



Growth and Transformation of Private Dental Clinics in China

——A Case Study of Deron Dental

Zhong Hongyang

Thesis submitted as partial requirement for the conferral of the degree of

Doctor of Management

Supervisor:

Prof. Nelson Antonio, Professor, ISCTE University Institute of Lisbon

Co-supervisor:

Prof. Wu Wei, Professor, Sun Yat-sen University

October, 2019



Instituto Universitário de Lisboa

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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.

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Abstract

With great progress of China's economy and the improvement of life quality in recent years, a growing number of Chinese people begin to pay more attention to the oral health and dental aesthetic appearance. Under such circumstances, the demand for professional dental health institutions in China is also rising, so the dental hospitals and clinics in China are mushrooming. However, as the management system and supervision of dental medical institutions are yet to be improved, the whole dental medical market is facing fierce competition and is trapped in a difficult situation. Therefore, in order to survive in such a fierce market and maintain a sound development, a set of scientific and effective strategies and methods are needed to help dental medical institutions attract sufficient number of customers and grab more market share, and constantly enhance their brand influence.

This thesis takes Guangzhou Deron Dental as a case and uses the resource-based view and dynamic capabilities theory to summarize its successful experience of transformation to find out how it maintains its rapid development momentum in more than 20 years of growth, how its market share has been constantly enhanced in face of increasingly stronger competitors and how its profitability and business scope continue to expand, hoping to provide relevant suggestions and countermeasures for the growth of other private dental medical institutions.

All the research results in this study aim not only to understand the successful experience of Deron Dental at different growth stages, but also to find out the growth law of the dental medical institutions at different stages in an effort to help the counterparts to solve similar problems and further provide consumers with better and safer dental care services.

Keywords: Resource-based view; Dynamic capabilities; Countermeasures and suggestions

JEL: M11; M12

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Resumo

Com o desenvolvimento econômico da China e a consequente melhoria da qualidade de vida um número, cada vez maior de Chineses começou a prestar mais atenção à saúde oral e à sua estética dental. Esta situação fez com que a procura de serviços profissionais dentários aumentasse e as clínicas dentárias se multiplicassem. A deficiente supervisão das clínicas dentárias faz com que o mercado de cuidados dentários sofra uma forte concorrência e se encontre numa situação difícil.

Para sobreviverem neste mercado altamente competitivo e manterem um crescimento sustentável as clínicas dentárias necessitam de melhorar a sua capacidade de gestão. Esta tese toma por base a clínica Guangzhou Deron Dental e utiliza a escola baseada nos recursos e as capacidades dinâmicas para estudar a sua evolução ao longo dos últimos 20 anos. Sendo um estudo de caso não pretendemos generalizar as conclusões para todas as clínicas que operam no mercado Chinês mas pensamos que este estudo pode ajudar algumas das clínicas a melhorar a sua gestão.

Palavras-chave: Escola Baseada nos Recursos; Capacidades Dinâmicas; Propostas de contra-medidas

JEL: M11; M12

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摘要

近年来，中国的经济得到了快速发展，国人的生活品质也得到了提升，人们都开始重视口腔的健康和美观问题。因此，国内对专业的口腔医疗机构的需求逐渐加大。国内的私立口腔医院、诊所的数量急剧增加，但是由于对口腔医疗机构的管理制度和监管力度都未实施到位，致使整个口腔医疗市场竞争激烈，生存困难。面对这些难题，私立口腔医院只有拥有一套科学有效的策略和方法来获取充足的客户和市场并不断提高品牌影响力，才能使其在如此竞争激烈的环境下生存下去并获得较好的发展。

为此，本文以广州德隆口腔为案例，运用资源基础观和动态能力理论对其如何在 20 多年的成长历程中始终保持高速发展的势头，其市场份额在众多竞争对手不断增强的背景下始终呈现出明显增加的态势，且盈利能力和业务范围不断进行拓展的，总结其背后成功转型的经验，以期能够为其他私立口腔医疗机构的成长提供相关的对策建议。

全文共分为五个部分：第一章，主要介绍本文的研究背景及意义、研究思路和研究框架及创新点，从理论和经验分析两个方面对国内外私立口腔医疗机构的发展的现状 & 特点进行了归纳，作了简要的评述，并提出了本文分析问题的角度以及研究方法。第二部分对资源基础观和动态能力理论进行了归纳，着重关注了现有研究内容、研究脉络，并在此基础之上，关注了资源基础观和动态能力理论在医疗领域的应用。第三部分主要是对研究方法的介绍，首先是介绍案例研究方法；其次是介绍了选取德隆门诊作为案例分析企业的原因及概况；再者则是本文的研究策略介绍；接着则是介绍本文案例研究的数据收集方法；最后则是介绍本文如何进行数据编码和检测的。第四部分则是通过对口腔私立机构德隆口腔的案例分析，通过了解其在发展的不同阶段如何抓住核心资源优势实现可持续成长的，再对其成长的模式进行了相应的讨论与总结。第五部分则是在德隆口腔门诊这一案例总结的基础上，归纳了本文的研究结论和观点，并为其他私立口腔门诊机构的发展提供了未来成长战略等方面的对策建议。

