strong demand and pressure on how to improve the operational effectiveness and sustainable development (Llewellyn & Tappin, 2003). The ability to integrate resources and advantages of different departments to create and increase social value. Non-profit organizations began to borrow commercial operation and market-oriented operation technology to improve their own effects and better serve the public welfare (Clohesy & Reis, 1999). Therefore, the concepts of "entrepreneur" and "entrepreneurship" began to be introduced into the field of public management for commercial enterprises' organizational change (Delmas, 2002; Malik, 2007; Jiao et al., 2008).

4.4.1 Determinants of enterprise dynamic capability activation

There is not much research available on how to activate and then enhance the dynamic capability. According to literature review and field interviews, main determinants of the activation of enterprise dynamic capability are entrepreneurship, organizational learning mechanism and organizational incentive mechanism (Helfat & Peteraf, 2003; Hussey, 1995; Teece et al., 2009; Winter, 2003; Zollo & Winter, 2002). Entrepreneurs are the most important resources of enterprises, playing a role as a driver in activating dynamic capabilities. Furthermore, their decisions are also vital in this process.

(1) Entrepreneurship

Entrepreneurship is the satisfaction of entrepreneurs' pursuit of self-realization, and the desire of entrepreneurs to show their special power and status, show their talents and achieve career success. Schumpeter believes that innovation is the soul of entrepreneurship. Entrepreneurship is a kind of behaviour and practice, and innovation is a special means of entrepreneurship (Jiao, 2010).

Drucker (1985) considered that enterprises must organize and systematically train entrepreneurship and innovation, which is also an important duty of enterprise managers. Entrepreneurial spirit means that you can take the lead in discovering and exploring market opportunities that have not yet been utilized, and take business actions quickly (Jiao, 2010). According to the resource-based view, entrepreneurship is a special intangible resource and ability owned by enterprises, which plays a very important role in enterprises' dynamic adaptation to the changes of complex environment.

Entrepreneurs are the engine of enterprise development, and it is entrepreneurs who lead enterprises to achieve "creative destruction". Entrepreneurship is an innovative behaviour to overcome short-term profit maximization, which measures the cost and benefit from the

long-term interests of enterprises. Enterprises foresee the future development by relying on the experience judgment and insight of entrepreneurs, and promote the development of enterprises through their power and values. The core role of entrepreneurs is to provide enterprises with a close combination of business strategies and resources, and to obtain greater benefits for enterprises (Cui & Jiao, 2009).

Innovation is the most typical feature of entrepreneurs, including organizational innovation, technological innovation, product innovation and market innovation, which is the final result of entrepreneurs' hard work. Entrepreneurs with innovative spirit are like passionate artists, but no one can explain clearly how to form entrepreneurship, is it inherited from nature, or acquired? Like character habit, it is certain that the acquired environment has an important influence on entrepreneurship.

(2) Organizational learning mechanism

The process of activation, formation and function of enterprise dynamic capability is the process of continuous learning to form a new environment and practice, so the establishment of organizational learning atmosphere within enterprises is a great guarantee to activate dynamic capability (Tsoukas & Mylonopoulos, 2016). Eisenhardt and Martin (2000) think that learning mechanism not only guides the germination, formation and evolution of dynamic capability, but also forms the basis of path dependence (Jiao, 2010). In order to dynamically adapt to the change of complex environment, entrepreneurs lead members to adopt the searching convention of creative and systematic learning, and implement systematic changes to activate dynamic ability. Therefore, one of the decisive factors and important tools to activate the dynamic capabilities of enterprises is the organizational learning mechanism (Jiao, 2010) .

The formation of dynamic ability is mainly influenced by organizational learning and knowledge creation. In order to reduce the uncertainty of the environment, the organization realizes the dynamic matching between the organization and the environment, so that enterprises can quickly adapt to the environment (Jiao, 2010; Li, 2008). Organization's knowledge creation and dissemination activities affect the formation of dynamic capabilities to a certain extent, and they are important sources for enterprises to maintain sustainable advantages. Under the uncertain environment, enterprises can improve their dynamic capabilities through different ways, including establishing a common vision, improving mental models, systematically studying and thinking in teams, and improving the quality and ability of human resources (March, 1991).

(3) Organizational incentive mechanism

If enterprises cannot establish the corresponding innovation incentive mechanism, entrepreneurship, organizational learning and innovation activities are all in vain. Establishing an entrepreneur-led incentive mechanism based on innovation within an enterprise will fill an atmosphere of entrepreneurial innovation within the organization, which will inspire all employees to keep making positive progress, actively discover opportunities and match with the dynamic state of enterprise resources, and activate dynamic capabilities. Therefore, the activation and promotion of dynamic capability depends on the construction and implementation of innovation incentive mechanism (Cui & Jiao, 2009).

Innovative incentive mechanism is the power source of dynamic capability of enterprises, such as improving the management of talents, choosing reasonable incentive measures, encouraging employees to cultivate entrepreneurship, and establishing necessary tolerance mechanism for first failure. Therefore, the organizational incentive mechanism is one of the decisive factors and the power source of the dynamic capability activation of enterprises (Jiao, 2010).

A perfect manager's salary contract is one of the important mechanisms to coordinate the manager's behaviour with the goals of enterprises and shareholders. Commonly used compensation incentives to solve the conflict of interests between managers and shareholders are: linking managers' compensation directly with enterprise performance, supervising managers through the board of directors, implementing equity options, and dismissing posts. Managers increase their shareholdings, enhance their work enthusiasm, and carry out more creative activities to enhance the interests of enterprises. In order to solve the problem of managers' incentives and make them work hard for maximizing shareholders' interests as much as possible, under the assumption that enterprise performance and management efforts are closely related, clients usually sign remuneration contracts with managers based on enterprise performance, so that managers can enjoy certain residual claims to keep the objectives of clients and agents consistent.

Summary:

(1) The ability to create, accumulate and utilize capabilities is the source of lasting competitive advantage of enterprises. We believe that entrepreneurs are one of the most important key abilities of enterprises, and their correct decision-making affects the development of enterprises (Jiao, 2010). Complete entrepreneurs' decision-making content includes: to keep alert to opportunities, formulate strategies to regroup resources according to opportunities, and carry out productive activities to implement strategic decisions. We must deeply study entrepreneurs' decision-making behaviour, find out the entrepreneur's

decision-making behaviour mode suitable for the enterprise itself, and activate the dynamic ability to make the enterprise evolution track and path conform to the dynamic environment changes. The following is a case study of Chancheng Hospital in Foshan, China. Only when the dean has entrepreneurial spirit can the hospital develop rapidly.

(2) Entrepreneurs with advanced characteristics and innovation will consider the needs of enterprises and employees, and formulate innovative incentive and assessment systems according to local conditions, so that employees can display their talents and perform their duties, and stimulate their initiative and enthusiasm to the greatest extent, and enterprises can achieve a leap in performance.

(3) Organizational learning has a significant positive impact on dynamic ability. In the process of cultivating and upgrading dynamic capabilities, enterprises should attach great importance to the influence of organizational learning, and truly transform enterprises into learning organizations, instead of just staying on slogans.

(4) Equity incentive is the key line of defence for managers' moral hazard. The key problem of healthy development of enterprises is to solve the trust relationship between shareholders and managers, and truly form an interest community of "looking to the future, sharing risks and benefits". Equity incentive is beneficial to meet the needs of managers' self-realization, and its restraint is the most ingenious system. Bundle the interests of managers and enterprises, motivate managers to work hard from the perspective of enterprises, and realize the maximization of enterprise value and shareholder wealth.

4.4.2 An empirical study on multi-level impact model of enterprise dynamic capability based on interaction effect

This thesis studies the dynamic capabilities of enterprises from the perspectives of multi-level variables such as individuals, teams, organizations and external environment, establishes a conceptual model of multi-level influencing factors of dynamic capabilities of enterprises (Jiao, 2010), and tests the direct effects of various levels of variables on dynamic capabilities of enterprises, and whether there are substitution effects or complementary effects among different levels.

4.2.2.1 General conception of theoretical model

The origin of competence is concerned by many scholars. At present, there are four main viewpoints. ① Spontaneous view. According to this view, due to the limited ability of human

beings to know the world, it is impossible to formulate detailed plans to manage all the activities of the organization. ② Planning concept. It believes that the dynamic capability of enterprises is accumulated under strategic planning, and it is the entrepreneur's duty to choose what kind of dynamic capability to cultivate. ③ Exogenous environment view. That is to say, the dynamic capability of enterprises is determined by the ecological environment and social conditions in which enterprises is located, and the change of the environment promotes (or hinders) the reallocation of resources, and finally leads to the difference in performance. ④ Comprehensive view. That is to say, the dynamic capability of enterprises is the result of the interaction of endogenous factors, such as resources and capabilities, and other exogenous factors, such as competitive pressure and business cycle. This research holds that the evolution and promotion of dynamic capabilities of enterprises are influenced by the personal characteristics of top leaders and entrepreneurial spirit-oriented culture (Jiao et al., 2008).

Summary can be achieved with the multi-level influencing factors of enterprise dynamic capability, such as the characteristics of innovation and adventure of enterprise managers and the influence of learning ability on the evolution of dynamic capability(Eisenhardt & Martin, 2000), organizational learning can promote the evolution of organizational practices and knowledge, and form and develop dynamic capabilities in this process (Sher & Lee, 2003; Sun et al., 2006), entrepreneurship orientation and organizational learning are the key factors to build the dynamic capability of enterprises (Jiao et al., 2008), and the turbulence and change of the external environment will promote the production and promotion of the dynamic capability of enterprises (Barreto, 2010; Wang & Ahmed, 2007; Li, 2008).

Rothaermel and Hess (2007) and the perspective of enterprise dynamic capability theory, and study the influence of individual level, enterprise level and network level and their interaction on innovative products.. It is found that the role of entrepreneurs' intellectual human capital should be considered in the process of studying enterprises' adaptation to the environment, and the interaction among different levels should also be considered.

4.4.2.2 Individual level of entrepreneurs

Boccardelli and Magnusson (2006)clearly put forward the view that a single entrepreneur is the source of dynamic capability. Entrepreneurs constantly surpass their own desires, strong thirst for knowledge and the need for self-realization will positively influence the internal culture of enterprises and make them full of entrepreneurial spirit. Subba (2001) proposed that revealing the role of individual-level influencing factors on dynamic capabilities, endows

organizations with innovative and adventurous entrepreneurial spirit, and is more conducive to the formation and subsequent improvement of dynamic capabilities within enterprises. Lee (2001) also believes that entrepreneurs' personality, background and network can increase the ability of enterprises to adapt to the environment dynamically, and finally realize the growth of enterprises (Jiao, 2007).

Argytis (1978) and Wei Jiang et al. (2005) believe that entrepreneurs can reduce and avoid the painful process of enterprise growth by acquiring, storing and reusing knowledge and forming effective learning methods of entrepreneurs' expertise, and then change the business model and management process, as well as stimulate the dynamic capability fragments stored in the enterprise, so as to ensure the quantitative and qualitative improvement of enterprise dynamic capability. (Jiao, 2010; Wei et al., 2009). This thesis provides an opportunity to build a dynamic capability path from the perspective of influencing factors at individual level. Therefore, we assume that the factors affecting entrepreneurs' personal level and their leading action dimension, innovation dimension and risk-taking have a significant positive impact on the dynamic capability of enterprises.

4.4.2.3 Level of senior management team

According to Wei and Jiao (2007), the top management team also plays an important role in the development of enterprises. Top management team members of enterprises are the key learning agents for enterprises to cope with rapid environmental changes by implementing changes. The senior management team of the micro-active subject of enterprise dynamic capability responds to the dynamic changes of external environment by activating the dynamic capability of internal processes of storage and reorganizing high-quality resources, and focuses on developing effective capabilities in new markets after stripping redundant resources (Xu et al., 2009). Therefore, researchers put forward the following assumptions: Top management team level factors have a significant positive impact on dynamic capabilities.

Scholars believe that in order to cope with the challenges brought by the environment more easily, the top management team of enterprises must establish a complete management system, including shared vision, overall values, high integration of management teams, integrated integration and innovative salary and reward system (Siegel & Hambrick, 2005; Tushman & O'Reilly, 1996). Top management team has the characteristics of shared vision, social coordination and integration, and contingent performance reward system of management team, which exert far-reaching influence on dynamic capability of enterprises

(Hambrick, 1994; Siegel & Hambrick, 2005; Smith & Tushman, 2005). The shared vision of the top management team is a combination of corporate values and team members' goals and visions, a collective desire and will to realize the ideal together, and fully demonstrates the future development direction of the enterprise (Larwood et al., 1995; Tsai & Ghoshal, 1998; Jiao, 2010). A series of shared values and goals will provide a common strategic direction for senior management team members and help reduce conflicts (Brewer & Miller, 1984; Drucker, 1985; Mackie & Goethals, 1987). Therefore, the common goal and shared vision of senior management team members will encourage team members to create opportunities to promote the recombination of resources and finally create new capabilities suitable for the new environment (Brown & Eisenhardt, 1995; Tsai & Ghoshal, 1998; Tushman & O'Reilly, 1996).

Social integration of top management team. Specifically, social integration reflects the process and results of different factors in the team and the integration of parts into a unified and coordinated whole, which is reflected in the attraction of the team to members, the mutual satisfaction among team members and the mutual interaction among team members (O'Reilly et al., 1989). Social integration is different from shared vision because the latter reflects the common values of the team, while the former is directly related to the emotional factors of team members (Smith, 1994). Social integration has a significant effect on team performance. If team members with social integration characteristics cooperate with each other, they can increase their cooperation and often solve the tasks facing enterprises efficiently (Michel & Hambrick, 1992; O'Reilly et al., 1989; Smith, 1994).In this way, team members with social integration characteristics will work harder to identify opportunities in the environment and constantly regroup existing resources (Brown & Eisenhardt, 1997). Therefore, the following summary is proposed: the social integration characteristics of the top management team have a significant positive impact on the dynamic capability (Jiao, 2010; Jiao, Wei, et al., 2008).

Contingency salary reward system of top management team. Previous studies have shown that the type of salary reward system for professional managers will affect the mutual cooperation of senior management team members (Gomez-Mejia et al., 1987; Pfeffer, 1994; Siegel & Hambrick, 2005). If the salary of professional managers depends on the performance of the whole team, individuals will be willing to tolerate and compromise each other, and finally different members will improve each other(Price et al., 2002). In addition, the contingent salary reward system is not only conducive to cultivating cooperation within the team, but also helps individual members to identify with the whole organization (Bloom, 1999). In this way, the contingent salary reward system can encourage professional managers

to think positively, encourage each other, and use overall wisdom to solve new problems brought by complex environment (Wageman, 1995). Therefore, researchers put forward that: the characteristics of contingent compensation and reward system of enterprise top management team have a significant positive impact on dynamic capability.

4.4.2.4 Organizational level

Enterprise resources can promote the evolution of organizational practices and knowledge, and the formation and development of dynamic capability in this process is the key factor to build the dynamic capability of enterprises. Therefore, researchers analyse the influence mechanism of enterprise dynamic capability organization level from two levels: resource stock and strategic alliance.

Stock of resources. Zhou and Li (2009) discussed the relationship among strategic orientation, market dynamics, dynamic capability and performance based on the research background of emerging economy. According to the research of Gatignon and Xuereb (1997), strategic orientation consists of customer orientation, competitor orientation and technology orientation. Menguc and Auh (2006) discussed how to build the dynamic capability at enterprises level from the perspective of market-oriented research, and put forward meaningful conclusions. Boccardelli and Magnusson (2006) also believe that the flexibility of the existing resources of enterprises has played a great role in the promotion of dynamic capabilities.

Strategic alliance. For enterprises, major technological breakthroughs generally take place outside enterprises (Rothaermel & Hess, 2007). The research supports this conclusion. It is found that in the knowledge-intensive industries with rapid and complex changes, existing manufacturers, new entrants and research institutions form a research community alliance, share knowledge constantly, and finally develop products or services suitable for market needs, instead of working hard inside a single enterprise (Jiao, 2010). Because strategic alliance can provide new knowledge and resources for enterprises, which are difficult to obtain through market exchange. In order to build new capabilities in the complex and changing new environment, existing manufacturers need to make frequent use of their external networks and form industry strategic alliances to pursue new opportunities (Chen et al., 2009). Therefore, researchers put forward that: strategic alliance has a significant positive impact on dynamic capability.

4.4.2.5 Level of external environment

Environment is one of the important contingency variables faced by enterprises. In the past 40 years, a large number of studies have confirmed that environmental variables affect the organization's strategy, structure, process and final performance. Relevant literature shows that the environmental dynamics characterized by crisis state and the rapidly changing internal environment of organizations will affect the competitive position of organizations in the market (Jiao, 2010)). On this basis, in this research, the environment is defined as external market environment, and then discuss its influence on dynamic capability.

The external market environment is characterized by the change amplitude and speed of environmental factors is the result of multiple factors, including government policies, changes in enterprise scale, the number of similar enterprises in the industry, technological changes and technology dissemination, technology proprietary and introduction, market risks., which represent the frequency of environmental changes and the unpredictable degree of the environment (Covin & Slevin, 1989).The dynamic increase of external market environment will directly lead to the enhancement of environmental uncertainty. When enterprises is in a highly dynamic external market environment, the operator is faced with a vague business environment that lacks clear value judgment standards and better strategic choices, thus establishing the dynamic capability of enterprises (Jiao, 2010).

Davis et al (2009) subdivided the environmental dynamics into the following four dimensions: ① the characteristics of speed, that is, the rate at which new opportunities appear; ② Ambiguity, that is, lack of clarity. In this case, it is very difficult to explain and identify opportunities (March & Olsen, 1976), and the new market represented by nanotechnology is full of ambiguity; ③ Unpredictability, that is, disorder and chaos, In this case, the mode of opportunity emergence is unsustainable; ④ complexity, in this case, if you want to seize the opportunities in the environment, there are many conditions to be met (Jiao, 2010).

Enterprises constantly carry out strategic adjustment and innovation to different levels of environmental turbulence, meet different demands of customers and respond quickly and effectively to competitors' actions. In the case of higher environmental dynamics, the dynamic capability of enterprises must be maintained at a high level in order to obtain high competitive performance(Wang et al., 2004). Therefore, we can conclude that multi-level influencing factors have significant positive effects on the dynamic capabilities of enterprises, including the external market environment characterized by environmental dynamics.

4.4.2.6 Cross-level interaction: complementary effect & substitution effect

The author holds that the above-mentioned hierarchical variables are not independent of each other, but affect the dynamic capabilities of enterprises through joint action, including individual hierarchical variables, team hierarchical variables, organization hierarchical variables and network hierarchical variables (Jiao, 2010). Next, we will study whether there are complementary effects or substitution effects among various levels.

This thesis focuses on whether there are complementary effects or substitution effects among all levels. Cohen and Levinthal (1990) focus on the role of individuals as "gatekeepers" of organizations or "interfaces" between organizations and the external environment. It also points out that the "gatekeeper" plays two roles: supervising the external environment and transferring knowledge to internal members, which correspond to the evaluation ability dimension and digestion ability dimension of the absorptive capacity of enterprises. Wei and Shen (2005) put forward that entrepreneurs are agents of organizational learning, which is a transformation mechanism from individual learning to organizational storage of knowledge and experience. Finally, their personal learning performance is reflected in organizational innovation, product innovation performance, technological uniqueness and reducing sales costs.

Through the above description, researchers find that individual level, team level, organization level and environment level interact with each other, and finally affect the overall behaviour of enterprises. Therefore, the following is proposed: the interaction among the factors affecting the dynamic capability of enterprises is complementary. The interaction among the influencing factors at different levels of enterprise dynamic capability is a substitute relationship.

4.4.3 Research on the relationship between dynamic capability and performance of enterprises

4.4.3.1 Research on the direct effect of the relationship between dynamic capability and performance of enterprises

Teecee et al.(2009) developed the dynamic capability theory to analyse the source of wealth creation and acquisition, so as to solve the problem of obtaining and maintaining sustainable competitive advantage. Since then, many scholars have explored the relationship between dynamic capability and performance in international enterprises, entrepreneurial enterprises

and new product development.

Jantunen et al. (2005) investigated 217 manufacturing enterprises and service organizations to study the relationship among entrepreneurship orientation, dynamic capability and international performance, and found that entrepreneurship orientation has a significant positive impact on dynamic capability and both on international performance of enterprises, and proposed that entrepreneurship orientation and dynamic capability are potential sources of competitive advantage of enterprises (Shan, 2015). Augier and Teece (2007) emphasized the importance of organizational routine and organizational ability, and the empirical study found that organizational routine and organizational ability have a significant positive impact on the international entrepreneurial performance of enterprises. Wu (2007) found that resources are mainly composed of entrepreneurs' business skills, entrepreneurs' capital and internal management ability. Dynamic capability consists of resource integration ability, resource reconfiguring ability, learning ability and the ability to quickly respond to changing environment. Performance refers to the average return on investment of enterprises in the first two years. It is found that the dynamic capability with integration and reconfiguring functions has a significant impact on financial performance (Shan, 2015).

Borch and Madsen (2007) took 235 small and medium-sized enterprises as research objects, studied their innovation and growth strategies, and put forward four kinds of dynamic capabilities, including internal and external configuration and integration capabilities, resource acquisition capabilities, network capabilities and strategic path alliance capabilities, and found that dynamic capabilities have a significant relationship with enterprise innovation strategies. Newbert (2005) also believes that dynamic capability can help entrepreneurial enterprises to acquire and allocate resources more easily (Jiao, 2010).