本文的所有研究结果不仅仅是为了解德隆口腔在不同成长阶段成功转型的经验总结，同时也希望通过此研究，能够找到口腔医疗机构不同阶段成长的规律，帮助其他同行机构解决类似问题，以期为消费者提供更优质、安全的口腔健康服务。

关键词：资源基础观；动态能力；建议对策

JEL: M11; M12

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Acknowledgements

After five years of doctoral study and thesis writing, I have finally finished my doctoral thesis. The whole process is full of the hardships of knowledge seeking and exploration as well as joy of harvesting. It is the most precious life experience in my life. I am especially grateful to my supervisor Professor Nelson, who has offered me meticulous supervision during the whole writing process from the topic selection, title identification, structure planning, thesis completion and even the details between the lines. Professor Nelson's profound knowledge, pragmatic work style, rigorous academic attitude, innovative academic thinking, modest personality and tireless spirit have deeply have touched and inspired me. I would also like to thank Professor Virginia for her care and encouragement during the past five years. Thank you both for your hard work and patience and meticulous revision of my doctoral thesis. I would like to thank my Chinese supervisor, Professor Wu Wei for her very important guidance and help in my study and thesis writing. I would like to thank Dean Wang Dong and the faculty of the School of Health Services Management of Sothern Medical University. My special thanks go to Ms. Xu Ruimin and Ms. Ou Weiyan. I would like to express my heartfelt gratitude to all the teachers and leaders of the School of Health Services Management of Southern Medical University.

I would also like to thank all my colleagues in Deron Dental. 23 years has passed since the establishment of Deron Dental, which has laid the foundation for my doctoral thesis because experience is the best teacher. I would like to thank every colleague who has witnessed the development of Deron Dental. I also want to thank my family. My parents gave me life and the growth and progress in my life have been condensed with their upbringing and care. Their expectations are the reason why I cannot slack off! I would like to thank my wife for her understanding, support, and care in life so that I can concentrate on my studies. At the same time, I am also very grateful to my newly born son, Zhong Pingshan, or Andrew Zhong. Your arrival has brought surprises to my doctoral study life and is also the motivation and encouragement for me to finish my thesis; I would also like to thank all my friends who have helped me. On the occasion of the completion of this thesis, I sincerely express my heartfelt gratitude to all those who have cared, loved and helped me!

Finally, I would like to especially thank all the experts and scholars who have reviewed my doctoral thesis in their busy schedule. Your review and supervision are the most valuable spiritual wealth of my life!

致谢

经过五年的博士研究生学习和博士论文写作，终于完成了博士论文。读博充满了求知探索的艰辛，也充满了收获的喜悦，是我人生路上最宝贵的人生经历。我要特别感谢我的导师 Nelson 教授。本文的写作过程，自始至终都得到了我的导师 Nelson 教授的悉心指导。从论文的选题、定题、谋篇、成稿乃至行文细节的表述，无不凝聚着恩师的智慧和心血。Nelson 教授渊博的学识、求真务实的工作作风、严谨的治学态度、创新的学术思想、谦和的师德风范和诲人不倦的精神，都让我深受感动与鼓舞。还要感谢 Virginia 教授，五年的学习过程中她一直关心和鼓励着我，感谢您们对我博士论文的辛勤地指导与耐心细致的修改。我要感谢我的中方导师伍卫教授，她在我的学习写作过程中给予非常重要的指导和帮助。我要感谢南方医科大学卫生管理学院的王冬院长和老师们的，特别要感谢许睿敏老师和欧老师，在此谨向辛勤培育我成长的南方医科大学卫生管理学院的所有授业恩师和领导表示最衷心的感谢！

我还要感谢德隆齿科的全体同事，德隆齿科创业至今 23 载，为我的博士论文奠定了基础，实践出真知。23 年的创业路，感谢陪伴德隆成长的每一位同事。我还要感谢我的家人。我的父母，他们给予我生命，我生命中的点滴成长和进步都凝聚着亲人的抚育和关怀，他们期许的目光是我不能懈怠的理由！我更要感谢我的妻子，她的理解、默默支持以及生活上的细心照顾，使我能够专心完成学业。同时，我也非常感谢我刚出世的儿子 ANDREW ZHONG 钟平山，你的到来，给我博士学习生活带来意外和惊喜，也是鼓励与鞭策是我完成论文不竭的动力源泉；我还要感谢帮助过我的朋友。值此论文完成之际，我衷心地向所有关心、爱护、帮助过我的人们表示最诚挚的谢意！