Eisenhardt and Martin (2000) also think that dynamic capability is necessary, but it is not enough for sustainable competitive advantage. Starting from the logic of resource view, they think that dynamic capability can reconfigure and upgrade existing resources while pursuing long-term competitive advantage. At the same time, from the perspective of opportunity creation in entrepreneurship management, dynamic capability is considered as building new resources while pursuing short-term competitive advantages.

Winter (2003)also pointed out in the article "Understanding Dynamic Capabilities" that if enterprises invests in a higher level of dynamic capabilities, it means that it will bear a higher cost burden, so it does not necessarily lead to sustainable competitive advantage. Especially in the short term, the relationship between enterprise dynamic capability and enterprise performance is obviously not direct, and many intermediate links may be involved in this

relationship chain (Wang & Ahmed, 2007). In other words, when considering the relationship between dynamic capability and organizational performance, the influence of enterprises' situation must be considered, as well as the factors on which the dynamic capabilities act, thus improving enterprises' performance and finally gaining sustainable competitive advantage.

4.4.3.2 Research on the mediating effect of the relationship between dynamic capability and performance of enterprises

Table 4.1 Research Summary on the Relationship between Dynamic capability and Performance and Intermediary Effect

Author & Date	Pre-variable of dynamic capabilities	Dynamic capability	Mediator	Performance
Pavlou (2004)	Information technology ability: effective use of project management system, knowledge management system and cooperative management system	Coordinating ability, absorbing ability, collective morale, market-orientation	Level of adaptation and matching of operation and external dynamic environment	Competitive advantage: process efficiency and product effect
Jantunen, Puumalainen，Saarenketo & KylAheiko (2005)	Entrepreneurship-orientation: creativity and pre-action	Measuring dynamic capability according to the amount and results of reconfiguring activities of enterprises in the first three years.	None	International performance: sales volume, market share, profitability and brand popularity
Wu (2007)	Resources: business operating skills of entrepreneurs, capital of start-ups and internal managerial capability	Capabilities to integrate and reconfigure resources, learn and quickly adapt to the changing environment	None	Average return rate of the first two years
Cao Hongjun (2008)	None	Dynamic information utilization ability, dynamic resource acquisition ability, dynamic internal integration ability, dynamic resource release ability and dynamic external coordination ability	Strategic process: strategic formulation, strategic implementation, strategic monitoring and strategic adjustment	Financial performance, employee growth and learning, internal process, customer satisfaction
Zeng Ping (2009)	Knowledge innovation: knowledge socialization,	Dynamic capability: coordination, integration,	None	Organizational performance: short-term and long-term

	knowledge externalization, knowledge integration and knowledge internalization	restructuring and transformation	performance

Source: according to relevant data

How dynamic capabilities affect performance through mechanism path and what kind of mechanism and path are worth further exploring. Because enterprises can respond sensitively to changes in the external environment through dynamic capabilities, they can respond quickly, and at the same time, revising enterprise strategies and systems can promote innovation. Some scholars have tried to study the intermediary variables of dynamic capability and performance, such as social capital (Blyler & Coff, 2003), matching adaptability between operational capability and external environment (Pavlou, 2004). strategic process including strategy formulation, implementation, monitoring and adjustment (Cao & Zhao, 2008), absorptive capacity (Ambrosini & Bowman, 2009). However, it is not necessarily sufficient to research on the path and mechanism of dynamic capability and enterprise performance from the view of innovation.

4.4.3.3 Research on the moderating effect of the relationship between dynamic capability and performance of enterprises

Scholars believe that under different conditions, dynamic capability affects enterprise performance to varying degrees, and important contextual factors determine its effectiveness (Jiao, 2010). We need to further explore how dynamic capabilities affect enterprise performance from the contingency perspective. The relationship between dynamic capabilities and performance contingency is analysed as follows.

(1) The moderating effect of environmental variables on the relationship between dynamic capability and performance of enterprises

Marsh and Stock (2003) introduced environmental dynamics as a regulating variable, and investigated the relationship between inter-temporal integration activities and product-level performance, project-level performance and company-level performance in the process of new product development. In this research, they divide the intertemporal integration activities in the process of new product development into knowledge acquisition, knowledge dissemination, knowledge interpretation, knowledge retention and knowledge application and action.

The technical and marketing capabilities of developing new products are helpful for

enterprises to find and integrate dynamic capabilities, which are embedded in the dynamic process of new product development. Research shows: ① Effective management of the intertemporal integration process of developing new products is likely to promote the successful development of new products and gain and maintain long-term competitive advantages; ② In the process of developing new products, environmental characteristics seriously affect the relationship between dynamic capabilities and performance of enterprises, and dynamic capabilities more strongly affect enterprise performance in complex dynamic changing environment (Jiao, 2010).

Masaaki (2009) discussed the moderating effect of government policies and regulations on the relationship between dynamic capability and performance,. It is found that the government's support policy can promote the performance.

(2) The moderating effect of organizational variables on the relationship between dynamic capability and performance

Arthurs and Busenitz (2006) introduced venture capitalists to reinvest Initial Public Offering (IPO) listed companies as a regulating variable, and examined its influence on the first year stock price of IPO listed companies. The conclusions are as follows: ① When venture capitalists reinvest in listed companies that issue shares for the first time, they will increase their ability to resist product risks and internal management risks, and increase their stock prices in the first year; ② The experience and fame of venture capitalists will also have a positive and significant impact on the first year's share price of listed companies that have issued shares for the first time (Xu, 2014).

(3) The regulatory effect of the simultaneous introduction of environmental variables and organizational variables

Multinational joint ventures choose environmental dynamics and cooperative relationship between partners to adjust variables, and analyse the influence of developing and improving dynamic capabilities on the relationship between competitive advantage and financial performance. It is considered that environmental dynamics includes variability, unpredictability and competition density (Jiao, 2010). Research shows that: ① In order to obtain good competitive advantage and financial performance in foreign emerging markets, multinational joint ventures must continuously develop existing resources and continuously build and upgrade new capabilities. ② When the external environment of multinational joint ventures becomes more turbulent, the ability development and promotion will contribute more to the competitive advantage and financial performance. ③ In a society with harmonious

cooperative relationship, the ability development of multinational joint ventures has a better influence on the competitive advantage and financial performance.

Some scholars have studied the moderating effect of the relationship between enterprise dynamic capability and performance, and believe that the relationship between enterprise dynamic capability and performance can be moderated by the dynamic external environment and the relationship between enterprise partners (Marsh & Stock, 2003). Scholars also believe that the external environment is the influencing factor to promote enterprise dynamic capability and plays a positive role (Wang & Ahmed, 2007; Li, 2008; Xu, 2014).

4.4.3.4 Structural dimensions and measurement of dynamic capability

Because of the complexity and difficulty in measuring dynamic capability, there are great differences among academia on its measurement model. Many scholars began to pay attention to the measurement of dynamic capability, and made a lot of meaningful exploration and demonstration. However, up to now, there is still a lack of effective measurement methods for dynamic capability (Xu, 2014). Cronbach (1971) thinks that the construction of scale validity is a developing process, and the structural validity of scale is based on the accumulation of a large number of research results. The process of revising and perfecting research tools is also a process of improving scientific research.

The quality of measurement indicators is very important, which will have a direct impact on the effect of hypotheses testing, so it is necessary to scientifically determine the measurement indicators of related capabilities. The existing researches mainly focus on the dynamic capability, and the measurement indicators of the ability do not necessarily have extensive popularization value, and their reliability and validity need to be further tested (Hai, 2012). Under the guidance of a very cautious scientific attitude and spirit, the research objectives and design are established, and the dynamic capabilities of enterprises are explored and analysed through in-depth investigation of multiple cases. Then, a large sample test is conducted through statistical software by using statistical empirical methods, so as to finally determine the measurement framework system of dynamic capabilities of enterprises in line with China's national conditions and cultural characteristics.

(1) Questionnaire design and data collection of measurement of dynamic capability

Questionnaire method is a method of collecting research materials and data from research subjects in written form with strictly designed psychological measurement items or questions (Wang, 2000). The purpose of this part of the questionnaire survey is to further analyse the structural dimension of enterprise dynamic capability on the basis of interview survey, so as to

further study the relationship between dynamic capability and enterprise performance. Therefore, this thesis measures the explanatory variables and interpreted variables involved in the research by designing multiple items to improve the reliability and validity of the measurement (Hai, 2012).

Among the respondents, there are 3 tertiary hospitals, 1 secondary hospital and 2 second-level hospitals. The related information of the survey is shown in the following table. By comparing hospitals of different grades and sizes, we can discuss the changes of hospital competitiveness in different cities in the same industry. The survey data shows that the dynamic capacity measurement does show some differences among hospitals of different scales and grades.

Table 4.2 Specifics of surveyed hospitals

Ownership		Level	
Public	2	Tertiary	3
Private	4	Secondary and below	3
Scale		Income level	
<300 hospital beds		<50 million RMB	1
300-500 hospital beds		100-300 million RMB	2
>800 hospital beds		>1 billion RMB	3

Table 4.3 Issuing and collection of questionnaires

Location	Issue amount	Recovery	Valid	Recovery rate	Valid rate
Guangzhou	20	19	19	95%	95%
Doongguan	5	5	5	100%	100%
Foshan	45	43	43	95%	95%
Zhongshan	10	8	8	80%	80%
Zhanjiang	8	5	5	63%	63%
Zhuhai	12	10	10	83%	83%
Total	100	90	90	90%	90%

This research questionnaire adopts the key person interview method, which required the questionnaire to be filled out by the hospital department directors or senior management personnel, such as the president, vice president, director of administrative department, department director and head nurse. In order to ensure the quality and validity of the research data, we have established the selection criteria of samples according to the actual situation of the research questions and interviews. For example, the official operation time of the hospital is more than 3 years; Being a complete independent business entity; Having the ability of sustainable operation. 100 questionnaires were distributed and 90 questionnaires were collected, with a recovery rate of 90%; 90 valid questionnaires were collected, and the effective questionnaire rate is 90%.

(2) Exploratory factor analysis

We believe that only by clearly defining the basic research concepts can the research be successfully completed, and a large number of relevant literatures on dynamic capability are researched and sorted out, and the contents are absorbed, with emphasis on defining key concepts, so as to provide scientific theoretical basis for the research measurement items. Based on the measurement project library formed by previous literature accumulation, we designed the first draft of the questionnaire. Then, the first draft of the questionnaire was discussed several times in the researcher's hospital operation management research team, and members of the working group were invited to hold a dean management seminar to participate in the opinion collection in order to clarify the meaning of all items, and finally form a measurement scale.

We used descriptive statistics and item analysis to preliminarily process the data obtained from the exploratory questionnaire, then choose principal component factor extraction and orthogonal maximum variation axis method for factor analysis, and then revise the questionnaire according to the statistical data: three items are deleted from the original six item information utilization capacity scale to form a three-item scale, and one item is deleted from the original five item resource integration capacity to form a four-item scale; After deleting the excess and problematic items, the reliability test and factor analysis were carried out again.

Before factor analysis, KMO test and Bartlett's test of Sphericity are first performed. KMO test is used to check the correlation and partial correlation between variables, and its value is between 0 and 1. The closer the KMO statistic is to 1, the stronger the correlation between variables, the weaker the partial correlation, and the better the effect of factor analysis. In practice, when KMO statistic is above 0.7, the effect is better. When KMO statistic is below 0.5, it is not suitable to apply factor analysis, so we should consider redesigning the variable structure or adopting other statistical analysis methods.

If the variables are independent of each other, the common factor cannot be extracted from them, and the factor analysis method cannot be applied. Bartlett's test of sphericity judges that if the correlation matrix is a unit matrix, the independent factor analysis method of each variable is invalid. When the result of SPSS test shows that Sig.< 0.05 (that is, P value < 0.05), it means that the standard is met, the data is distributed in a spherical shape, and each variable is independent of each other to some extent.

In this study, KMO and Bartlett's test of sphericity are used to test the sample adequacy and the suitability of factor analysis. The results show that KMO values are information

utilization ability (0.765), resource acquisition ability (0.774), resource integration ability (0.828), resource reconstruction ability (0.743) and resource release ability (0.835), respectively. According to the standard given by Kaiser, and the associated probability obtained by Bartlett's spherical test has reached a significant level (x2=1189.23, df =72, p<0.001), which indicates that the measured sample data is suitable for exploratory factor analysis.

According to the common criterion of exploratory factor analysis to determine the number, this paper defines the factor load greater than 0.4 as the significant load, so as to determine the items contained in each factor, and discard the value lower than 0.4. The cumulative explanatory variance (R2) of the five factors are information utilization ability (0.63), resource acquisition ability (0.59), resource integration ability (0.54), resource reconfiguration ability (0.62) and resource release ability (0.59), respectively. The load of the observed variables on the factors meets the requirements.

Table 4.4 Effectiveness and reliability analysis of the scale before and after correction

Dimension of dynamic capability	Number of items		KMO of Sample sufficiency		Cumulative Explanatory Variance (R^2)		Reliability Cronbach's α	
	Before	After	Before	After	Before	After	Before	After
Information utilization	6	3	0.765	0.765	0.63	0.63	0.834	0.834
Resource acquisition	4	4	0.794	0.774	0.61	0.59	0.845	0.807
Resource integration	5	4	0.828	0.828	0.54	0.54	0.827	0.827
Resource reconfiguration	3	3	0.776	0.743	0.64	0.62	0.846	0.826
Resource release	3	3	0.835	0.835	0.59	0.59	0.828	0.828

Results as shown in the above table, Cronbach's α values of the measured items all exceeded 0.8, which indicated that the scale had good reliability, KMO values all meet the standard of more than 0.5, which indicates that this survey is successful. Referring to the load of factors in the factor matrix and the items (17 items) included in each factor, this research named these five factors as information utilization ability, resource acquisition ability, resource integration ability, resource reconfiguration ability and resource release ability.

(3) Reliability and validity analysis

The purpose of this research questionnaire is to further analyse the structural dimension of hospital dynamic capability on the basis of interviews, so as to further explore the relationship between dynamic capability and hospital performance. Multiple items can improve the reliability more than a single item. Measuring complex organizational phenomena usually

requires designing multiple items. Therefore, this study measures the explanatory variables and explained variables involved in the research by designing multiple items to improve the reliability and validity of the measurement.

① Reliability analysis

Reliability refers to the degree to which a scale produces consistent results if the measurement is repeated on the same object by the same method, which is usually used to reflect the true degree of the result data obtained by the scale measurement, that is, the reliability and accuracy of the scale measurement (Jiao, 2010). Internal consistency coefficient (α coefficient), which reflects whether the items in each factor measure the same or similar characteristics, is the most widely used reliability index in the research of management and psychology. Therefore, this research uses Cronbach's internal consistency coefficient (α coefficient) to analyse the reliability (Wang, 2000), and adopts the reliability standard suggested by Nunnally (1994) and Churchill and Peter (1984), that is, Cronbach's α value is at least greater than 0.5, and preferably greater than 0.7; If it is less than 0.35, it shall be rejected. Therefore, this research also adopts this standard: if Cronbachα coefficient is greater than 0.7, the reliability of the scale is acceptable.

To ensure the reliability and validity of measurement tools, firstly, it is ensured that the measurement items have source basis and content validity. Then, before the factor analysis, purify and eliminate the "garbage measurement items", and then carry out factor analysis on the measurement structure and items to ensure their reliability and effectiveness. The following procedure will be followed to test the measurement scale of enterprise dynamic capability. The measurement items of the scale refer to the previous research literature, which ensures its content validity.

Table 4.5 Reliability analysis of dynamic capability scale

Items	Item-Total Correlation	Alpha If Item Deleted	Alpha (Cronbach's α)
Information utilization capability			0.76
1. acquire information of market changes timely	0.72	0.69	
2. acquire information of internal operation timely	0.62	0.72	
3. information flow quickly among departments	0.53	0.70	
Resource acquisition capability			0.77
4. acquire resources according to external environment changes	0.64	0.66	
5. acquire resources with prices lower than competitors	0.69	0.72	
6. acquire resources quicker than competitors	0.71	0.73	
7. acquire resources of higher quality than	0.71	0.74	

competitors			
Resource integration capability			0.84
8. focus on setting up structure helpful to cooperation and communication among departments	0.66	0.70	
9. focus on integrating skills helpful to products R&D	0.80	0.77	
10. focus on setting up cross-department teams to execute hospitals' initials	0.70	0.74	
11. focus on setting up internal and external communication mechanism of hospitals	0.71	0.76	
Resource reconfiguration capability			0.81
12. adjust internal operation process of hospitals according to environmental changes	0.61	0.72	
13. set up good external relationship network	0.68	0.75	
14. achieve strategic transformation quickly	0.71	0.75	
Resource release capability			0.78
15. fully use idle resources of hospitals according to environmental changes	0.73	0.68	
16. properly manage idle resources of local hospitals according to environmental changes	0.74	0.68	
17. Successfully recover accounts receivable	0.66	0.73	
Dynamic capabilities (17 items)			0.85

The reliability analysis results of dynamic capability are shown in the above table. Cronbach's α coefficient of information utilization capability is 0.76, resource acquisition capability coefficient is 0.77, resource integration capability coefficient is 0.84, resource reconfiguring capability coefficient is 0.81, and resource release capability coefficient is 0.78. It can be seen that Cronbach's α coefficient values of all variables are in the acceptable range, and the Item-Total Correlation values are all above 0.5.

② Validity analysis

Validity refers to the degree to which the difference between observed values reflects the real difference between measured characteristics of objects, that is, the degree to which a measuring tool can properly measure the structure to be measured (Jiao, 2010). Exploratory factor analysis is the most commonly used statistical method in the initial stage of research. If researchers already know the definite hypotheses of factor structure when compiling the scale, confirmatory factor analysis can be used to confirm the factor results, which can help us to test the construct validity (including convergence validity and discrimination validity). The confirmatory factor analysis can be realized by using LISEREL, AMOS or PLS statistical software.

Content validity refers to whether the questionnaire items can represent the variables to be measured, also known as face validity or logical validity. Logical analysis and statistical

analysis are commonly used methods to evaluate content validity. Logical analysis is usually judged by researchers or experts and professors to check whether the questionnaire items meet the purpose and requirements of measurement. Statistical analysis mainly evaluates the questionnaire through correlation analysis.

Structural validity refers to the degree of correspondence between a certain structure reflected by the measurement result and the measured value. The method used in the analysis of structural validity is factor analysis, which requires significant differences among factors, which is usually judged by correlation coefficient or chi-square test. As shown in the following table, the discrimination validity of each factor in each variable has reached a significant level ($\triangle x^2$ is greater than 10.83, which is statistically significant at the level of 0.001).

Table 4.6 Discrimination validity analysis of dynamic capability variables

Model	x2	df	$\triangle$x2
Unlimited measurement mode	49.76	72	
The correlation coefficient between information utilization ability and resource acquisition ability is limited to 1	126.63	73	76.87
The correlation coefficient between information utilization ability and resource integration ability is limited to 1	132.31	73	82.55
The correlation coefficient between information utilization ability and resource reconfiguring ability is limited to 1	100.28	73	50.52
The correlation coefficient between information utilization ability and resource release ability is limited to 1	128.23	73	78.47
The correlation coefficient between resource acquisition ability and resource integration ability is limited to 1	102.55	73	52.79
The correlation coefficient between resource acquisition ability and resource reconfiguring ability is limited to 1	104.29	73	54.53
The correlation coefficient between resource acquisition ability and resource release ability is limited to 1	127.60	73	77.84
The correlation coefficient between resource integration ability and resource reconfiguring ability is limited to 1	95.95	73	46.19
The correlation coefficient between resource integration ability and resource release ability is limited to 1	117.69	73	67.93
The correlation coefficient between resource reconfiguration ability and resource release ability is limited to 1	103.94	73	54.18

The items of dynamic ability questionnaire in this thesis mainly refer to historical literature research and field investigation interviews. Some scholars used these items when studying and measuring related variables (Wang, 2009). In this research, the contents of the questionnaire were confirmed by consulting experts, pretesting and revising questionnaire items, and confirmatory factor analysis was used to test the validity of each scale. Therefore, the questionnaire has certain content validity and meets the requirements of constructing validity.

In summary, the reliability and validity of all variables in this research both achieve the accpetable level.

(4) Measurement model test of dynamic capability

Based on the research of dynamic capability in the existing literature and the classic literature, this research constructs a dynamic capability model which consists of five dimensions: information utilization capability, resource acquisition capability, resource integration capability, resource reconfiguration capability and resource release capability.

Second-order single factor model: This model assumes that dynamic capability is a high-order model composed of five interrelated capability dimensions. If the statistical analysis data support the hypothesis, it means that the five dimensions of information utilization capability, resource acquisition capability, resource integration capability, resource reconstruction capability and resource liberation capability are first-order capabilities, while the dynamic capability model belongs to the second-order capability framework.