最后，要特别感谢在百忙之中评审我博士学位论文的各位专家和学者，您的审阅和指导是我一生的荣幸和最宝贵的精神财富！

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Chapter 1: Introduction

1.1 Research background

In the context of rapid economic development and accelerating industrialization, problems such as air pollution and irregular life patterns have exerted great impact on people's health. Health care is one of the most important issues in people's life. With the continuous development of China's economy, people's demands for medical services are increasingly diversified and they are expecting better health care. However, it is regrettable that the overall development of medical services in China and relevant reforms of Chinese medical institutions are still not satisfactory. Most Chinese tend to seek medical service first in the public state-owned medical institutions, which leads to overcrowding of the large hospitals and brings about many social problems such as doctor-patient disputes. Fortunately, with the opening of China's national policies to the health care service market (Yang & Zheng, 2011), medical institutions in China have been developing in a diversified manner, and private capital has officially entered the medical market in China and has been continuously expanding. Private hospitals or clinics are medical institutions that are owned by private investors, stakeholders or even a single individual. Most of them are health institutions run by socially funded for-profit institutions, and a few are not-for-profit organizations that enjoy government subsidies. With the increasing number of private hospitals/clinics, people's concept of medical treatment has also changed. For medical services such as dental health, people no longer blindly choose large public hospitals; instead, they favor some private clinics with good reputation and relatively advanced technology. Compared with large hospitals, these private clinics have better service attitude, more flexible treatment time, more advanced medical equipment and more satisfying medical treatment environment.

In addition, according to the latest fourth national oral health epidemiological survey report in China, the prevalence rate of oral diseases in China is over 90% (Tang, 2019). Taking dental caries as an example, the prevalence rate of deciduous teeth dental caries in children aged five years old is 70.1%, and the prevalence rate of permanent teeth dental caries in children aged 12 years old is as high as 34.5%. In the residents aged 35 to 44 years old, the detection rate of dental calculus is as high as 96.7%, and the detection rate of bleeding gums is as high as 87.4% (Lv, 2017). In addition, according to the latest statistics from the Ministry

of Health of China, now National Health Commission of the People's Republic of China, the proportion of Chinese over 35 years old is over 50%, which means that at least half of the Chinese have "bad teeth" (Li, 2015). These figures are enough to show the seriousness of the Chinese oral problems, which are mainly caused by the excessive gap in China's oral health care.

The oral health care industry in China has made great progress in recent years, however, the Chinese oral medical market, which is a late starter and has been developing very slowly, cannot meet the needs of current consumers. In addition, there are no detailed management system and policies for dental institutions, so apart from the stomatology department of state-owned hospitals, there is no uniform and strict industry qualification requirements for other dental medical institutions. The various types of dental medical institutions are mixed in the market and develop in a disorderly manner. The operating methods between different hospitals, clinics and institutions are becoming more flexible and the industry competition becomes fierce. What is worse, in order to pursue economic benefits, some dental medical clinics over-hype themselves in the medical advertisements, employ hospital scalper to attract patients, perform excessive treatment and inspection, and charge unreasonable fees. The irregular operations continue to appear, jeopardizing the legitimate rights and interests of patients and seriously disrupting the order of the medical service market. Although the private dental medical institutions have been developing rapidly, in general, they are characterized by "small size, scattered situation and chaos", and therefore their status in the medical service market naturally is insignificant.

In the face of China's large population and the prevalence of oral diseases among the Chinese, from the perspective of the market demand of dentists and the connection of the dental medical industry and other related industries, with the gradual growth of the national economy, people's improving understanding of cultural consumption, and increasing awareness of oral health care, China's dental medical industry in the future is a fast-growing sunrise industry with broad prospect. Therefore, how to improve the service quality of private dental medical institutions and increase market share in the fierce competition is a key issue that the current academic circle and private dental industry practitioners are concerned about and urgently needs to be solved.

In order to provide a reference of the sustainable growth for private dental institutions, this thesis takes Guangzhou Deron Dental as a case and adopts the resource-based view and dynamic capabilities theory to analyze how it achieves transformation and upgrading in different stages of growth, and ultimately occupies a large market share in the Guangzhou

market, becomes a leading dental clinic in Guangzhou, wins recognition from high-end customers and acquires increasing social satisfaction with highly personalized service, effective and sound management system, and increasing reserve talents.

1.2 Status quo of research on oral health service institutions

1.2.1 Status quo and progress of foreign research on oral health service

As early as during the Second World War, foreign scholars had proposed the concept of oral health manpower resources and oral health services (Lin & Li, 2008; Zhang & Jin, 2011), and oral health institutions had been established to specialize in oral health human resources and oral health services. The status quo and prospects of research on oral health service in some foreign countries are explained as follows.