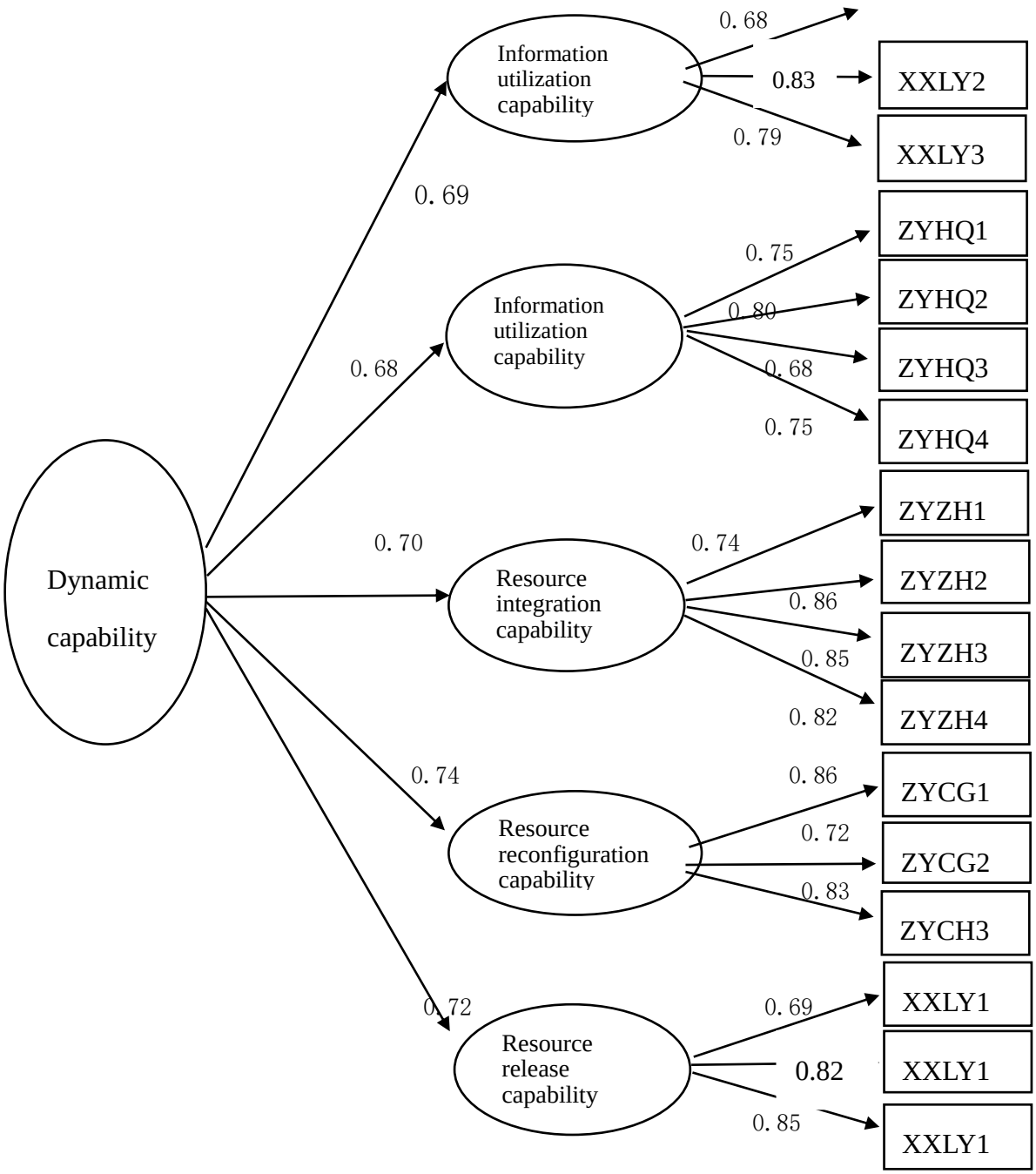

Figure 4.2 Second order matrix model of dynamic capability

According to Popper's (1959) provability principle, the researcher chooses the second-order single factor model as the best contracted model to measure the dynamic capability of enterprises. The standardized parameter values of five first-order factors of dynamic second-order factors are: information utilization ability 0.69, resource acquisition ability 0.68, resource integration ability 0.70, resource reconfiguration ability 0.74 and resource release ability 0.72. The factor load of each first-order factor is greater than 0.5, and

the significance P is less than 0.001. It shows that the measurement model has good structural validity.

This research mainly verifies the multidimensional model of enterprise dynamic capability in dynamic and complex environment by theoretical derivation, questionnaire design and data collection, and confirmatory factor analysis. It is concluded that the dynamic capability of enterprises is a multidimensional research structure, and the best contracted model to measure the dynamic capability of enterprises is the second-order single-factor model.

4.4.3.5 Measurement of enterprise performance

Enterprise performance refers to the operating efficiency of an enterprise and the performance of its managers in a certain operating period, which is a multidimensional and complex structure. On the basis of relevant research, this research uses the subjective evaluation of senior managers of hospital interviewees to measure hospital performance. Peer satisfaction mainly includes the following indicators: sales growth, profit growth and market share growth.

In factor analysis, it is known that topics with high correlation will share common factors, so the researcher chooses factor analysis to measure internal consistency and homogeneity. Generally, when the correlation coefficient between the test item and all other test items is greater than 0.5 and Cronbach's α value is not lower than 0.7, the test item can be retained.

Table 4.7 Reliability analysis of enterprise performance scale

item	Item-Total Correlation	Alpha If Item Deleted	Crroefficient Alpha （Cronbach’s α）
Enterprise performance			0.78
1. sales growth	0.66	0.75	
2. profit growth	0.58	0.72	
3. market share growth	0.64	0.74	

According to the data in the above table, the correlation coefficient values ITC of enterprise performance scale are sales growth of 0.66, profit growth of 0.58 and market share growth of 0.64, respectively. The coefficient values of the three items are > 0.50, Cronbach's α coefficient value is 0.78, and coefficient value is > 0.70, which means that the reliability of enterprise performance scale is acceptable.

Structural validity is mainly used to test the degree to which the scale can measure theoretical ideas or traits. The commonly used method to analyse the validity of questionnaire

structure is factor analysis. Enterprise performance is a first-order single-factor measurement model. The analysis model and results show that the loads of the three measured items are 0.74, 0.73 and 0.69, respectively, all of which are greater than 0.5, and $p<0.001$, which is very significant.

The task of statistics is to describe the statistical regularity of random variables. The descriptive statistical results of the validity sample data of this research are as follows:

Table 4.8 Descriptive statistics of dynamic capability observation variables

First order latent variable	Observation variable	Average	Standard deviation	Deviation coefficient	Peak state coefficient
Information utilisation capability	XYLY1	4.154	1.144	-0.081	0.175
	XYLY2	4.309	1.457	0.111	0.657
	XYLY3	4.174	1.561	-0.256	-1.168
Resource acquisition capability	ZYHQ1	3.88	1.278	0.142	-1.201
	ZYHQ2	4.408	1.376	0.047	0.289
	ZYHQ3	4.701	1.529	0.103	-0.189
	ZYHQ4	4.174	1.568	-0.175	1.094
Resource integration capability	ZYZH1	3.708	1.254	-0.034	-1.224
	ZYZH2	4.401	1.067	-0.086	0.378
	ZYZH3	4.174	1.179	0.034	-1.201
	ZYZH4	4.371	1.254	0.162	0.366
Resource reconfiguration capability	ZYCG1	4.756	1.006	-0.396	1.261
	ZYCG2	3.881	1.370	-0.315	0.477
	ZYCG3	3.708	1.247	-1.096	-1.258
Resource release capability	ZYSF1	4.174	1.142	-0.056	-1.356
	ZYSF2	4.771	1.206	0.192	-1.336
	ZYSF3	4.681	1.222	0.060	-1.317

Table 4.9 Descriptive statistics of observed variables of enterprise performance

First-order potential variable	Observation variable	Average value	Standard deviation	Deviation coefficient	Peak state coefficient
Sales growth	XSZZ	4.938	1.626	-0.161	-0.316
Profit growth	LRZZ	4.722	1.344	0.811	-0.705
Market share growth	SFZZ	4.653	2.166	-0.703	0.519

From a certain point of view, the process of management is the processing and utilization of information. According to the survey results of interviews with six hospitals, ① In the complex and changeable external environment, private hospitals and public hospitals in Grade Three are more sensitive to the information of market changes than private hospitals in Grade Two and below, and pay more attention to the collection, analysis and utilization of

information such as competitors, market demand and government-related policy changes, and take quick countermeasures. In hospital internal management, based on various application systems, information resources can be effectively organized and utilized through various information systems to improve management efficiency. Hospitals gain competitive advantage, and then indirectly promote hospital performance. The stronger the hospital's information ability, the more obvious its competitive advantage. ② The acquisition of superior resources has a very important influence on the hospital's competitive advantage. Compared with private hospitals, public hospitals have easier access to superior resources, which are very scarce and difficult to move freely between hospitals, such as academic leaders, senior experts and senior management talents. ③ Public hospitals are better at integrating various resources such as knowledge, technology and manpower within hospitals, such as specialty construction and scientific research projects. ④ In order to maintain the flexibility of work, the third-class private hospitals adjust the hospital strategy more quickly than the third-class public hospitals, second-class private hospitals and lower-class private hospitals, allowing all departments to break the formal management process and work mode. ⑤ Public and private 3A hospitals are more capable of releasing resources than hospitals of Grade II and below, including the ability to realize medical services for the used resources and dispose of idle resources in the medical market. We believe that the five dimensions of hospital enterprise dynamic capability, information utilization capability and resource acquisition capability have a positive impact on hospital performance.

Before applying the multiple regression analysis method, it is necessary to test the multicollinearity, sequence correlation and heteroscedasticity of the regression model to ensure the accuracy and scientificity of the regression results. The multicollinearity shows that there is a correlation between explanatory variables, so the testing methods used for multicollinearity are mainly statistical methods, such as judgment coefficient testing, stepwise regression testing, variance expansion factor testing, etc. The common method to test multicollinearity is variance expansion factor method, namely VIF method. Generally, if VIF>5, it can be considered that there is serious multicollinearity. As the number of explanatory variables increases, the VIF will increase slightly. In this study, the calculated VIF values of the regression models are all less than 5, which indicates that there is no multicollinearity problem among the explanatory variables in the regression models.

In this research, D-W test is used to solve the problem of whether there is autocorrelation of sequences. The statistical results show that the D-W values of the regression models are all

close to 2. Considering that the sample data we investigated are cross-sectional data, there is no serial correlation.

In parametric regression, nonparametric regression and other models, a standard assumption is the homogeneity of variance of errors. Violating this assumption will bring some adverse consequences to statistical inference, resulting in some problems such as invalid parameter estimators, meaningless significance test of variables, and invalid prediction of models.

(3) The influence of dynamic capability and its dimensions on enterprise performance.

According to the theory of dynamic capability, dynamic capability is the source of sustainable competitive advantage for enterprises. In this paper, hospital performance is taken as the dependent variable, and each dimension of dynamic capability is taken as the independent variable. Through multiple regression analysis, the efficacy of dynamic capability on hospital performance is tested, and the differences of influence of each dimension of capability on hospital performance are compared. The multiple regression model is as follows:

$$P_{1,2,3}=\beta_0+\beta_1 XXLY+\beta_2 ZYHQ+\beta_3 ZYZH+\beta_4 ZYCG+\beta_5 ZYSF+\beta_6 SCA+\beta_7 CWS+\beta_8 OWN+\beta_9 DJS+\varepsilon$$

Equation 1: model of multiple regression

In the formula, P_1, P_2 and P_3 respectively represent the growth of sales, profit and market share of the hospital; SCA, CWS, OWN, DJS represent hospital sales, hospital bed size, hospital nature (public hospital =1, private hospital =0) and hospital grade (third-class hospital =1, second-class hospital and below =0) respectively, and XXLY, ZYHQ, ZYZH, ZYCG, ZYSF represent hospital information utilization ability, resource acquisition ability, resource integration ability and resources respectively. ε is a random perturbation term.

The statistical analysis software SPSS is used to analyse by hierarchical ordinary least square method. Firstly, the five dimensions of information utilization ability, resource acquisition ability, resource integration ability, resource reconstruction ability and resource release ability are used as independent variables, and the hospital performance is used as dependent variable for regression analysis. Then four control variables such as hospital sales are introduced into the model. Finally, regression analysis is carried out, and the results of the two steps are compared and analysed.

Table 4.10 Results of Hierarchical Regression Analysis

Independent variable	dependent variable					
	Sales growth		Profit growth		Market share growth	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Information utilization ability	0.212*	0.203*	0.126**	0.118**	0.132*	0.118*
Resource acquisition capability	0.174**	0.158*	0.289**	0.246**	0.251**	0.241**
Resource integration ability	0.323**	0.314**	0.158*	0.139*	0.234**	0.237**
Resource reconfiguration ability	0.247**	0.244**	0.265**	0.267**	0.343**	0.328**
Resource release capacity	0.256**	0.245**	0.373**	0.358**	0.281**	0.268**
Hospital sales		0.076*		0.087*		0.103*
Bed size		-0.098		0.086		-0.086
Hospital nature		0.175*		0.163*		0.155*
Hospital grade		0.112		0.115		0.104
Mode F	16.67	10.10	23.97	14.68	19.35	12.23
R2	0.315	0.338	0.398	0.426	0.348	0.382
⊿R2		0.024		0.029		0.035

Note: * means $p < 0.10$; **$p<0.05$.

Both endogenous and exogenous factors will have an impact on enterprise performance, and the ability theory holds that the explanatory ability of exogenous factors is very weak compared with endogenous factors. The empirical research and analysis results of Hanason & Werenfelt (1968) on the influencing factors of enterprise performance show that exogenous factors such as macroeconomics have only 15%-40% influence on enterprise performance, and the regression analysis results of this study show that the explanatory power of dynamic capability on sales growth, profit growth and market share growth is 31.5%, 39.8% and 34.8% respectively. It shows that as an endogenous factor of enterprises, dynamic capability has a strong explanatory power to enterprise performance, and this result is the same as some research results of resource-based view.

From model 1, it is found that resource integration ability ($\beta = 0.323$, $p<0.05$), resource release ability and resource reconstruction ability are the main factors that affect sales growth, and resource acquisition ability has the least influence, but it also exceeds a relatively

significant level. After introducing control variables into model 2, it is found that the ability to explain the sales growth of enterprises is still the ability of resource integration, resource release and resource reconstruction.

From model 3 and model 4, it is found that the main factors that affect the profit growth are resource release ability, resource acquisition ability and resource reconstruction ability, while the information utilization ability has the least influence, but it also exceeds a relatively significant level.

From model 5 and model 6, it is found that resource reconfiguration ability, resource release ability and resource acquisition ability are the main factors that affect the market share growth, while information utilization ability has the least influence, but it also exceeds a relatively significant level.

From the above model, the influence of some control variables on enterprise performance also has certain significance. The larger the sales scale of the hospital, the more helpful it is to the market share growth, profit growth and sales growth of the hospital. To some extent, it can be explained by the economies of scale and scope possessed by large enterprises. There are also significant differences in hospital performance among different hospitals. The ownership of hospitals has a significant impact on sales growth, profit growth and market share growth, which can be explained to some extent by some special advantages of Chinese public hospitals.

The regression analysis model is established on the premise that both the parameter estimation and hypothesis testing of the model are correct. The model obtained does not convey the message that each coefficient has the same influence on the dependent variable. Some coefficients may have a more obvious influence on the dependent variable, while others are unnecessary. That is, in the regression coefficient, some of the absolute values of the dependent variables may be very large, while others are very small or close to zero. Therefore, the significance test of the regression coefficient is necessary. Without the model significance test, there is no complete assurance that the set model is correct. Once the model is set improperly, there will be problems or mistakes in the coordinate transformation based on it. In the process of model construction, there are two types of errors that are most likely to occur. The first kind is the addition of irrelevant independent variables, and the possible consequences are the neglecting of theoretically meaningful discovery, the violating of the principle of simplicity, or the waste of the degree of freedom which leads to the decrease of estimation accuracy. The second kind of error is ignoring the independent variables related to the dependent variables, which may lead to increased deviation of the dependent variables and a positive correlation between the ignored variables and the dependent variables. The stronger the relationship between the ignored variables and the dependent variables, the greater the

deviation of the dependent variables.

When fitting the regression equation according to the sample data, it has actually been assumed that there is a linear relationship between variables X and Y, that is, $y=\beta_0+\beta_1x+\varepsilon$, and that the error term ε is a random variable that obeys normal distribution and has the same variance for different X. The significance test in regression analysis mainly includes the test of linear relationship and the test of regression coefficient.

In the regression transformation model between coordinate systems, the multiplication term of X and Y coordinates is always established. It is the particularity of this kind of construction term that makes its effect on the model difficult to capture. The results of testing the model by F and T methods are erratic, which makes the choice of the model impossible. If the variables are deleted according to the test results of F and t methods, the model system will be wrong. Therefore, people often ignore it in practical work, but judge and choose the conversion model according to experience. The multivariate regression coordinate transformation model adopts polynomial approximation principle, and by using a polynomial to express the transformation relationship between the two systems, it takes into account the local deformation of the reference centre coordinates to a certain extent, and can realize high-precision coordinate transformation.

In this research, multiple regression analysis was used to test the proposed measurement dimension of dynamic capability. It was found that, as an endogenous factor of enterprises, dynamic capability has a strong explanatory power to hospital performance, and different capability dimensions have significant differences in different aspects of hospital performance. The results of hierarchical regression analysis show that the capability of resource integration mainly affects the sales growth of hospitals, the ability of resource release mainly affects the profit growth of hospitals, and the capability of resource reconfiguration mainly affects the market share growth of hospitals. This conclusion is of great significance to the practice of hospital management. Dynamic capability is reflected in the overall optimization of hospital capability. In order to obtain a sustainable competitive advantage and a higher performance level, hospitals should synergistically develop all capability dimensions of dynamic capability.

4.5 Case study

The case hospital in this research is Foshan Chancheng Central Hospital (hereinafter referred as FCCH) in Guangdong Province. It is a third-level grade-A general hospital integrating medical, first aid, prevention, healthcare, scientific research, and teaching and has passed with a high score the international identification of the sixth version JCI. With focus on specialist medical care, the hospital has established medical service with its own characteristics and

been famous within the city for its key specialist departments including spine surgery, urology, and maternal-child health centre. It has more than 2,000 medical staff, 1,200 beds, and more than 1.4 billion Yuan of annual business revenue. The annual outpatient volume reaches 2.5 million persons and the annual hospitalization volume reaches 50,000 persons. In recent years, by virtue of the advantages of institutional innovation, a clear philosophy of hospital management, unique hospital culture and a strong medical technology and management team, the hospital has become a famous hospital within Guangdong Province and even across China.

Built in 1958, after years of development, it has become one of the top hospitals in Foshan City in terms of business volume, brand image and influence. In 2004, with support of the government, the hospital successfully carried out shareholding reform featuring employee stock holding, which made it the first large new-type general public hospital that has finished property rights and personnel distribution system reform within Guangdong Province. After the transformation, the hospital adheres to its commonweal nature, continues to bear the responsibility of safeguarding public health, and strictly implements the national price policy. While deepening its connotation construction with personnel distribution system reform and performance management at the core and focusing on building quality brand and enhancing patient satisfaction, the hospital proactively introduces and trains personnel, vigorously develops specialist medical care and technology, and consistently promotes medical ethics and offers quality service. The reform has intensified enthusiasm of the hospital staff and has become the driving force for its sustainable development. In 2013, in order to seek greater development, the hospital once again made reformations and innovations by strategically joining Shanghai Fosun Pharma, exploring a path of institutionalization, standardization, legalization, internationalization and conglomeration. In 2016 and 2017, FCCH won the honourable title of “model hospital of improving medical services”; it is the first one in Foshan City and also the only one in Guangdong Province that is praised as Bethune-style advanced corporate; it ranks the first place of district hospitals within province and the third place of large general hospitals according to the “evaluation of people’s satisfaction” published by Health and Family Planning Commission of Guangdong Province; it was reported in Renmin Ribao as “good hospital with low outpatient and hospitalization expenses, high volume of business and satisfaction and government, patients and staff all satisfied”; it is entitled “the best corporate for medical services in Foshan City”; in 2017 and 2018 it ranked number one in competitiveness evaluation of non-public hospitals in China by Hong Kong Asclepius Institute of Hospital Management Co., Limited. With strong support from the

Shanghai Fosun Pharma, the hospital puts forward “three decades and three steps”: in the first decade after the reform, it will focus on brand and connotation construction to achieve good reputation and integrity, with the aim to become a provincially famous hospital; in the second decade, it will finish the planning layout of one main hospital and three branch hospitals and focus on high-end medical service, premium specialist medical care and high-tech programs, with the aim to become a nationally famous hospital; in the third decade, it will set foot in scientific research, academic study and originality and involve itself in international medical service, international cooperation and competition, with the aim to become an internationally famous hospital. As a flagship of Fosun’s medical sector, FCCH provides comprehensive health service by building connection with other famous hospitals both at home and broad as well as cooperating with Yong’an Insurance affiliated to Fosun in order to achieve “medical care, insurance, health management” integrated operation mode and converge global high-quality resources so as to create a closed service loop for the whole industry including medical, health, rehabilitation, pension, insurance and comprehensive health. Through “Internet +” to expand service radius, FCCH strives to realize five strategic objectives, that is, “comprehensive health, large corporation, complete pension, great bay area, big Australia” so as to provide high-quality medical services and healthcare for people from all walks of life.

4.5.1 Reform and operation management of FCCH

4.5.1.1 Public-private-partnership mode

As early as one hundred years ago, Europe allowed social capital owners to build and operate infrastructure and utility projects, such as roads, water supplies, and canals, by granting franchises. In the 1980s, infrastructure and utilities were built and operated under franchise on a global scale, especially in developing countries. In the 1990s, the government hoped to apply this model to “quasi-operation” projects with good social economic benefits but poor financial economic benefits, and public welfare projects with only social economic benefits. For such projects, it is not enough for the government to grant just franchises. They require more government participation and support, and need the government to be a partner with social capital owners. This model is called “public-private partnership” or PPP. It refers to a way to provide products or services to the public through the partnership between the public and private sectors to invest, build and operate infrastructure and utility projects.

In China, Ministry of Finance and National Development and Reform Commission regard the PPP model as that “the government adopts a competitive approach to select social capital

with investment and operational management capabilities; the two parties conclude contracts in accordance with the principle of equal consultation and clarify the relationship among responsibilities, rights and interests; social capital provides public services and the government pays the corresponding consideration to social capital based on the evaluation results of public service performance to ensure that social capital obtains reasonable income". Therefore, the partners who cooperate with the government are defined as qualified state-owned enterprises, private enterprises, wholly foreign owned enterprises (WFOE), mixed-ownership enterprises or other investment and operation entities; "social capital" replaces the "private sector". The main advantages and disadvantages of the PPP model are as follows:

(1) The advantages and disadvantages for the government. The main advantages of using the PPP model to solve problems: the first advantage is broadening the source of funding for projects and accelerating project construction. The introduction of capital and the use of domestic social capital can solve the problem of funding shortages for the government, thus accelerating the construction and development of infrastructure and public utilities projects. When a project is completed, it will meet the needs of the society and the public in advance, and obtain the financial and social economic benefits of the project earlier. The second advantage is improving the efficiency of resource use thus resources can be rationally used. Most of the projects adopt competitive bidding and the process for feasibility demonstration is rigorous, avoiding the start or repeated construction of unproductive projects. The social capital owners think about reducing production costs from all aspects thus having relatively high efficiency in project design, construction and operation, which is conducive to improving resource utilization efficiency. The third advantage is separating operations and supervision to improve service supply. It improves the transparency of decision-making of the government and effectively promotes the improvement of market laws and regulations that the competitive market mechanism is introduced into the investment and financing field of infrastructure and public utilities. If the government controls appropriately, the public can get better products and services at lower prices. The fourth advantage is that the rate of return is linked to performance thus helping to improve future maintenance. Through regular and effective performance evaluation, achievements will be affirmed and deficiencies will be pointed out, which prompts enterprises to improve their future maintenance services thus achieving higher returns. In order to make decisions from the perspective of whole-life-cycle cost, social capital owners must introduce advanced management and technology to improve the efficiency of construction, operation, maintenance and innovative management, and give full

play to the initiative and creativity of the private sector to increase project operation efficiency and service quality. The fifth advantage is that the project risks are shared by both sides, which can help to reduce the risks for the government. Though infrastructure projects have long periodic time, need a large amount of investments and is highly risky, the government does not have to bear the risks of financing, design, construction and operation because most of them are transferred to the private sector.

The potential negative effects of the PPP model on the government are as follows: the first one is that once an infrastructure project is handed over to the contractor for construction and operation within a certain period of time, the government will lose its control over ownership and operation rights to the project during the time stipulated by the franchise. Therefore, some projects related to national security or major public interests should not adopt the PPP model, such as projects of national defence and power grid. The second one is that certain risks transferred by public agencies will be reflected in the financing costs of private sectors. The third one is that although the process of project construction has been accelerated, the project still has a relatively long bidding process. Besides, if the design work is left to private sectors, the government is prone to losing control of the design process.

(2) Advantages and disadvantages for the social capital owners. Main attractions: the first attraction is that the unique position and resource advantages ensure investors get stable market shares and returns on their investment. The second one is that the exclusive market position gives social capital owners the opportunity to get involved in the construction and operation of projects in some basic fields, which lays a good foundation for other investment activities in the future and then obtaining investment opportunities. The third one is to promote the export of products of social capital owners, especially the large industrial complete sets of equipment, thus helping broaden their product markets. Even if the project operation expires, the developer can still obtain service revenue by providing continuous services thus continuously expanding the export of technical equipment. The fourth one is that enterprises can make use of project financing to carry out isolation of risk as well as off-balance sheet financing. The negative effect is that the long periodic time of projects requires a certain amount of capital investment, which increases the developer’s financial burden to a certain extent and at the same time social capital owners will bear large risks.

4.5.1.2 Property system reform

Enterprise governance is the effective allocation of enterprise rights, responsibilities and benefits, and the allocation of rights is the foundation of enterprise governance structure,

while financial governance is the key core issue of enterprise governance (Li & Zhang, 2003). Financial governance is a dynamic system for enterprises to coordinate the financial status of stakeholders, and to use different allocation of financial power among them to improve the efficiency of corporate governance (Tian, 2007).

(1) Reform background

Medical and health care is a special field, which carries the dual functions of commonweal and efficiency. Medical and healthcare services are an important part of government public service. Medical service is different from general service products and its market is not completely competitive because there are defects in the market mechanism. Therefore, commonweal and efficiency should be balanced and coordinated to the greatest extent when public hospitals implement property system reform.

①External situation. The first one is about national policy support. In 1990s, China implemented a series of policies and measurements to start the first-round medical reform. During this process, social capital was introduced to try boosting the development of private medical care. Relevant documents included Decision of the Central Committee of the Communist Party of China and the State Council Concerning Public Health Reform And Development (Central Committee of the Communist Party of China issued, 1997 No.3), Guiding Opinions of the State Council on Deepening the Reform of the Medical and Healthcare System in Urban Areas (State Council issued, 2000 No.16) and other 13 files. The second one is about neighbouring market trend and competition. Chancheng District (covering area: over 150 square kilometres, permanent population: over 1 million) is adjacent to Guangzhou (a straight-line distance of just 30 kilometres) and has over ten second-tier and third-tier hospitals including Foshan No.1 People's Hospital (F1PH) and Foshan Hospital of TCM (FHTCM), occupying nearly all medical resources. The third one is about the possibility of trust and merger. Foreign capital (from Hong Kong) is interested in investing in the hospital exclusively.

② Internal environment. First and foremost, the hospital has a weak foundation and has long been operating within the system, which is the common shortcoming of public hospitals. For instance, indistinct property right and duties, rigid operation mechanism, insufficient fund, talents shortage and old-fashioned technology all contributes to the bottleneck of business development. To break through the chains, solutions considered at that time were trust, merger (exclusively), joint venture and stock holding. At last the hospital has been changed into a NPO in which all staff is given shares and to which partial social private capital is attracted.

This manifests the "three selves and one subject" model, namely, self-operation, self-P&L and self-development with one subject: the hospital. Also, staff shareholding that ties personal benefits with organization development guarantees high concentration on a consistent goal.

(2) Specific implementation of system reform

① Set up a panel to lead the work of system reform in an all-round way. Led by the director and the secretary of the hospital as well as guided by the authority and experts, the panel was responsible for market survey, repeated discussions and communication with the government.

② Identify the purpose of reform. In detail, it can be concluded as "three favors": to be in favor of the development of regional medical affairs, a bigger, stronger and better hospital, as well as the stability of the hospital and promotion and protection of staff (including the retirees) welfare.

③ Formulate corresponding rules. That is, the promise of "one guarantee and three aspects of insistence", specifically, to guarantee to keep state-owned assets and to insist highlighting public welfare and non-profit nature, offering public medical services assigned by the government and following national medical pricing standards.

④ Seek for government's support. The hospital's clear purpose of reform and promise to the society received a positive response and great support from the party committee and government of Chancheng District, which sent branches under National Development and Reform Commission (NDRC) of the People's Republic of China, State-owned Assets Supervision and Administration Commission (SASAC) of the State Council, National Health Commission (NHC) of the People's Republic of China and Central Commission for Discipline Inspection (CCDI) of the Communist Party of China, as well as labor union to guide the work.

⑤ Make democratic decisions to win the understanding and backing from a majority of members. As the most significant change in the hospital development, system reform must be supported by most workers. To ensure smooth reform, the institution had done a sea of detailed mass work which was approved by the middle-level and senior management. The major group of staff voted for the party committee which walked into each department for explanation, communication and opinion gathering. The decisions and plans of the system reform were passed in all three staff representative meetings.

⑥ Perform strict assets appraisal and standardize the restructuring operation. In order to maintain state-owned assets, the appraisal was hosted and monitored by the authorities instead

of the hospital. They drew lots to decide which accounting firm would take up the task.

Several important points should be mentioned in the system reform. The first one is staff and government support, the latter of which involves staff identification, talents attraction and turnover, social and medical insurance and compensation, hospital name, land using as well as withdrawal and deposit of allowances. The second one is keeping state-owned assets. Guided by the government, the assets appraisal is entrusted to a qualified third party in full charge. The third one is proper staff (including the leaving and retired staff) settlement to ensure the stability of staff. Identification switch: reserve their positions by signing a new contract and reserve their role as an employee in public institution (supported by the government). Treatment: for staff, the salary is no less than the level before system reform; they are insured according to the standards of public institution and enjoy retirement benefits. For retirees: the role as a member in public institution remains unchanged and is managed by the hospital labour union. Economic compensation is calculated in line with national standards for working years. Withdrawal and deposit of reserved capital includes life insurance and medical insurance for retirees, risk fund against system reform and overall management fund for retirees (management for specific bills).

(3) Functions and difficulties of the reform of property rights in public hospitals

As a way of system innovation, the property rights in public hospitals acts as the manner to relieve national financial burdens, optimize medical resources allocation and encourage development. It plays a positive role in capital, decision making and management. At first, it drags the hospital out of the financial dilemma and revitalize it. Besides, the decision mechanism is more flexible and autonomous. In the out-of-date state-owned property rights, a public hospital could never become an independent legal entity, and thus was limited in the power of personnel, distribution and business. After the reform, the hospital runners have the autonomy to draw up performance incentives policies in accordance with the law of market so that workers' enthusiasm can be enhanced. Last but not least, the management is streamlined to promote efficiency. From the economical perspective, investors and managers focus on cutting unnecessary personnel and operational cost in a good condition. The new system stresses distribution according to work, which helps cultivate the staff's awareness of service and competition that secures healthy development for the hospital and the staff.

Nevertheless, public hospitals are faced with a number of difficulties in talents, external environment and development space. Seeing from policies, China has not implemented any standard document regarding the reform of property rights for medical organizations, which

affects the progress from legal aspect. Another issue goes to talents shortage and loss. Compared with public hospitals, the private ones are weak in introduction, cultivation and pooling of talents, medical teaching and R&D capability.

4.5.1.3 Hospital governance after system reform

(1). Hospital nature: a non-profit holding (private) hospital where all staff is given shares.

(2). Shareholding structure: staff in labour union accounts for 60%, and two private capital sources account respectively for 30% and 10%.

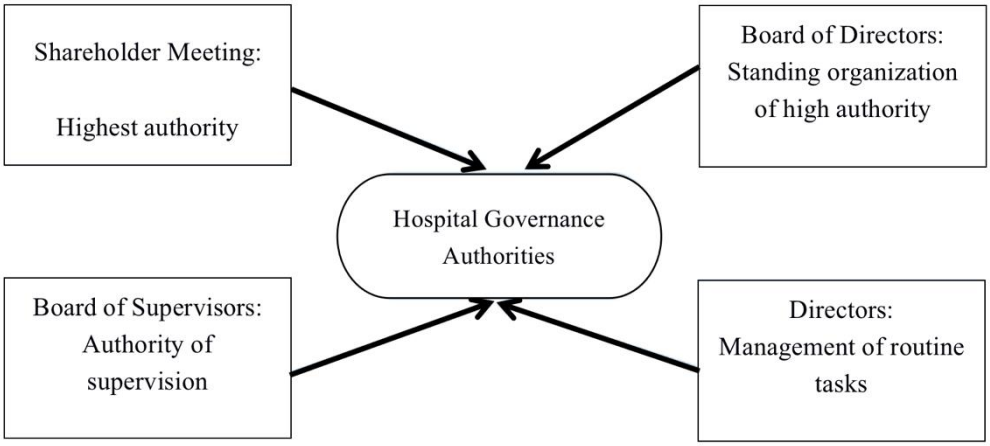

Figure 4.3 Hospital governance structure

(3). The development focus after system reform. First, insist on social welfare -- to maintain and strengthen the hospital's positive image. Put social benefits first and keep promises. Take up social responsibilities: public health, prevention and healthcare, prevention and treatment of infectious diseases, handling of serious health emergency (such as SARS and bird flu), standard medical care, rational pricing, social benefits and medical insurance, low-cost delivery room and outpatient services, deduction and exemption of medical fees for patients in extreme poverty. Second, change of thought for staff. Conceptual innovation comes along with system reform. Hospitals should invite experts to start training programs and encourage workers to go abroad for further study so as to broaden their horizons and give insight to their ideas and thoughts. Third, conduct reform of personnel distribution system and performance management to motivate staff. Ambiguous duties and rights and unfair distribution is the chronic disadvantage commonly seen in public hospitals that leads to poor motivation and work efficiency. The priority of system reform is to raise staff's enthusiasm. The hospital carried out reform concerning comprehensive two-level department management based on performance management and put forward that clinicians are the No.1 productive force. Salary is paid according to work and position, which is totally different from

equalitarianism before. At present, the first and second waves of reform are accomplished while the third is ready to go.

(4). Manager-director accountability. Entrepreneurial spirit is in essence enterprises manager's style of insisting on innovation and reform and taking adventures. A director of a hospital should be enterprises manager with highly entrepreneurial spirit who actively studies and keeps abreast of the latest market trends and promotes his management behaviour more in line with market claims and present competition. After the reform, Dr. Xie Dazhi, who is competent in comprehensive management, was appointed the Director of FCCH responsible for the organization's profit and loss. Managers (physicians) of all functional and clinical departments reported to him. The director, together with the trusted group of leaders, set a goal and mission of the hospital and has achieved good outcomes.

4.5.2 Competitive advantages of FCCH

Enterprise competitive advantages refer to enterprises' advantageous conditions in its output scale, organizational structure, labour efficiency, product quality, brand, reputation, new product development, management and marketing techniques. Enterprise competitive advantages are the combination of those favourable conditions and the basis and prerequisite for the formation of enterprises' competitiveness. Enterprise competitiveness can be understood as follows: enterprises with competitive advantages are able to create more economic value than its marginal competitors (breaking even) in a same product market (Peteraf & Barney, 2003).

In the mid-1990s, Bernard H. Boar, an American IT strategist, classified enterprise competitive advantages into five types as follows: ① cost advantage. This advantage enables enterprises to provide products and services at a lower price; ② value-added advantage. This advantage enables enterprises to create more attractive products or services; ③ focus advantage. This advantage enables enterprises to meet the needs of specific customer groups more appropriately; ④ speed advantage. This advantage enables enterprises to meet customers' needs more timely than its competitors; ⑤ flexibility advantage. This advantage enables enterprises to adapt to changing needs faster than its competitors (Liu & He, 2011).

Table 4.11 Comparison of three competitive advantage theories

Competitive advantage theory	Representatives	Nature of competitive advantage	Source of competitive advantage
Position Theory	Porter	Competitive advantage means that an enterprise has an above-average performance in a specific industry, and in terms of finance, it means that an enterprise can obtain excess investment returns	Competitive advantage comes from the competitive strategy; the basis for an enterprise to determine the best competitive strategy is its correct evaluation of the competitive environment it faced
Resource/ Capability Theory	Wernerfelt, Barney	When an enterprise implements a value-creating strategy that is not simultaneously implemented by its existing or potential competitors, it then has competitive advantage.	Competitive advantage comes from the heterogeneous resources and capabilities possessed by enterprises; the enterprise resources and capabilities that create sustainable competitive advantages have four characteristics: valuable, hard to imitate, scarce and irreplaceable.
Level Theory	Jin Bei	Competitive advantage refers to the comprehensive quality of an enterprise that can continuously provide products or services to the market more effectively than other enterprises and obtain profits and self-development in a competitive market; and the competitive advantage of enterprises is competitive, efficient, of welfare nature, sustainable and comprehensive	The elements of competitive advantage can be divided into four levels: relationship, resources, capability and knowledge; knowledge is at the innermost level of competitive advantage, capability and resources are at the outer level, and relationship is at the outermost level

Source: Tian (2013,p. 45)

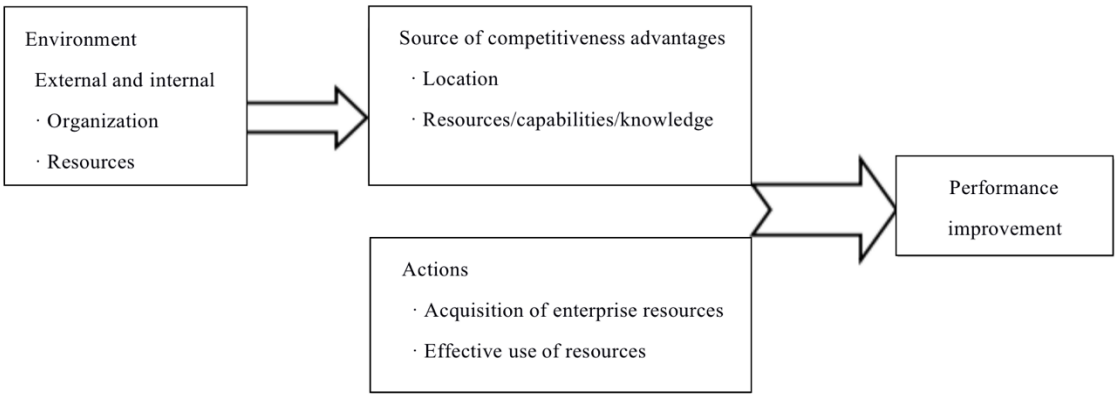

Figure 4.4 Source of competitive advantages in FCCH

Enterprise strategy is the way enterprises create value by coordinating and arranging their

activities in multiple markets. Enterprise advantage comes from effective enterprise strategies.

4.5.3 Hospital's development strategies

From a static angle, enterprise competitive advantages come from other strategic resources. From a dynamic perspective, enterprises should not only effectively make use of the current strategic resources but also need to acquire and develop new valuable resources. Only in this way can they remain competitive.

(1) Deepening the reform -- joining in Fosun Pharma

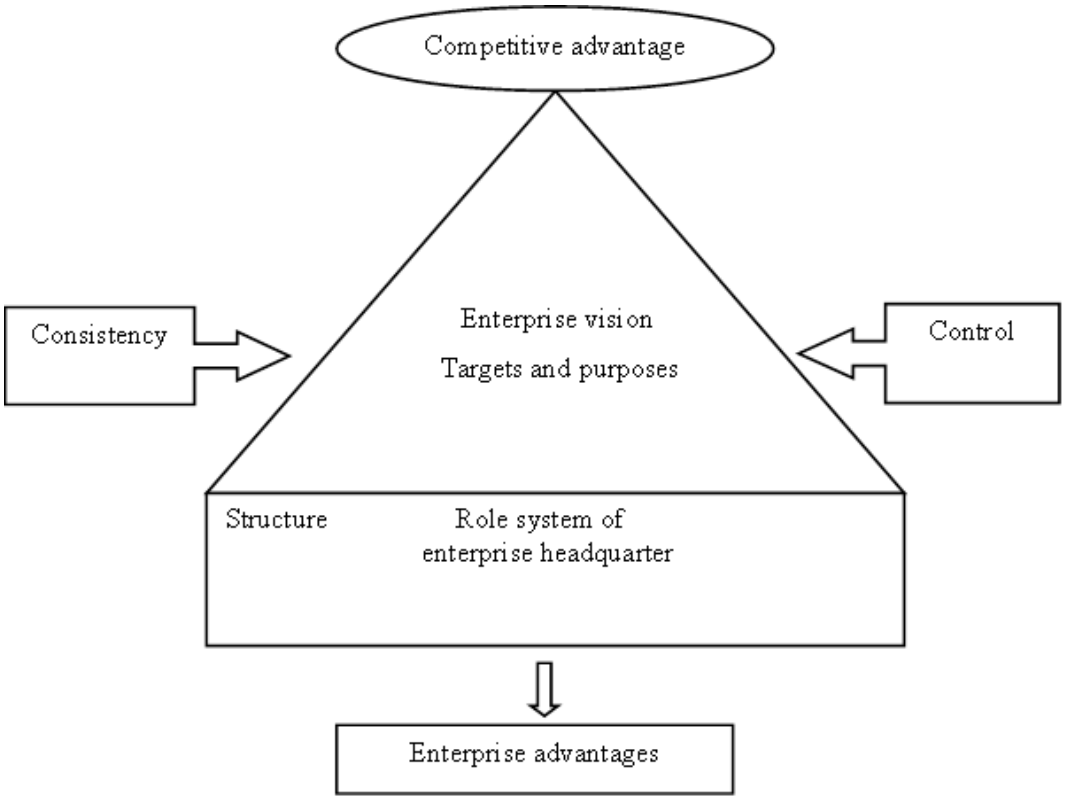

Figure 4.5 Ternary plot of enterprise strategy

Source: Tian (2013, pp. 50)

Founded in 1994, Shanghai Fosun Pharma covers a whole industrial chain of medicine and health care, including pharmacy and R&D, medical services, medical equipment and medical diagnosis as well as drug distribution and retail. Fosun Pharma has always been developing its industrial capability surrounding the 4IN Strategy. Innovation: target unsatisfactory medical demands, focus on core diseases, lay out multi-channel cutting-edge technology and build a diverse innovative biological system. Internationalization: global layout all-round internationalization of supply chains, value chains, capital and talents. Intelligence: push forward digitization and intellectualization of traditional business activities

and reconfigure the commercial model by internet of things and AI technology. Integration: facilitate the integration and coordination of internal and external resources for in-depth industrial development.

① There are three major reasons of deepening the reform. First of all, classified management of public institutions. In 2008, China proposed the plan of the classified management of public institutions for the first time and, by 2013, Commission Office for Public Sector Reform of Chancheng District, Foshan had issued policies to adjust FCCH's benefit system. The hospital, hence, was at the crossing of profitability or non-profitability. Besides, further opening up of China's policies. The 18th National Congress of the Communist Party of China emphasizes reform and opening up, and China's new medical reform encourages and supports diversity of medical services. It is expected that by 2020, the market shares of healthcare service will have hit 80 trillion Yuan, which implies high potential in this field. For the development of FCCH, a larger platform and more support is required. Furthermore, new development structure. Public hospital cluster, integrated healthcare system, financial conglomerates and social capital have made a big impact on FCCH. Last but not least, bottlenecks in talents, management and resources (including capital) with the continuous expansion of the scale. Due to lagged growth, weak risk prevention and restricted resources platform, the hospital needs to gain more resources via alliance with giants. The second reform was agreed by all staff (passed unanimously in three staff representative meetings and shareholding meeting) as well as municipal and district governments. Democratic decisions: in September, 2013, FCCH held the first and second shareholder meetings, which voted for multiple decisions such as change of name of the meeting.

② Why did the hospital choose to join in Fosun Pharma? To begin with, adhering to the concept of "Combining China's Growth Momentum with Global Resources", Fosun Pharma is a well-known powerhouse in China's private sectors that integrates real economy with financial investment. The giant controls 49 listed companies with a total asset of over 400 billion *Yuan*, ranking top 800 in Forbes Global 2000. The enterprises' strong resources system offers increasing opportunities to FCCH and other business sectors such as pharmacy, medical devices, travel, real estates and insurance. Then, the group is run according to the system of listed company. Its mature experience in marketing and internal control means greater support for FCCH's development. What's more, the drug producer's development strategies and cultures are consistent with the ones of FCCH. In view of the strategies in healthcare industry, as a supplier in the industry chain of great healthcare, Fosun Pharma's layout in production,

distribution and retailing of drugs, medical services, health insurance, high-end health preserving and retirement, health management and mobile medical internet highly tallies with FCCH's positioning of a hospital with "three zones", that is, the basic medical zone, the high-end medical zone and the medical zone for aged patients.

(2) The hospital's development strategy

Fosun Pharma proposed to invest in 500 hospitals in China and build a "Hive City", a new model of urbanization (i.e., City-industry integration including healthcare, culture and entertainment, travel and leisure, financial services as well as logistics and wholesale). The company plans to build FCCH into a medical flagship and carrier in South China so that the hospital can serve as a pattern and training base for Fosun Pharma's future medical expansion. The aspects of significance for FCCH's joining in Fosun Pharma are as follows:

First, backed by Fosun Pharma, the hospital could prevent and resolve different risks (in politics, economy and operation).

Second, borrowing Fosun Pharma's systematic, standardized and legal management experience and enjoying its advantages in marketing and talents resources, the hospital could rapidly strengthen its overall competence.

Third, sharing the same concepts of culture and strategy with Fosun Pharma, the hospital could link the healthcare industry chains and integrate resources with regards to new pharmaceuticals, medical devices, R&D projects of biotechnology and medical treatment.

Fourth, FCCH could make full use of the platform provided by Fosun Pharma in project introduction, resources integration and brand marketing. The hospital accelerated to absorb high-end talents and signed contracts on featured medical projects including the center for cancer treatment, stem cell treatment and Israel laser beauty. Also, Fosun gradually entered the overseas market in commercial insurance and medical care. The whole industry chain of great healthcare (medical care, pharmaceuticals, medical devices, retirement, medical insurance and health education) would be integrated under the leading of Fosun Pharma.

Fifth, the first "Healthcare Hive" was established. Fosun Pharma planned to add an international hospital for women and children, a geracomium equipped with commercial and residential buildings near FCCH in order to expand its business scope and enhance brand effect.

(3) Hospital collectivization development

With the rapid development of Chinese economy and society, living standards have been

improved and health care consciousness been enhanced. However, salient aging problem and increasing incidence of chronic diseases have put forward higher claims for medical treatment and public health system. Meanwhile, as China's new medical reform is gaining momentum, the government has proposed to encourage, support and guide social capital to flow into medical and health industry in order to accelerate the establishment of a medical service system with diversified source of investment and investment methods. With current enabling environment in terms of both market and policy, many social capitals focus on medical and health industry, leading to an upsurge of merge and acquisition. They aim at making hospitals larger and stronger, establishing a powerful brand and moving towards collectivization and chain expansion. Any successful enterprise cannot be separated from the support of capital market, and the medical industry is no exception. In order to realize rapid, effective and low-cost expansion, it is necessary to make full use of the power of capital market and set up hospital groups. In China's medical industry, it is in the initial and exploratory stage. How to make full use of the means of capital operation to realize the collectivization development of hospitals quickly and well?

The support from capital market is essential to any successful company, and medical industry is no exception. The collectivization development and chain expansion of medical industry is to make the most use of capital market, establishing hospital groups so as to realize rapid, efficient and low-cost expansion. In China, the medical industry is at the initial stage for further exploration. How to make full use of the means of capital operation so as to realize rapid and sound hospital collectivization development?

As the flagship company of Fosun Pharma, FCCH is implementing the collectivization strategy in south China and conducting extensive post-investment management of the acquired hospitals. Its experience in learning foreign collectivization and capital operation and its strategies that are being or to be implemented can be summarized as follows:

First, FCCH has established lofty missions and pragmatic values and remains committed to implementing them. Be it economic prosperity or depression, FCCH keeps being kind to its patients. This is the secret of its success. Giving top priority to patients' interests and the quality of medical care, and taking this value as the core of its corporate culture, then a medical institution is bound to earn profits from it in the long run. However, if the company merely pursues short-term profits at the cost of long-term interests, it will go nowhere

Second, FCCH always gives top priority to quality, spending a large sum of money in improving medical service quality and attaching great importance to investing in communities. With such high quality, the patient satisfaction is fairly high.

Third, FCCH is adept in using the partnership system. It provides advanced facilities and comfortable working environment for doctors and gives incentives with stock equity, thus creating an excellent team of doctors with remarkable techniques. With the changing times, the halo of capital is gradually fading, and the humanistic era is coming. In the recruitment of senior talents, FCCH will mention the partnership system or equity incentive scheme.

Fourth, with accurate market positioning and the self-managed management mode of branches, FCCH caters more to the market and thus gaining increasing market share. FCCH has formulated the following measures: first, increase the availability of its subsidiaries; second, ensure that all hospitals can provide high-quality services that exceed the expectations of patients and physicians; third, introduce new service projects and attract physicians to further develop and realize the regionalization strategy; fourth, strengthen the strategic cooperation with other nonprofit hospitals and for-profit companies in specific communities; fifth, create a high-quality panel of consultants for hospital management to support modelling negotiation and carry out the contract that has been signed in going out.

Fifth, FCCH makes full use of various modes of capital operation, fueling its development. Thanks to scale and delicacy management, FCCH has gained cost advantages so as to provide services to patients at a lower price. Thus, it can obtain much more market shares with the preference, which holds the key for company's development. FCCH has adopted a variety of different capital operation modes in different stages of development and achieved continuous growth through the alternating and integrated modes of mergers and acquisitions, trusteeship, listing, delisting, and re-listing.

4.5.4 Hospital with valuable culture - culture of FCCH

Enterprise culture is a basic spirit and cohesion formed by enterprises in its practice of production and management, as well as the common values and codes of conduct of enterprises staff. All content of enterprise culture is formed on the basis of enterprise values, and it is the embodiment and reification of values at different levels, from diverse angles and aspects and in various periods. Those values and value orientations shared by all enterprises staff are the core of enterprise culture, which affect the formulation of the goals and strategies and the management style of enterprises as well as the daily activities of the staff. Every successful enterprise has its own unique values, which is an essential "fulcrum" for enterprises to form its core competitiveness (Jin, 2005).

The core of management is people and the purpose of management is to fully dig out the wisdom and talents of people. Enterprise culture can maximize the enthusiasm and initiative

of employees, so that they can care about the development of enterprises and contribute their talents to enterprises as the owner of enterprises does. Under the encouragement of enterprise culture, employees work actively, integrate their own labour into the collective cause, jointly create and share the honour and achievements of the enterprise, and in return they will be encouraged again by becoming self-actualized and meeting other high-level spiritual needs.

Enterprise image refers to the comprehensive understanding and evaluation by social public or consumers of enterprises through different signs, such as enterprise logo, product trademark, advertisements, sales strategies and enterprise cultural construction. It is the masses' mental reflection of enterprises when they hear the name or see the logo of it. Enterprise image can be obtained in a short time via different communication manners, but enterprise reputation takes a long time to take shape.

Enterprises culture of FCCH is like a bond that closely ties staff's individual pursuit with the enterprises' pursuit. In relevant research, organizational culture can be simplified as valuable, rare and non-renewable culture embedded in at least a number of hospitals. Such culture brings competitive advantages to hospitals and enables them to foster and enrich their natures so that the organizations can achieve fruitful financial performance. FCCH always spares no effort to seek a tranquil, comfortable, beautiful and harmonious with Zen and healthy atmosphere, which has anima, warmth and taste instead of isolation.

(1) About *Fo* (Buddhism), *Chan* (Zen) and medicine -- tradition vs. modernization, environment, humanities and science

Medical science puts people first. This creed creates a distinguishable nature and humanities in FCCH. In environment design and building, many processes showcase the craftsman spirit and pure intention of the engineers. The FCCH space helps ease the painful and anxious lives to explore in difficulties and learn from the ordinary, which is peaceful with strength and calm with hope.

(2) External presentation of the internal relations -- a mixture of western design and traditional sinology

① Integrated art and wisdom -- the hospital hall. Here, the medical functions of a tertiary hospital merges with the cozy details of a star-level hotel, which takes in the elements of *Fo* and *Chan*, embodying that "medical staff is kind-hearted". The key colors are white, purple and green, creating an atmosphere of comfort, warmth, and respect. The simple and natural architecture design as well as the comprehensive and practical service layout fully reflects the hospital philosophy of putting people first. The calligraphy by Master Jieren from Mount

Putuo reading "*Chan Yi He Yi，Shen Xin Jian Kang*", which means integration of Zen and medicine to ensures physical and mental health, is eye-catching while the wall painting inscribing "*Xiushen, Qijia, Liye, Zhutianxia*", which means to cultivate the moral self, regulate the family, start the career and aid all, manifests the common ground between Fosun Pharma's core value concept and the FCCH-medicine culture. It should be pointed out that the large south-heading fresco named "*Chanzhe Xiuxin, Yizhe Jiuren* (the monk cultivates his nature while the doctor saves people's lives)" was created by masters in calligraphy and pottery. The masterpiece in accordance with FCCH medicine's history of over half a century is the collective ideas and wisdom from the design group carried by Dr. Xie Dazhi, the Director of FCCH. It unites the true, the good and the beautiful and harmonizes physical, mental and temper health. He who has a look at it will understand the integration of Zen and medicine in the right place at the right time.

② New landscape of FCCH -- the lotus pool. At the center of the pool stands a fountain, the moral of which is the eternity of life. The top of the fountain consists of 77 pieces of lotus "leaves" in different sizes, implying continuous newborn lives, while the bottom is made of granite, representing a solid foundation. At the base craves four Chinese characters "*Fo Shan Chan Yi* (FCCH)" from Hsing Yun, the Buddhist monk in Taiwan, China. The hospital journal *Chanyiren* (FCCHers) sets a column called "Words from Hsing Yun" to spread his thoughts concerning life circle.

③ Commonly-seen Zen culture. In FCCH, people can feel the Zen spirit and wisdom from the landscape and decoration. To cite a few examples, the scrolling nameplate written by the local master Mr. Chen Jingshu in the square, the rockery and waterside pavilion, the figures of Avalokitesvara and Buddhist in the maternal zone, the sculptures, waterfall curtain and inkstones in the courtyard as well as *Chanbao*, the mascot of FCCH all contain Zen culture.

④ Various facilities based on care and practicality. People can feel the care from the corridor, wheelchair accessible passage, waiting bench, shuttle bus, self-check machine and low-budget canteen.

(3) Behavioural identification (BI) of FCCHers

① The distinctive "home" culture. The managers put staff first with care, love, focus and attention while the staff regard their employer as home with loyalty, trust and protection, and respect, admire and follow their leaders. Each department cooperates well with each other, and each colleague helps, loves and respects his/her fellows. As a consequence, the

organization is cohesive and builds a good teamwork spirit. Everyone deeply believes that "Do good to the hospital for the sake of his/her own well-being".

② Creeds. These are the guidelines and rules for FCCHers. In 2008, the hospital called for staff's opinions and finally collected twenty creeds of FCCH.

③ Spring Festival gala. This is the annual moment when FCCHers can present the achievements of reform. It features original creation, high quality, rich connotation and positive energy.

④ Volunteers. This perfectly incarnates FCCH's ten-year insist on social responsibilities and public welfare. Established on March 5, 2005 and introducing the pattern from Taiwan, China, the volunteer team of FCCH is the first and oldest group in the health system in Foshan.

⑤ Art loft. FCCH is the first medical agency that gives staff and social enthusiasts a performance stage. It encourages "*Chanyun Yixin*", that is, the joint aim of FCCH and medicine is to "heal" people. In FCCH, it is possible to combine physical and mental healthcare.

⑥ Volunteering medical services, through which FCCH spreads medical science and knowledge and healthy living concepts.

Sincere services. ① Mobile dim-sum cart, which delivers tasty snacks at an affordable price (50% less than the cost, 1 *Yuan* for 2 pieces) to patients in need. The low-cost canteen offers breakfast and lunch to people waiting for check or treatment. ② Security guard. ③ "First stop of service experience". The "first smile, greeting and guidance" leaves a deep and good impression on the patients. ④ Car parking. To relieve such issue, FCCHers give up 500 carports to patients, which is "liked" by all walks of life. Such considerate act fully shows the culture of home and FCCHers' creed of "patient orientation" and "putting people first".

(4) Culture and career spirit of FCCH

The medical career spirit is the spiritual unification of medic (al science and humanities in the professional activities of medical staff and at the same time, the sublimation and highest realm of professional morality. Rooted in the fertile soil of professionalism, the culture of FCCH always put patients first by keeping their rights and building a harmonious doctor-patient relation.

In spite of a clear goal, duties and pressure in business, it is indispensable to foster culture for the staff and the hospital, especially for the renowned one. We should strike a balance between spirit and materials. Advanced and righteous culture guarantees the strength and

duration of materials. In addition, it is the foundation and nutrition of the classics that ensures the excellency of culture. Such good culture serves as sustainable nutrients and treasures for FCCH.

Medical ethics. This includes the following reminders: “Doctors’ treatment to patients are like parents’ to their children”, “Therapy is with benevolence”, “It is preferred to be a good doctor rather than an official”, and “Doctors stand as if on the brink of a deep gulf and tread as if on thin ice”, Florence Nightingale’s oath, Hippocrates’ oath and the Spirit of Dr. Norman Bethune. It is hoped that influenced by the above-mentioned words, FCCH can also foster its own value for the medical industry.

(5) Culture of FCCH and city characteristics

Foshan, also called Chancheng, is a city of civilization and happiness. “Dare to be first, pursue civilization and practice, and devote to logical governance and harmonious sharing” is the soul of the city that engraves her spirit and source of culture and outlines her history and signs of time. Apart from that, Foshan is also a vital component of the Lingnan Culture, where the Chinese and western elements are continuously integrated as a unique mixture of practice, inclusiveness and innovation.

In addition, setting “faith, mercy, enhancement and excellence” as their core value concept and based on the spirit of Foshan, FCCHers strive for people’s health with quality service. FCCH keeps improving their core competence in order to become an organization that is satisfied, trusted and respected by Foshan citizens.

For FCCH, there are several aspects that can be learned from the Foshan Spirit: innovation, practical style of work, inclusiveness, sense of belonging and existence and happiness.

As time goes by, FCCH has changed its vision from the internal cycle of “patient benefit, doctor incentives and hospital development” to the external one of “benefits for the hospital, the industry and the country”.

4.5.5 Human resource management that puts people first

(1) Management philosophy

The culture of FCCH enables the employees to agree with the hospital value concept and combine their personal ideal and goal with the hospital’s developmental aim. So does their benefits and future. The hospital insists cultivating, respecting and making full use of talents, which makes the staff feel at home and gain a sense of belonging. The employees rest with the hospital, rely on the hospital emotionally and show their loyalty to the hospital. They connect

their destiny closely with the hospital's future, so that a strong cohesion is formed. Holding that "Clinicians are the primary productivity", FCCH has implemented the *Human Resource Management* system of "staff recruitment, fixed position and arrangement and position-based salary". According to its distribution rules, salary is decided on position and work, and is inclined to excellent managers and key technicians with good performance, great contribution and high efficiency. The hospital adopts two-level department management and comprehensive performance evaluation, and assigns work in quantity to each employee in a dynamic way. It emphasizes the position of medical specialists, sets directors of department as the leaders of hospital, maximize the role of medical specialists, standardizes responsibility physicians, personalizes outpatient physicians and professionalizes physicians in emergency room and carries out manager accountability for the nursing team. Incentives mechanisms include equity and exploits rewarding, partner mode, win-win cooperation and enterprise annuity.

(2) Organization structure

To suit the development strategy, focus on brand building, high-end medical care, competitive specialists and hi-tech projects, and realize the dream of building a medical and healthcare paradise filled with health and happiness that is praised and yearned for by everyone, FCCH prioritizes clinical departments aided by administration and logistics. The hospital is under non-administrative flat management in order to serve the clinical units in an all-round way.

The Department of Human Resources is responsible for establishing distribution system, incentives system and evaluation system, as well as designating business directors, such as directors of department, head nurses and medical specialists. The incentives corresponding to the business or management goal of that year put forward by each level of management based on the department and the requirement of transformation and upgrade take effect after the Committee of Target Salary Appraisal approves and issues a financial document. The performance indicators include medical quality safety, satisfaction and culture and system.

Through the construction of a talent platform, FCCH cherishes competent talents that matches its culture. The hospital applies a flexible hiring mechanism that attaches importance to a candidate's capability, contribution and loyalty instead of his/her professional title, which demonstrates the advantage in salary and welfare system of private hospitals. Based on the talents policy implemented by the local government, FCCH has launched the housing project and caring project to take care of the talents and their family concerning basic necessities for living so that they can be devoted themselves to their employer without the worries behind.

In relation to the policy of key talents attraction, the hospital aims to build a platform to bring in talents. Except basic therapy and social insurance medical care, FCCH concentrates on high-end medical care and competitive specialists, too. The director put forward an innovation model called the "Sunflower Plan". In this context, FCCH is the disk (total shares) while specialists and experts from all over the world act as petals (project shares). They grow strong and inject nourishment and energy into the flower for its blossoming. So do the newly-added departments and their persons in charge. Taking the advantage of system and innovative thoughts in the plan, FCCH recruits dozens of high-level talents in management and business. They join the hospital with their new technology, models and teams. The new blood not only improve themselves with the support of a tertiary hospital but also enhance the comprehensive competence of the "sunflower", which is a win-win result.

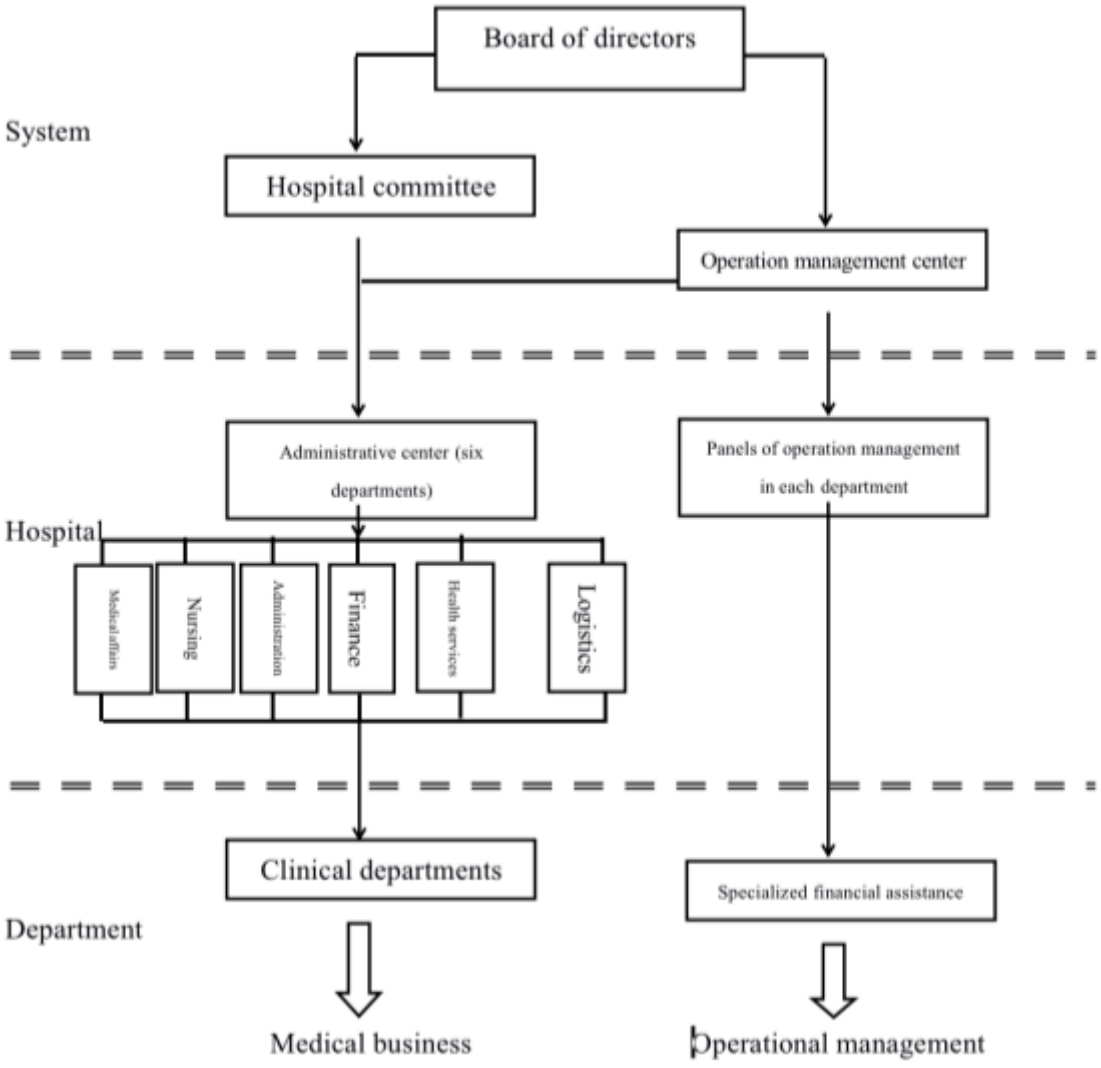

Figure 4.6 The two-way vertical system of "medical-management" in FCCH

4.5.6 Service system of good quality that puts patient centre

Founded in 2004, department of healthcare service (DHS) is an innovative division between clinical and administrative functions. It is one of the visionary steps put forward by Director Xie that breaks through traditional medical management and promotes hospital reform. At its preliminary stage, the department integrated market with services in two ways. Above all, it established over 100 community medical networks with rural doctors to bring in patients, which expanded its business scope. After that, the hospital strengthened management and supervision of service quality, which earned itself satisfaction and good word of mouth and thus, contributed to a rise by 20% in sales volume on a yearly basis.

1. Functions and performance of DHS

Thanks to market expansion in medical services, DHS received over 7,500 person-time/year outpatients and 1,100 person-time/year inpatients from referral or government and enterprises, generating revenues of more than 18 million *Yuan*. For years, the number of loyal hospitalized clients developed and maintained by DHS has been over 9,000 person-time/year, hitting approximately 100 million *Yuan* of business income. Apart from the routine tasks, the department also propels the advanced and innovative management philosophy based on Fosun Pharma's great healthcare strategy and its own goal of transformation and upgrade. Concretely speaking, these include service management (patient experience orientation), market (upgrade to a high-end sector), training (diversity), internet plus (optimization of service flow, new media marketing and specialist brand building), platform for highly-skilled doctors, insurances and VIP services.

2. Service management model

(1) Patient satisfaction -- the lifeblood of FCCH. To fully implement the service concept of putting people first, the hospital improves its service quality management and raises staff's awareness of service by investigating patients' subjective impression and satisfaction on grounds of later decisions and actions. FCCH has set up a scientific and systematic model of the satisfaction investigation (always paying attention to patients' feeling).

The investigation group is composed of DHS, internal trainers, customer services, calling center, hospital guides and social organizations (third party). Complying with the performance evaluation model that identifies the duties, power and rights of different levels of management and improves staff's performance, management and execution, the group has formulated a corresponding rule of evaluation. The rule adapts the hundred-mark system with consistent standards and time effectiveness, and deals with business and management performance according to departmental level.

(2) Construction and management of the hospital guide team. Hospital guide is an

important component of frontline service. As always, FCCH's hospital guides are recognized and appraised by the public for their kindness and enthusiasm, which further wins reputation for the organization. Consisting of image ambassadors, triage nurses, specialist promoters, Wechat promoters and satisfaction investigators, the team believes in the philosophy of offering kind, adequate, earnest and positive services. All members should have regular training involving appearance, awareness of service, service progress, and specialist triage skills, countermeasures against emergency and other new programs.

(3) Construction and management of the call center. The call center grows out of the telephone switchboard room, which transfers the internal and external calls. With the development of hospital, the center has been changed into a customer services hub specializing in call consultation, call following up, telephone reservation, satisfaction investigation and Wechat services. It is one of the hospital's windows to outside.

(4) Two-way referral customer service management. The referral center is set in the service island on the first floor. It has signed a two-way referral protocol with five community hospitals including Yong'an Hospital, Huanshi Hospital, Chaoyang Hospital, Xiangyang Hospital and Lanshi Hospital, to release their pressure on social insurance. More functions such as hospital beds and reservation of medical check in subsidiary departments have been added to the service island.

(5) Centre for Voluntary Workers. Established in March, 2005, the Center for Voluntary Workers was initiated by DHS. It is made up of all walks of life, including social enthusiasts, entrepreneurs, neighboring residents, students, Association of Teenager Volunteers of Chancheng District and FCCHers. In the past decade, the number of voluntary activities has reached over 4,200 person-time, accumulating up to 12,600 service hours. The volunteers guided patients to specific departments, offered considerate non-medical care to their family, read newsthesis and books for the old confined in bed and post-operation patients, talked with inpatients about health reserving and rehabilitation regularly, hosted voluntary activities including community charity medical services and geracomium services, visited and celebrated with inpatients in the Spring Festival, on the Mother's Day, the Children's Day and Christmas Day. The number of voluntary activities has reached over 400 person-time, exceeding 1,500 service hours. As a result, the team was awarded "2005 Excellent Voluntary Service Group in Chancheng District" and won the volunteer service "Golden Orchid" Award—— "Love team" and "Love condolences warm FCCH" Project Awards presented by the Office of the Spiritual Civilization Construction Committee, becoming the only institution to win the "Golden Orchid" Award in Foshan.

(6) Wechat service platform. The hospital expects to finish the doctor-seeing process in an hour and therefore, pushes forward the Wechat services as the simplest, most effective, most popular and most acceptable tool of medical advice in Foshan. The internal trainers formed a special group to rectify and reform the complicated flows. In 2014, the hospital opened the official account on Wechat to offer convenient medical services, including reservation and registration, online consultation, report check, online payment, health education, item list, free WIFI and feedback. By far, there have been 90,000 users binding their medical IDs. Every month, there are about 30,000 clients who reserve and register online. On a daily basis, the number of topping up and payment is 1,100 person-time, amounting to 200,000 *Yuan*, saving the time for roughly 2,000 person-time of those queue in a line. To a large extent, the service is convenient for patients to see a doctor without waiting for long.

(7) Self-service machines. These facilities give patients more options than the mobile applications such as WeChat do. With a self-service machine, people can register, pay for, check and evaluate their medical services. Meanwhile, the device supports card issuing, POS service, medicine list and report printing and integrated service with Wechat and Alipay via QR code. The hospital, according to frequency of use, places self-service machines with varied functions to meet different patients' need.

(8) Customer Relations Management (CRM) system. Always orientating patients, FCCH introduces CRM at headquarters and a great number of departments to maintain and follow up existing clients and offer customized services to them. In this way, patients can understand relevant knowledge and recover in a faster and better way. In return, the hospital is able to raise client satisfaction and rate of return visit to further build its word of mouth.

(9) A combination of high-end and common medical care. The high-end and common medical care in a hospital is like the first and economy class on an airplane. FCCH offers medical care for people with different needs, but seeing from quality and safety, as well as humanitarianism and respect, all types of service share the consistent standards.

(10) VIP management model. The Center for VIP Services is a professional integrated medical platform for those claim for high-end customized services. To be specific, these include high-end comprehensive health management, body check, medical care, guide service for inpatients, VIP carport, VIP waiting lounge, health management and high-end health preserving and healthcare.

3. Switch of hospital service model

In 2010, FCCH introduced the "Quality Service System Construction Project" initiated by SGP International Management Academy (SIMA). The course, lectured by a group of internal

trainers, offers all-round international service training and builds a quality service system for hospitals to maintain their brand image and advantages. The Singaporean model highlights "patient experience" and "heartware" construction. Borrowing this concept, FCCH and SIMA co-founded the SIMA-FCCH Center for Training and Consultation, which led in China's hospital management and training. Investigation shows that from 2010 to 2016, patient satisfaction has surged from 67.7% to 95%, loyalty, from 16.9% to 58% and recommendation rate, from 63.4% to 92.6%.

4. Service quality performance management

(1) Foundation of the internal trainer team. Set up in September, 2012, FCCH's internal trainer team shoulders the vital responsibilities of spreading and managing the hospital's culture, spirit and positive energy. It also follows the Singaporean model to launch training program concerning services to keep FCCH's brand competence and regional advantages. The duties of internal trainers are shown below:

(2) Internal trainer's work. ① Quality service training. Training is the priority for an internal trainer. Currently, FCCH has built a training system combining internal and external aspects with internal trainers as the main body and internal training as the main content. According to FCCH's requirement and staff's claims, the trainer group designs courses in the following process: topic identification -- group preparation -- materials shooting -- trial lecture -- courseware modification -- approval -- training. ② Inspection and guide of service quality. This is the crucial supplement to the training process, which helps improve shortcomings that have a negative impact on patient satisfaction in a more direct, rapid, systematic and scientific way. The step is carried out in the form of "classified group accountability". ③ Service flow optimization. Based on feedback from satisfaction investigation and patients' experience, the hospital builds a panel consisting of relevant departments and internal trainers to optimize and upgrade the service flow with the thought of design. ④ Arts loft. The training trainers have established an arts loft where people can express humanistic care with arts. In this way, the hospital can enrich its culture, improve its image as well as advertise its brand. ⑤ Special tasks. In response to the hospital's development, the team has taken part in a string of special tasks including advertising campaign of WeChat platform, training and guide for car parking experience, surveys on schools for the pregnant and community lectures, shooting of service etiquette standards and reception of international renowned doctors for the establishment of medical department.

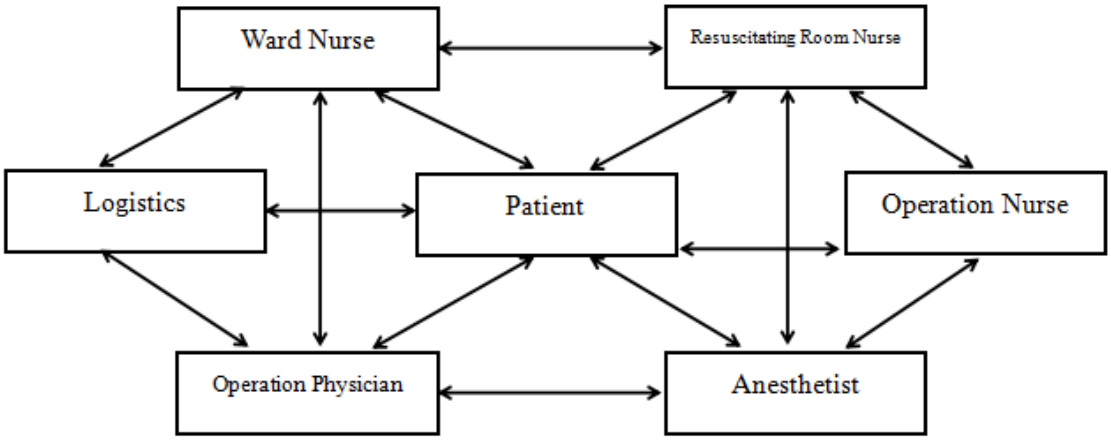

Figure 4.7 Service flow optimization process

The group of internal trainers of FCCH is a young squad, which, after systematically learning the advanced quality service training courses offered by SIMA, forms a team of lecturers to convey the concepts and skills of quality service to every employee in the hospital. Besides, the professionals listen to the voices from both the patients and the medical team to conciliate the aggravating conflicts between the two sides. FCCH implants the philosophy of quality service deeply in every heart of everyone in FCCH which reflected in their daily work. This is dependent on the staff's own force, while the source of force is the internal trainers.

4.5.7 Fine financial management: integration of finance and operation

1. Financial governance

Financial control deals with the issue that shifting the legal control power derived from property rights into a real, powerful control power to realize more effective capital distribution decision than market and the competitors. Financial control refers that the superior of enterprises executes financial control of the subordinates according to relevant rules, systems and contracts, including approving budget plans drafted by the subordinates, supervising the budget execution carried out by the subordinates as well as evaluating the subordinates' performance by rewards or punishment.

2. Budget control

Supported by the comprehensive "hospital-department-group" three-level department management, FCCH carries out all-cost accounting and budget control. The hospital delegates the power of business and management to different departments and strengthen self-management and self-cost control in order to reduce operational cost and relieve patients' financial burdens. Specifically, the control measures are detailed below: ①Budget control.

The hospital brings all types of cost into the range of management to arrange and control the budget according to departments. ②Feasibility argumentation control. With the foundation of collective decision accountability, the hospital makes significant economic decisions after comprehensive feasibility argumentation. ③Financial approval control(Ding, 2015). The hospital has established a sound cost approval system to rectify and restrict unnecessary expense discrepancy. ④Implementation control. The hospital supervises internal audit of economic activities and implements systems regarding bidding and purchasing to check and assess key points of cost control and continuously improve the level of cost management. ⑤ Optimization of resources allocation. The hospital raises the utilization rate of medical equipment while lowering cost so as to enhance its competence in market. ⑥Acceleration of technological innovation. The hospital accelerates the innovation of medical technology, stresses informatization construction and optimizes work flows in order to improve the efficiency and reduce operational cost.

The measures of multi-faceted management include: ①Fund management. First, the hospital adopts a transparent system of position power approval to control collection or transfer of large payment. Second, strictly abiding by the group requirements, the hospital allocates the money via the daily gathering work flow to give the money into full play. Third, the hospital vitalizes idle fund through budget control of annual capital flow. ②Sales management. The hospital follows the prepayment model. Patients open a personal account in the charging system and pay with balance carry forward. This method smooths the settlement and shows clearly the transaction records. ③Inventory management. The hospital sets up inventory warning so as to speed up the turnover of goods. ④Purchasing management. First, control-oriented purchasing. The hospital selects and controls the type, quantity and price of drugs and raw materials to decrease the cost. Second, internal financial inspection. The financial department compares the bidding price with the actual purchasing price to prevent corruption risks. ⑤Assets management. First, assets budget control. The assets purchasing and engineering construction should be in accordance with the budget, otherwise additional approval is required. Second, analysis on financial benefits. ⑥Financial report management. First, with the help of informatization, the hospital accesses the data of financial reports and checks their accuracy. Second, financial reports used to be “finding problems and remediating them afterwards”. Unlike before, the financial report now enables the hospital to prevent potential risks and control ongoing abnormalities through rolling data analysis.

3. Special financial assistants

In FCCH, skilled financial specialists, or financial assistants are required to take up routine work at clinical departments. Key staff should be sent to crucial branches such as the Dept. of Spine, the Dept. of Women and Children, the Dept. of Urology, the Dept. of Digestion and the Dept. of Cardiology to offer financial support. Responsibilities of a financial assistant are: have a good understanding of relevant business, market competition and development strategies for the department, reduce the data of all-cost accounting and check their accuracy and completeness, analyze and identify the existing problems in operation before offering effective solutions, and explore different settlement models of commercial insurance from different companies.

The establishment of the specialized financial assistant system is a vital manner to penetrate the enterprise-style management throughout the hospitals, which changes the traditional doctor-running model into a new situation of medical care-management division. The financial assistants become a right hand of the clinical department director, playing a positive role in the clinical department business management.

4. Different pricing strategies

In the dialectics, anything has two sides, so does price competition. Price competition can be divided into proper price competition with positive effects, and wrongful, vicious price competition with negative effects. From the perspectives of consumers, the positive effects of price competition are reflected as follows. First of all, proper price competition increases consumer surplus. The largest and most immediate beneficiary in the price competition is common consumers. Through price competition, the price of some high-profit industrial products regresses to a normal range, and the affordable price enhances consumers' real purchasing power. Besides, proper price competition expands consumers' preference range. To some extent, price competition pushes enterprises to continuously develop new products and thus offering more options to the consumers. The enriched product series will satisfy the demands of a growing number of differential consumer groups and secure their consumption rights and interests (Zhou et al., 2004).

However, price competition may cause a negative impact on consumers. First and foremost, price competition will make consumers be faced with potential high-price monopoly. Suppose that after the ferocious price competition, only a minority of enterprises survive the market, then the market structure will be changed from the previous strong competitiveness into monopoly or oligopoly. The monopoly enterprises compensate their loss in the price war by raising the price, and the consumers have to suffer the high price

accompanying monopoly. Moreover, price competition will also place consumers at the risks of low product quality.

Seeing from enterprises, the positive side of price competition is as follows. First, reasonable price reduction can stimulate potential demands and further expanding its market share. Second, price competition, in some way, can encourage enterprises to enhance internal management and improve its management level. Sound business management level, to a certain extent, can raise enterprises' labour productivity, and control various expenses to minimize the cost in production, development, sales and services. A relatively high labour productivity level and cost advantages are positive conditions for enterprises to compete for price.

Nevertheless, price competition can also pose positive effects on enterprises. To be specific, first, over-fierce price competition will lead to enterprises' profit loss. Excessive, inappropriate and vicious price competition will reduce the economic benefits of a great number of companies or even the whole industry, therefore greatly hindering the later development of these enterprises. Second, price competition may distort consumers' psychological price, which is not good for product pricing in the future. Third, price competition may be bad for enterprise brand image. Blind product price decrease will bring doubts to buyers who think there may be something wrong with the product quality or other aspects. What's more, a partial consumers who have already bought the products at a relatively high price may feel cheated. This is extremely unfavourable for the enterprises' image.

Customer loyalty refers to customers' loyalty to enterprises brand or enterprises' product brand. Enterprise brand loyalty refers to customers' promises to repurchase their preferred products or services in a future time. This positive attitude comes from customers' understanding of enterprises brand as well as their experience and effects in the products. When enterprises reduces its product price largely, customers may be suspicious about the rationality of the previous pricing, deeming that enterprises has set an excessive price to cheat purchasers, so that they will show less trust in the enterprise. Those who have already bought the products at a relatively high price may feel cheated, making them distrust the enterprise, turn down its products or never buy its products unless there is a big price cutting from now on.

For consumer, they wish to buy "cheap" products. But how large extent of price reduction will satisfy consumers? Is it the lower price, the better? High-income individuals, due to work features and social necessities, often prefer famous products with a high price to embody their

own social status. Such consumers will unquestionably say no to grand sale.

Differentiation's product value and characteristic services are of good help to strengthen medical market impact, increase market share and enhance the share and influence of a hospital, bringing better market performance output to the hospital. Therefore, FCCH's obstetrics provides characteristic services of ABC differentiation package.

For example, using flexible strategies to win more market shares. Implementing flexible strategies to win market. According to the needs of pregnant or lying-in women in Foshan City, obstetrics charge will gradually be transformed into ABC package mode, thus the package structure, service items and pricing will be redesigned. Set A includes spontaneous labour worth of 19,000 Yuan, breech delivery worth of 22,000 Yuan, scar uterus delivery worth of 25,000 Yuan and caesarean section worth of 28,000 Yuan; Set B includes spontaneous labour worth of 6,600 Yuan, spontaneous and painless delivery worth of 8,000 Yuan, caesarean section worth of 11,000 Yuan, selective caesarean section worth of 12,000 Yuan and caesarean section and tumour removal worth of 13,000 Yuan; Set C is for common services.

The obstetrics district in FCCH can be divided into five areas: obstetrics area one, obstetrics area two, high-end obstetrics area, prenatal area and delivery rooms, and the comprehensive obstetric area. In response to the hospital's high-end medical benefits and promoting and optimizing the package services, electronic network system, WeChat public platform and various propaganda materials are used for publicity. Management measures to be implemented include: ①Nursing mode of bed management responsibility. At first, the training of nurses in charge of beds should be intensified. Nurses need to clarify the beds they are responsible for, well fulfil the bedside work, and conscientiously shoulder the responsibilities of life nursing, basic nursing, health condition observation and patient treatment, as well as psychological nursing and health education, so as to ensure patient safety and continuously enhance the satisfaction of patients and their families. Besides, ward beds should be rationally utilized. With the number of patients rising, dynamic adjustments need to be made to the use of rooms. For example, the living room of a small suite can be turned into normal rooms to increase the turnover rate of rooms and the occupancy rate of patients. ②Optimization of delivery technology. The training of midwives should be improved and under the leadership of senior midwives free posture delivery, non-invasive delivery and other projects will be carried out to win recognition and praise from the parturient and their families. ③Publicity of market highlights. At first, the work of free posture delivery and non-invasive delivery should

be comprehensively carried out in line with the international standards. Emphasis should be laid on spontaneous labour of high-risk pregnancy in scar uterus trial labour. Scar uterus trial labour's package services need integrating and promoting and its clinical criteria needs strict formulation so as to ensure the safety and quality of obstetrics and improve the spontaneous delivery rate under the universal two-child policy. Then network platform should be established. The website of gynaecology and obstetrics department will redesign and construct a network platform according to its current situation and development plan, making use of network and WeChat platform to further publicize the advantages of the department technology, advanced equipment, excellent talents team and elegant hospitalization environment and widely attract patients in surrounding areas on the basis of consolidating the present regional influence. At last, FCCH will actively take part in all kinds of social activities to expand its influence. For example, the hospital will create many patient groups such as "home for hysteromyoma patients" and "home for mothers feeding babies" to further strengthen the system management and publicize its departments through the groups of patients. Besides, technology introduction will be made. Through gynaecology and obstetrics propaganda columns, various technologies and treatments will be introduced to be leave a deep impression on patients' mind. Gynaecological surgery demonstration videos are made to show its various technological advantages so that patients can gain a direct and clear understanding. ④Expanding propaganda of the confinement centre and promotion of the industry chain services of "outpatient–ward-confinement centre". The marketing of confinement centre will be implemented through network, WeChat and other publicity modes to introduce package services of the centre and increase the business deals. ⑤Comprehensive arrangement of the electronic information follow-up system. Through the combination of bed management responsibility system and electronic information follow-up system, FCCH will be able to revisit and guide the parturient to do postpartum examination after 7 days or 30 days since they gave birth so as to reinforce its follow-up of potential customers (introducing pregnant women in hospital and signing continued package services for the birth of a second child), optimize the return visit process and continue its home visits.

4.5.8 Stakeholders: dynamic equity incentives

The Cooperation E.N.T. Department of FCCH is at a stage of rapid development. As the business volume is continuing to grow, in order to further develop enthusiasm of the staff and constantly improve their happiness index, the E.N.T. Department resorts to personnel training

mechanism and incentive mechanism reform and implement dynamic equity incentive to ensure that employees and departments to form a community of interests so as to achieve the long-term goals of the Department.

1. Implementation goal

The hospital prepares the budget according to its overall development objectives which are further divided to various departments. The budget plan will be implemented step by step under the guidance and control of budget management. Based on implementation of whole cost accounting, the employees and medical groups are further identified as basic accounting units. They are assessed by their performance and contribution, adhering to the principle of performance first with fairness in consideration and distribution according to performance and more pay for more work so as to stimulate enthusiasm, initiative and creativity of all employees. The implementation goals of dynamic equity incentive are as follows:

At the first stage, the dynamic equity incentive model spurs all employees in the department. They get different income distribution for different performance, shattering the unequal distribution due to equity solidification and achieving dynamic equity distribution. More pay for more work, less pay for less work and those who do not work get little income. This step offers a solution to short-term incentive.

At the second stage, the main problem is how to steadily increase the equity share of the outstanding talents, and retain their equity share and their heart, that is to establish a long-term mechanism. The approach is to reward them with rationed shares so that outstanding talents can buy more shares. 10% of all of the rewarding income will be transferred to the department share capital. As those with outstanding performance should have more rewards and those with lagging performance should have less rewards, once the rewards are transferred, the share percentage of every employee will change accordingly, with increased share to outstanding employees, decreased share to lagging employees and unchanged share to mediocre employees. Increase by transferring raises the share percentage of outstanding talents, who will have larger base figure for calculation in the future distribution, and this is the long-term incentive mechanism. The share percentage of those whose performance is lagging behind in this year will decrease, their base figure for distribution will decrease, and this serves as a deterrent to them. As for those whose performance is lagging behind for a long period of time, their share percentage will be continuously shrinking with less and less income until being knocked out someday. This is the internal competitive mechanism established by dynamic equity incentive model, which, through the share transfer of undistributed profit every year, not only establishes a long-term mechanism, but also promote optimization of

department shareholding structure and talent team (Zheng, 2008).

The third goal is to make it possible for the outstanding talents in the ordinary position to stand out and achieve simultaneous growth of individual value and department value. In the dynamic equity incentive model and its supporting model, the value of every position is expressly stated and the performance of every job is manifested (incorporated into the unified performance scoring system of the department) (Zheng, 2008). With the principle of efficiency first with fairness in consideration and under the unified performance indicator system, everyone tries their best to increase their equity share and gain their own position. Distribution for ordinary employees is based on performance rather than the position and equity share, which stimulates the excellent talents to stand out.

The fourth goal is to give full play to teamwork advantage and establish team benefit sharing system while highlighting individual interests. The formula for the dynamic equity incentive model is $Rn' = (Pn / \Sigma Pn - Rn) \times r + Rn$, and the profit that can be distributed to shareholders at the end of the year $= \Sigma Pn \bullet Rn' = Pn \times r + \Sigma Pn \bullet Rn \times (1- r)$. Dividends of shareholders are closely related to not only their individual performance, but the business performance of the department as a whole. Given r = 20%, if a key person is experiencing performance loss, on the one hand, he will obtain $Rn \times (1-r)$ from the total profit based on his original shares, the percentage of which is also dynamic; and on the other hand, he will also shoulder the loss-compensation responsibility (r) for his own performance loss. If a key person is making profits, his income distribution depends not only on his own section (20%), but also benefits of other key persons. If the benefits of other key persons are not good, his own income distribution will also be affected. Therefore, in this dynamic distribution system, interests of all the shareholders or key persons are connected, forming a mutual-help mechanism.

2. Design of dynamic equity incentive

The research object of salary demutualization dynamic incentive is the rights, responsibilities and benefits of various resource allocation activities, a dynamic performance allocation and management mechanism in the form of demutualization (Zheng, 2008). Virtual shares are used to represent various salary standards, forming wage shares. The design method of dynamic equity incentive model is as follows:

Short-term performance factors are introduced into the distribution of many wage types, which makes the distribution more dynamic and motivates employees at all levels. Considering both short-term performance factors and long-term ability value, the fixed value factors are introduced to participate in distribution, such as positions, historical performance

and cumulative contribution degree. Fixed value factors are used in current distribution, but the following problems cannot be avoided: ① According to the fixed factors such as administrative level, skill level and share ratio, there is a big gap between wage standards at all levels, but the actual contribution of high-paying personnel cannot reach the level of low-paying personnel. ② The proportion of fixed value factors allocated in the current period is too large, which leads to higher income without efforts. In the past, hard-working personnel may also become lazy, causing negative effects. In this way, we can avoid dynamic design aiming at the influence of fixed value factors on distribution, and make up for the shortage of short-term incentives caused by fixed value factors.

In the dynamic equity incentive system, distribution will be based on contribution since the year when contribution shares are introduced. The ratio is usually 20% of the total profit, among which the key persons occupy 60% and ordinary employees occupy 40% (Zheng, 2008).

3. Implementation steps

With the internal mock share system as the basic system, the department adopts dynamic equity incentive model as the incentive mechanism. The share is set in the following steps:

Step 1: Guide the employees to become shareholders. Investment risks should be informed to employees beforehand. They cannot withdraw shares in a short period, but the shares can be transferred to the department when they retire or leave the office.

Step 2: Reasonably set the proportion of the shares between operators and employees. Two tendencies should be avoided: first, average holdings without gaps; second, too huge discrepancy between holding of operators and employees. A reasonable practice is to slightly increase the holding percentage of operators and business backbones, which is conducive to stable development of the department.

Step 3: After the proportions of the initial equity of the operators and employees are set, the dynamic equity incentive static model, $Rn'=Rn+ (Pn/ \Sigma Pn -Rn) \times r$, is introduced to implement the “dynamic equity” incentive.

Step 4: Identify the disposal of the unallocated profits that belong to the employees. When the employee leaves office, the department shall, in accordance with the articles of the general meeting of shareholders, return the shares and unpaid dividends in time to them.

Step 5: Equity to new recruits. The newly-recruited formal employees who are willing to buy shares and are able to pay exactly the amount of money on time can buy shares in the proportion approved by the general meeting of stockholders.

Step 6: other management systems supporting the static model.

Supervisory board system: The board of supervisors shall be composed of representatives of the operators, representatives of employees and auditors. The main duty is to supervise the affairs of the departments and guarantee the rights and interests of all shareholders. The board of supervisors has several special committees, in which the Audit Committee can exercise the auditing supervision power under the commission of the board of supervisors or the general meeting of shareholders (Zheng, 2008).

4.5.9 Performance Evaluation of FCCH

Enterprises is a profit-oriented organization, which provides products or services for the society and gains profits at the same time. The enterprise performance studied in this thesis specifically refers to enterprise business performance. Enterprise business performance refers to the benefits obtained by enterprises and the performance of its managers during a certain business period. Manager performance is mainly reflected by the managers' achievements and contributions to the development of enterprises in the process of operating and managing these enterprises. Enterprise business performance evaluation includes the evaluations of enterprise business efficiency and of manager performance. It usually covers many aspects such as profitability, development ability and comprehensive competitiveness. Enterprise performance is endowed with different connotations by commonly used EVA, MVA and balanced scorecard's comprehensive indexes such as finance, customers, internal operation and learning and growing (Cheng, 2005).

The strategic operation of enterprises is independently formulated and implemented according to the characteristics of the industry and market, and thus it is highly differentiated. Evaluation construction of enterprise performance is based on the key part of value creation, and pays attention to the ability and conditions of enterprises to formulate and implement long-term and stable contracts. Based on the evaluation dimension of balanced scorecard, the evaluation subsystem of enterprise performance at the strategic operation level is divided into five dimensions, namely, social satisfaction, financial operation ability, business innovation capability, learning and growing capability and social contribution degree.

1. Social satisfaction. It refers to the recognition degree of stakeholders at the main strategic level in the strategic operation of the enterprise, which is described by the indicators such as corporate brand recognition, customer satisfaction and major supplier satisfaction. Among stakeholders of enterprises, partners and customers are the most critical, for they are the two ends of the value chain in value-creating process of enterprises and are an integral

part for the enterprises' survival. It is essential to get the recognition of partners and customers.

2. Financial operation ability. It reflects the operation of internal funds and the level of profits of enterprises under financial data. There are hundreds of financial indicators involved in one enterprise, but those showing enterprises' capabilities mainly include rate of return on common stockholders' equity (ROE), the proportion of profit from the main business, and the current ratio.

3. Business innovation capability. The realization of high-quality management and innovation is the important goal of enterprises in the operation process. There are mainly three kinds of indicators to evaluate this process: the first kind is time indicators, including production time and business turnover time; the second kind is quality indicators, that is, quality of product and service; the third kind is innovation indicators, such as the quantity of new products and the rate of investment in technological innovation (Cheng, 2005).

4. Learning and growing capability. The focus of learning and growing of enterprises is to achieve the three levels before the balanced scorecard level and realize the long-term growth goals of the enterprise. It also emphasizes the importance of future investment. Organizations must invest in infrastructure, including staff and system programs. Performance indicators at the learning and growing level are built through enhancing staff competency and information system capabilities and increasing consistency of incentives and empowerment.

5. Social contribution degree. There are two indicators that reflect the social contribution degree of enterprises: social contribution rate and social accumulation rate. The social contribution rate reflects the contribution of enterprises to the whole society or the worker groups. The total social contribution amount of enterprises includes wages, combination of labor insurance and pension and other welfare expenditures, net interest expenses, VAT payable, product sales tax and surcharges payable, income tax payable and other taxes, and net profit (Cheng, 2005).

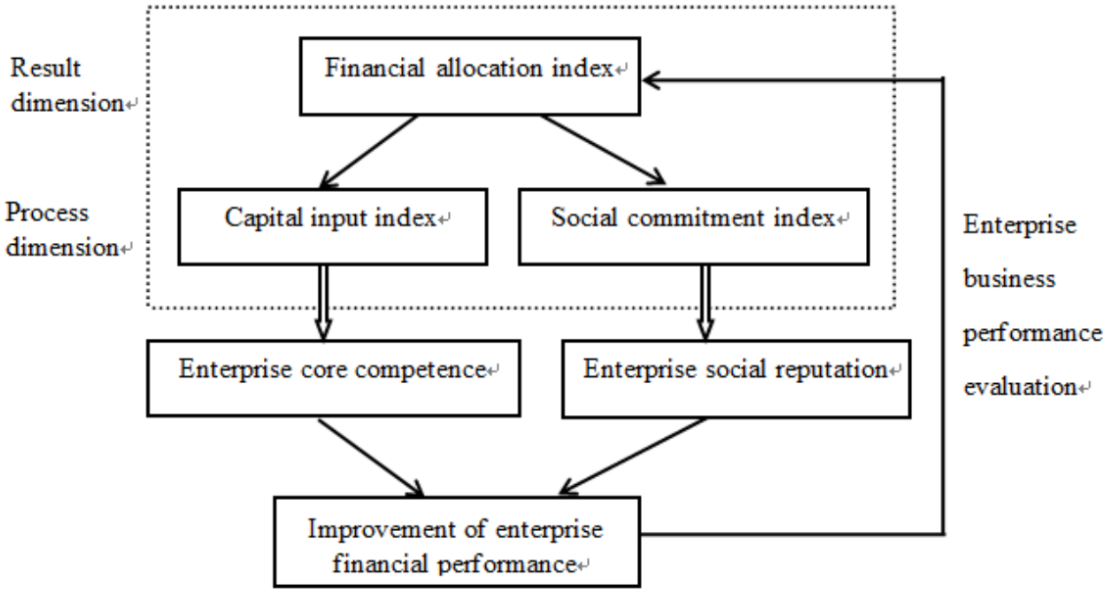

Figure 4.8 Three-dimension structure model of enterprise business performance evaluation

Source: Hao et al. (2009, p. 70)

Hanson & Wernerfelt (1989) believe that the determinant factors of enterprise performance can be divided into three categories: characteristics of industry, enterprises' position in market competition and characteristics of resources of enterprises. Besides, economics theories emphasize the influence of enterprise property to enterprise performance, which is also an analysis of enterprise performance from inner-enterprise perspective.

In order to further improve and perfect the performance evaluation mechanism of public medical and health institutions, improve the service quality and standardize service behaviour of medical institutions, implement graded diagnosis and treatment, and provide safe, effective, convenient and cheap medical and health services to the masses, China Health and Family Planning Commission, Ministry of Human Resources and Social Security, Ministry of Finance and state administration of traditional Chinese medicine issued the *Guiding Opinions on Strengthening the Performance Evaluation of Public Medical and Health Institutions* (Guo Wei Ren Fa [2015] No.94). According to foreign scholars' research on enterprise performance, the index system of Chancheng hospital performance is established by combining the performance evaluation system of the top three public hospitals in China and the operational performance and sustainable development performance of private hospitals. Specific indicators are designed as follows:

Table 4.12 Design of FCCH's performance evaluation index system

Performance dimension	Tier-1 index	Tier-2 index
Social effect	Public satisfaction	Patient satisfaction
		Staff satisfaction
	Improvement in the awareness of health	Health knowledge
		Health files management
		Health education
Medical management	Services	Quantity and quality of basic public health services
		Person-time/year of physicians in inpatient and outpatient departments
		Days/year of physicians attending patients in hospital beds
		Utilizing rate of hospital beds
		Average inpatient days
	Medical quality and safety	Pass rate of medical documents
		Accuracy rate of inpatient and outpatient diagnosis rate
		Ratio of anti-bacteria prescription
		Ratio of intravenous injection
		Nursing quality
		In-hospital infection solution
		Medical dispute solution
	Medical cost control	Outpatient cost per time
		Inpatient cost per time
		Growth rate of medical revenues
Resource management	Human resources	Average years of education
		Improvement of service efficiency
	Financial resources	Ratio of cash flow from business activities
		Ratio of shareholder equity
		Turnover rate of current assets

	Material resources	Turnover rate of total assets Per capita scale of fixed assets
	Organizational resources	Ratio of management cost
Operational performance	Profitability	Hospital profitability Rate of return of net assets
	Market growth	Market shares Increment of market value Market expansion speed
Performance of sustainable development	Hospital influence	Improvement of patient satisfaction Improvement of staff satisfaction Organization strength in the industry Improvement of hospital reputation

4.5.10 Stakeholders of FCCH

Stakeholder strategic management holds that enterprise managers should pay full attention to the relationship among key stakeholders, so as to avoid the obstruction of business decisions by stakeholders, so as to ensure the long-term maximization of shareholder value. Stakeholder management is an important means for an enterprise to achieve its business objectives, which does not bring benefits and wealth to all stakeholders. The ultimate beneficiaries of business results can only be shareholders (Liu, 2010). The management role of the enterprise is responsible for drawing up and implementing strategies and making decisions to meet the demands of most stakeholders. Stakeholders usually include: the owners and shareholders, investors; banks and creditors; cooperation partners and suppliers; buyers, clients and retailers; management of different levels; staff and the labour union; competitors; the government and relevant authorities; professional associations and industrial trade groups; media; NGOs; the public and the community.

If enterprises strategy is constantly resisted or weakened by some internal forces, consumers or external organizations, it will be hardly approved and carried out. Enterprises can only make scientific and harmonious strategic decisions when making a dynamic analysis on and striking a balance among the main claims for interests of important stakeholders (Liu, 2010).

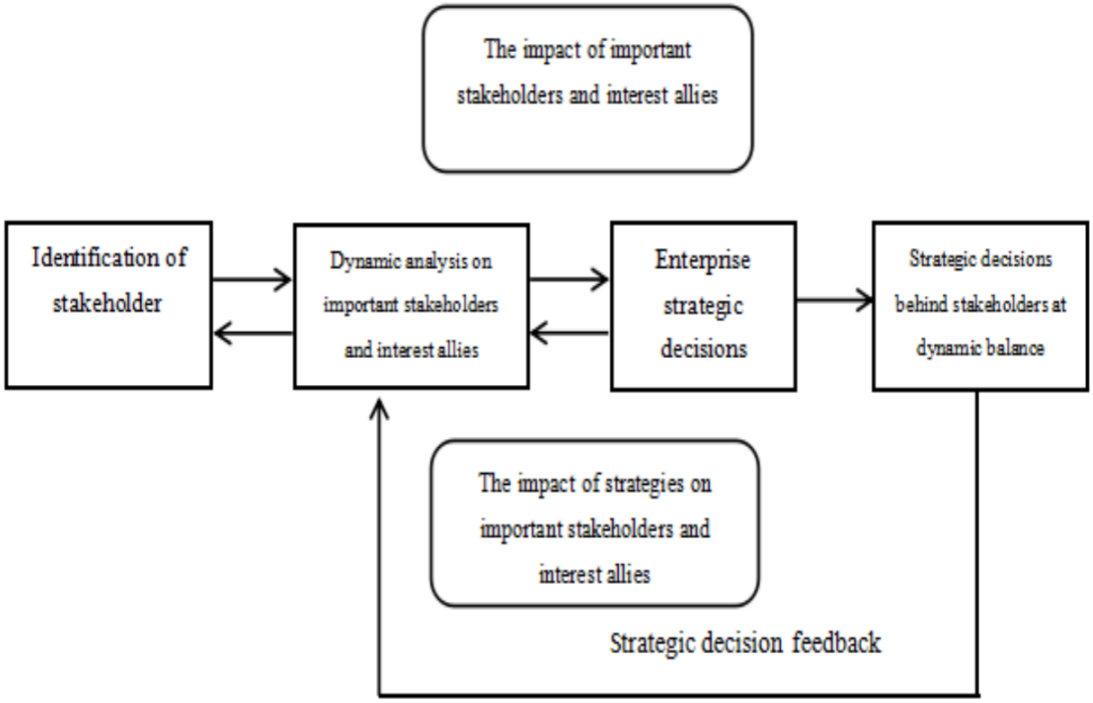

Figure 4.9 Dynamic capacity model of the stakeholder analysis

To sum up, the analysis of FCCH medicine stakeholders is as follows:

(1) The government dimension. First, FCCH doctors have made certain contributions to the national finance and taxation by constantly reforming and improving their own management level and greatly increasing their business income. Since the hospital was transformed for the first time in 2004, it has completely implemented "self-management, self-financing and self-development", divorced from the state financial allocation, and reduced the financial burden of the government. In 2013, the hospital deepened the reform again, joined Fosun, and changed from a non-profit hospital to a for-profit hospital, which realized profit and paid taxes according to law through connotation improvement and cost control. In 2017 and 2018, the enterprise income tax paid exceeded 40 million Yuan. Second, "FCCH medical service"-become the business card of Foshan medical industry. Adhere to the construction of high-quality services for a long time, form characteristics, become the core competitiveness of hospital competition, and set an example for Foshan health industry.

(2) Shareholder dimension. The transformation and upgrading of FCCH is gradually moving towards a famous hospital in China and a hospital in line with internationalization. Fosun has made a "medical flagship and aircraft carrier in South China, a replicable template and training base for group medical development". In recent years, with the growth of business income and net profit, it has brought better return on investment to shareholders and increased the influence of Fosun Pharma Medical Services.

(3) Hospital dimension. First, strengthen institutionalization, standardization and standardization, and comprehensively improve the level of hospital management and medical quality and safety. Hire relevant management experts and professional management companies to enter the hospital, carry out systematic analysis, rationalization and process reengineering on all aspects of hospital management with reference to the 3A evaluation standards, ISO9000 and international JCI standards, and focus on the establishment, improvement and implementation of clinical pathway, diagnosis and treatment standards and core systems. In 2010, the establishment of Grade A was carried out in an all-round way. After a year's efforts, it passed the standard review of Grade A hospitals with high scores. In 2012, the hospital further proposed to meet and maintain the new Grade A standards issued by the Ministry, and started the preparation of JCI international certification. In 2018, the hospital passed the sixth edition of JCI review. Second, the introduction of talents and the construction of specialized colleges have been vigorously developed. At present, there are more than 100 masters and doctors, and more than 450 higher vocational personnel. Three brands, specialized in intervertebral disc (spine centre), lithotripsy (urology) and giving birth to babies (women and children centre), are known as "Three Treasures of FCCH" and are well-known in Foshan. Newly-introduced specialties such as cardiac intervention, brain precise treatment, cancer academician treatment centre, high-end maternity VIP centre, hand surgery, ear, nose, throat, ophthalmology and dermatology have also been well developed. The "New Sambo" of FCCH is the treatment of cardiovascular diseases, precise treatment of brain and endocrinology. A number of specialized projects facing the high-end market, including stem cell anti-aging, prevention of diseases by traditional Chinese medicine, and international famous doctors' department, have been or are about to enter into operation. A number of clinical technologies have won national patents and provincial and municipal scientific and technological progress awards. Following the joint training bases for graduate students in several medical colleges and universities in Guangdong Province, our hospital has become one of the sub-stations of post-doctoral workstations in Foshan enterprises.

(4) Employee dimension. First, the talent incentive mechanism builds a platform for senior talents. FCCH doctors carry out systematic innovations such as talent introduction shortcut, talent apartment, house purchase post, salary, working platform and performance reward. On the basis of talents, this thesis puts forward the expansion plan of "3×3" and "Sunflower" projects, and vigorously develops characteristic colleges. The "3×3" plan means expanding three specialties, cultivating three specialties and introducing three specialties. "Sunflower Project" is to cooperate with famous specialties or research institutions at home

and abroad by PPP mode (joint-stock system, hospitals are flower plates, and each specialty project is petals). Second, the personnel distribution system really stimulates employees' enthusiasm. FCCH doctors did not dismiss any employee, completed the replacement of employee status, and realized the appointment of all employees. On the premise of fairness, justice and two-way choice, they advocated the spirit of contract and effectively strengthened employee management. Classified management is carried out for employees, which are divided into 6 categories and 9 grades according to medicine, technology, medicine, nursing, administration and logistics, with fixed posts, fixed staffing, fixed new salary and fixed performance. This thesis puts forward the idea that clinicians are the primary factor of production, distribution according to work (more work, more pay), distribution inclined to clinical frontline and key positions, completely changing the original egalitarian distribution model, and the value of doctors is truly reflected. It puts forward the doctor management mode of "department director becoming dean, specialist maximizing, resident standardization, outpatient individualization and emergency physician professionalization". Thirdly, we should devote ourselves to cultural construction and form a unique "FCCH culture" system. Culture is the motive force of hospital sustainable development. The hospital devotes itself to cultural construction and forms a unique "FCCH culture" system. The "hospital aim" of FCCH is to save lives and heal the wounded and rescue the sacred duty; People-oriented, pursuing satisfaction and loyalty; Further enhance the comprehensive strength and build a specialty brand; Pay attention to quality and service, continuously improve efficiency, reduce costs and serve the community. "Hospital Vision and Dream" is a healthy, happy and happy home and a highland for medical care. "Employee values" is honesty, benevolence, diligence and Excellence. "FCCH service concept" is people-oriented, caring for the sick, putting morality first and pursuing excellence. Kind and appropriate, professional with heart. It aims to train employees to form common core values, common development and interests, and achieve the ultimate goal of enhancing hospital cohesion and stimulating employees' enthusiasm and creativity.

(5) Patient dimension. First, strengthen the information transformation and upgrading to facilitate patients to seek medical treatment. Carry out the information transformation of administrative logistics, finance, especially medical care service system, and create the first "One Card for FCCH" in the whole city, realizing the one-stop service of "registration-medical treatment-examination-charging-taking medicine-treatment" for patients. After the completion of the new comprehensive medical building-FCCH Jingjin Building, the Internet information platform was introduced to provide intelligent services for patients.

Second, strengthen the construction of medical ethics and reduce the burden of medical expenses for patients. Focus on anti-commercial bribery in the field of drugs, make the purchase and sale of drugs directly run by the company under the leadership of the board of directors, establish the evaluation and supervision of pharmacists' clinical drug use, and investigate and deal with large prescriptions and irrational drug use in a timely manner. The proportion of drugs in our hospital is controlled within 30% for a long time. Vigorously promote the standardization of clinical pathway and diagnosis and treatment, and standardize the behaviour of diagnosis and treatment. Implement public administration, hire out-of-hospital supervisors, conduct third-party investigations, and accept social supervision. Third, cooperate with Singapore Institute of International Management to establish the project of "Quality Service System Engineering Construction" and deepen the connotation of quality service. Process reengineering and continuous improvement, build a team of trainers in the hospital to carry out systematic training, and insist on "patient satisfaction survey". In recent years, the comprehensive satisfaction survey results of FCCH have reached more than 95 points.

4.5.11 Research results of case study

This study takes Foshan Chancheng Hospital as the case to conduct case study. After several reforms and developments since the establishment of the hospital, its business scale, medical technology level, overall service ability, marketing strategies, brand influence and patient satisfaction have been rapidly developed and improved. The organizational resources, dynamic capabilities and hospital performance of FCCH management are described as follows:

Table 4.13 Analysis of FCCH medical organization resources, dynamic ability and performance

Project	2004 and before	2005-2013	2014-2023	After 2023
Strategic goals	With the support of Foshan Municipal Government, the shareholding system reform with employee stock ownership as the mainstay was completed.	Attention paid to the construction of hospital brand and connotation of its name, establish a good reputation of honesty and quality service, and initially build a famous hospital in Guangdong Province.	As the flagship store of Fosun Medical Services, FCCH has completed the planning and layout of "One Hospital and Three Districts" in South China, paid attention to the market areas of	Creating a new urbanization development model of "honeycomb city", get involved in scientific research, scholarship and

			high-end medical care, high-quality specialty and high-tech projects, and initially built a famous Chinese hospital.	initiative, gradually participate in international medical services, cooperation and international competition, and initially build an international famous hospital.
Organizational resources	The hospital has a strong sense of social responsibility, and the management has the willingness of strategic change, accepting the change of external environment and choosing a new development direction. The system reform decision-making plan was unanimously adopted by the three employee congresses.	With adhereence to the social welfare, the management has the entrepreneurial spirit, the employees trust and support each other, have strong cohesion and the sense of responsibility and mission to jointly create a beautiful hospital. Centering on the dimension of patient satisfaction, we will carefully build medical quality and high-quality service, actively cultivate and introduce talents, and vigorously develop specialty technology.	As the flagship hospital of Fosun's Great Health Sector, it is connected to famous hospitals at home and abroad around the great health service, and connected with Yong'an Insurance, a subsidiary of Fosun, to gather global high-quality medical resources and realize the integrated operation mode of "medical treatment, insurance and health management".	By expanding the service radius online through doctors' groups and Internet hospitals, the five strategic goals of "big health, big groups, big elderly care, Greater Bay Area and big Australia" will be realized, and high-quality medical services and health care will be provided for people from all walks of life.
Dynamic capability interme-diary variable	Knowledge Innovation and Super Action of Hospital Management Team	Innovative and proactive entrepreneurial spirit orientation	The matching degree of hospital operation ability and external dynamic environment, as well as the effective use of hospital management system, knowledge management system	Hospital directors and managers have entrepreneur's business skills, entrepreneur's capital and internal management ability, and

			and cooperation relationship keep strong stickiness.	formulate and adjust hospital strategies, and implement and monitor them.
Dynamic capability	Obtain and maintain the resources of local government relations, implement the reform of property rights and personnel distribution system, and successfully complete the shareholding system reform with employee stock ownership as the mainstay.	Implement dean responsibility system, innovate management thinking concept and strengthen staff training. Implement the personnel distribution system reform of the second-level comprehensive target management of colleges and departments, and enhance the enthusiasm and initiative. Establish a patient-centered quality service system and form a valuable hospital culture.	Focusing on the core tenet of "health, happiness and prosperity", we are committed to building a closed-loop service of the whole industrial chain of medical care, rehabilitation, health, pension and insurance. The team has always maintained a high degree of enthusiasm, and the overall medical technology and management level have been rapidly improved. Establish good business and scientific research cooperation with well-known hospitals in China.	The FCCH doctor-partner system accelerates the introduction of high-end talents and provides the group with a replicable successful template and training base. Build more international women's and children's hospitals, nursing homes and commercial and residential buildings to expand the business scope and enhance the brand effect.
Hospital perfor-mance	Known as the "Three Treasures of FCCH Medicine", the specialty "Intervertebral Disc, Removing calculus and Giving Birth to Babies" is a household name	After the reform, it reduced the financial burden of the government, improved its own management level, and made certain contributions to the national finance and taxation. The	FCCH doctors have established a good hospital brand, and the hospital culture and performance system have been unanimously recognized, thus gaining and	Realizing the hospital vision, everyone praises it, everyone goes to it, a healthy, and happy home, and a highland of medical care. Gradually

	in Foshan and has become the core competitiveness of hospital competition. FCCH-style service has become the name card of Foshan medical industry and set an example for Foshan health industry.	management organized and implemented the hospital strategy and achieved good results, including financial performance, employee growth and learning, internal processes and customer satisfaction.	maintaining a good competitive advantage. In 2017, for the fifth consecutive year, Hong Kong Ailibi evaluated that "China's non-public hospitals ranked first in overall competitiveness". Bring better return on investment to shareholders, and at the same time increase the influence of Fosun Pharma's medical service sector.	achieve international performance, including sales scale, medical technology and management level, market share, brand awareness and patient satisfaction.

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Chapter 5: Conclusions and Prospects

Based on resource-based view and organizational learning view, this thesis applies dynamic capability theory to explain and explain how enterprises adapt to the changing environment, identify and discover opportunities and threats in the environment, and reconfigure internal and external resources. This study selects the dynamic capability theory to study the sustainable growth of private hospitals in China under the dynamic environment, which is the further deepening and supplement of the enterprise growth theory, the further expansion of the dynamic capability theory research, and the inheritance and continuation of the resource view theory. This thesis introduces the significance of this research from deepening the theory of enterprise growth and making up for the deficiency of the existing research on dynamic capability theory.

Further deepening the study of dynamic capability theory. Previous literature on dynamic capabilities has shown that existing enterprises can benefit from dynamic capabilities, such as investing in new products and improving corporate strategies (Daniel & Wilson, 2003; McGuinness & Morgan, 2000; Zollo & Winter, 2002), it can also help to enter new markets and complete successful mergers and acquisitions (King & Tucci, 2002; Warner & Fairbank, 2008), while providing leverage for other resources (Butler, 2009; Lee & Slater, 2007; Makadok, 2001), and can also introduce innovative projects that can stimulate strategic change in the company (Dacko et al., 2008), these activities will significantly increase the flexibility of the organization and the rapid response to the market (López, 2005; Madhok & Osegowitsch, 2000; Zahra & George, 2002). In addition, under the background of internationalization, Griffith and Harvey (2001) found that dynamic capability can significantly promote the internationalization process of enterprises. He et al. (2006) also think that, unlike the general internal resources and capabilities, dynamic capabilities emphasize learning and coping with market changes, emphasizing the dynamic, systematic and structural capabilities, and ultimately have a positive impact on performance. Therefore, if enterprises want to gain sustainable competitive advantage, they must have dynamic capability, because dynamic capability is a means for enterprises to gain sustainable competitive advantage.

When it comes to the specific dimensional structure of dynamic capability as well as the

lagged-behind and impractical measurement, most studies focus on the impact of dynamic capability on enterprise competitive advantages while few talk about its occurrence and causes. Enterprises are in a fluctuating business environment with a great many uncertainties, and will be phased out of the market with slight mind absence. In China, a number of enterprises with average resources and capabilities are striving for survival and development, innovation drive, transformation and upgrade by fostering dynamic capability in order to build new competitive advantages.

As enterprises need various resources to operate and develop, this thesis introduces the history of healthcare system reform in China and development of private hospitals in China. From the perspective of resource-based theory, this thesis focuses on researching the impact of dynamic capabilities construction on performance of sustainable development of hospital after property system reform was implemented in private hospitals in China. Taking FCCH as an example, this thesis analyses and verifies the relationship between resource utilization and performance of enterprises on the basis of resource-based theory. The author thinks that government plays an essential role in launching medical and healthcare system reform, so it should transform its functions and advance its law-based administration to guide hospitals to actively deepen the reform and fulfil their responsibilities to stakeholders such as the staff, patients, shareholders, society and government. Also, hospitals should improve their dynamic capabilities, update their knowledge about the development of medical industry and transform their business philosophy to enhance their sense of responsibility and competitiveness.

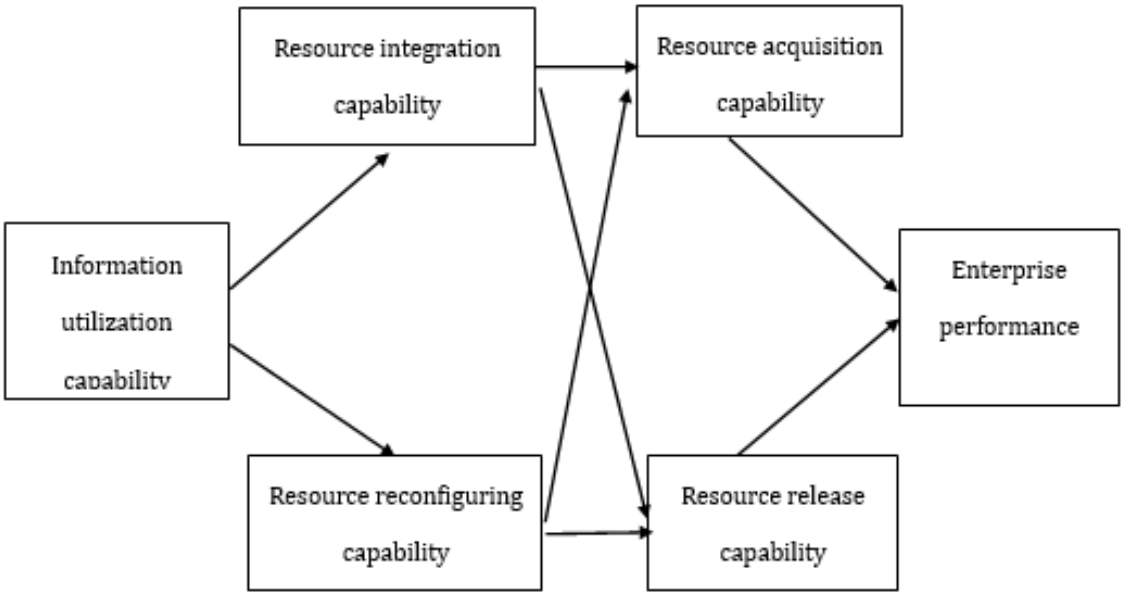

Figure 5.1 Route map of developing dynamic capabilities

This research has some limitations and needs to be further improved in future studies,

because the latest studies on resource theories are rare within the nation, its references are relatively old and the data and relevant information are not detailed. Study on enterprise performance has experienced a dynamic development, so it is recommended that changes in the sum and proportion of different dimensions affecting enterprise performance and their influence to enterprise performance should be studied in a longitudinal way at different sample observation periods. This thesis will continue its attention and research on development tendency of enterprise performance and probe into the relationship of different views and their impact on sustainable development of enterprise performance so as to find effective methods and models to increase enterprise capabilities.

From a certain period of time, scholars seldom do empirical research on the relationship between enterprise resources and performance, so it is difficult to know which resources and capabilities controlled by enterprises will eventually produce sustainable competitive advantages. Resources and capabilities may have attribute types-for example, path dependence, causal ambiguity and/or social complexity-but it does not specify which specific resources that enterprises may control will become the source of sustainable competitive advantage. No matter the resources studied are named as "resources", "capabilities", "dynamic capabilities" or "organizational capital", the theory still predicts that only when these enterprise assets enable enterprises to implement a strategy of increasing customers' willingness to pay and/or reducing their costs, and at the same time keep their path dependence, causal ambiguity or social complexity, these enterprise assets may become the source of sustainable competitive advantage. What these different names do is to analyze a huge, unorganized space created by the form of "resources" into a more organized space, thus promoting empirical research.

Changing the name of a theoretical independent variable will not change the core assumptions and assertions of the theory. The factors that make resources the potential sources of sustainable competitive advantage are the same as those that make capabilities, dynamic capabilities and conventions the potential sources of sustainable competitive advantage. In this sense, this theory is called "resource-based theory"; it may also be called "competence-based theory" or "competitiveness-based theory". If knowledge is the independent variable of the theory, then the theory should be called "knowledge-based view"; if dynamic capability is the independent variable of this theory, then this theory should be called "dynamic capability view". In our opinion, there may be differences between the names of resources, capabilities, dynamic capabilities, conventions, knowledge assets and other independent variables used to describe the theory. As long as these different independent

variables do not change the nature of the logic linking enterprise assets and sustainable competitive advantage, then in fact they are not new theories.

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Annex: Questionnaire

Dear Mr. /Miss./ Mrs. :

Hello!

The purpose of this questionnaire is to investigate the hospital dynamic ability and hospital performance, and to provide reference for Chinese hospitals to improve their performance. Please help our research from the perspective of hospital practice.

This questionnaire is anonymous, and there is no right or wrong answer. The data obtained are for academic research only. The contents of the questionnaire do not involve the trade secrets of your institute, and the information obtained will not be used for any commercial purpose. Taking up your precious time, I would like to express my heartfelt thanks!

If you are interested in our research results, please leave your contact information, and we will feedback the relevant research results to you as soon as possible.

Your contact information:

Return address:

Zip code:

Contact:

E-mail:

Please tick √ the appropriate (or number).

First, the basic situation of the hospital

1. Nature of hospital (if it is other, please fill it in later)

☐Public hospitals ☐Private hospitals)

☐Joint-stock hospital ☐Other

2. Hospital grade

☐Grade A general hospital ☐Grade A specialist hospital)

☐Tertiary general hospital ☐Tertiary specialized hospital)

☐General hospitals of dimethyl and below

☐Specialized hospitals of dimethyl and below

3. Hospital size

☐Under 300 beds ☐ 300-500 beds

☐500-800 beds ☐ More than 800 beds

4. In 2020, the total revenue of the hospital's main business is:

☐50 million Yuan or less ☐50 million-100 million Yuan

☐100 million-300 million Yuan ☐300 million-500 million Yuan

☐500 million Yuan to 1 billion Yuan ☐More than 1 billion Yuan

Second, the dynamic ability and hospital performance

This part uses the 7-point Liket Scale to measure respondents' attitudes towards the expression of related matters or problems. Attitudes can be divided into "strongly disagree", "disagree", "disagree", "neither oppose nor agree", "slightly agree", "agree" and "very agree". Please select the corresponding numbers according to your attitude. The meanings of each number are as follows:

Highly disapproved	Disapprove	Slightly disapprove	Neutral	Slightly agree	Agree	Highly agree
1	2	3	4	5	6	7

Please compare the following statements with the actual situation of your hospital in 2020, and judge each question one by one. Please tick 1-7 points.

Comparison of information utilization with major competitors in the same industry	Disagree → agree						
	1	2	3	4	5	6	7
We can quickly collect information on changes in the medical market							
We can collect information on internal operations in a timely manner							

We can share the collected information quickly among departments							

Compared with the main competitors in the same industry in terms of resource acquisition	Disagree → agree						
	1	2	3	4	5	6	7
We can quickly obtain resources according to changes in the external environment							
We can get resources at a lower cost than our competitors							
We can get higher quality resources than our competitors							

Compared with the main competitors in the same industry in terms of resource integration	Disagree → agree						
	1	2	3	4	5	6	7
We pay attention to the establishment of cooperation and communication conducive to various departments							
We pay attention to integrating medical technology to speed up the development of new specialties							
We pay attention to the inter-departmental team to implement the hospital's special plan							
We pay attention to establishing a communication mechanism inside and outside the hospital							

Compared with the main competitors in the field of resource reconfiguration	Disagree → agree						
	1	2	3	4	5	6	7
We can adjust the internal operation process of the hospital according to the changes of the environment							
We have established a good network of external relations of the organization							

We can quickly realize the strategic transformation							

Compared with the main competitors in the same industry in terms of resource release	Disagree → agree						
	1	2	3	4	5	6	7
We can make full use of hospital idle resources according to environmental changes							
Our supply chain management realizes on-time delivery, reduces reaction time and saves space							
We can pay for the goods as much as possible							
We can recover accounts receivable smoothly							

Changes of the following indicators in 2020 compared with major competitors in the same industry	Low → high						
	1	2	3	4	5	6	7
The main business income has increased a lot							
More profit growth							
Market share has increased greatly							