1.2.1.1 Research on manpower resources in foreign oral health services

Manpower resources, also known as labor resources, refer to the number of people who have participated in or may participate in labor and are socially and economically available. The study of dental manpower resources was developed from the study of labor use and reproduction in economics and other health manpower research. The study of oral health manpower resources began in the United Kingdom and the United States in the 1930s (Han, 2018), and had received worldwide attention since the 1970s. A large number of investigations, research and analyses have been carried out in different countries and regions in the world. There have been several research directions and stages including the quantity and quality of oral health manpower, the output and use of oral health manpower, the excess and shortage of oral health manpower, and the distribution and planning of oral health manpower.

Lee, Sakone, Mulhall, Kelleher, and Burnett (2015) used the expert professional opinion to conduct a planned study of dental manpower in 1930s. From a professional perspective, they predicted the number of dental manpower needed to meet the needs of residents. In the 1950s, research on oral health manpower resources by American and British scholars mainly explored the proper proportion of oral health manpower and population based on the relationship between population and dentists. In the 1970s, scholars used multiple regression methods to analyze influencing factors of manpower and dental services to identify the primary factor from the various influencing factors in order to solve problems more effectively. In the 1980s and 1990s, people's oral health status was evaluated through model

analysis and computer software, and the optimal duration for oral service was determined by weighing the influence of various factors. In the 21st century, substantial results and experience have been achieved in foreign research on oral health manpower resources, and the research on dental manpower has shifted from descriptive to analytical and predictive research. These studies have proposed methods and goals to address problems of oral health manpower resources, and the active cooperation with the health and education sectors helps adjust oral health service policies and oral health manpower.

1.2.1.2 Medical insurance in foreign oral health services

The world's first national health insurance was implemented in Germany. At present, almost all developed countries have established their medical insurance system. However, due to the uniqueness of oral health care, its insurance is different from ordinary medical insurance. In Europe and the United States, there are special regulations for oral medical insurance. For example, the UK Health Insurance (Ainamo, Barmes, Beagrie, Cutress, Martin, & Infirri, 1982), Health Service, and its funding is mainly from national taxation. The oral health care of British citizens is mainly responsible by private practicing dentists. Patients are required to register in advance at a dentist's clinic in order to receive insurance services from the National Health Service. This registration is valid for 15 months, during which the patient is not allowed to change the dentist. Oral health care for children and young people under the age of 18 is free, and private dentists are obliged to accept every patient who is covered by the National Health Service insurance. In Japan, all community residents participate in social medical insurance, and insurance companies issue dental treatment fee records in all dental hospitals. In general, patients' payment accounts for about 20%-30% of the dental hospital's income, and the social insurance medical treatment payment fund provides 70%-80% of the income. In the United States, which is famous for its high dental service charges, the cost of seeing a dentist is not included in the medical insurance. Only outstanding companies will cover their staff's dental insurance. Currently, there are about 108 million Americans without dental insurance. Children without dental insurance are 2.5 times more likely to receive no dental treatment and 3 times more likely to have dental problems.

1.2.1.3 Foreign oral health service institutions

Medical and health care service organizations in foreign countries have great differences with those in China in terms of the health resource allocation, use and compensation. Through review of relevant literature, this section focuses on explaining medical service institutions of

major developed countries in Europe and America. As is known to all, medical service institutions, namely, medical service providers, include hospitals, physicians' clinics, nursing homes, rehabilitation centers, independent diagnostic centers, and independent pharmacies. Hospitals and physicians' clinics absorb 5% of the total medical expenses and are the most important providers of medical services. This thesis will focus on the introduction of the clinics.

(1) Introduction of dental clinics in the US

Americans are especially aware of their oral health, which is why dental clinics are so prevalent in the United States, and the business is booming (Xing & Yang, 2015). In the United States, dentists must have a medical license as well as a long period of practicing experience before they undertake complex teeth beautification work. Dental clinics must also insure a relatively high annual medical accident insurance. The more accidents there are, the more they pay to the insurance company. Therefore, the dentists in the US generally practice cautiously, and the sense of responsibility arises accordingly (Guo, Qu, Mu, & Liu, 2012; Zhang & Zheng, 2017). According to a survey conducted by the US ADA in 2010, 93% of private practitioners in the United States have their own clinics, including general dentists and specialist dentists. Their ownership of the clinic includes both private ownership and partnership ownership. 76% of the dentists have their own clinics, 17% of the dentists jointly own clinics with others as partners, 4.8% of the dentists are employed by others, and 2.2% are individual contractors. 15.3% are partners, and 31 % do not have their own clinics (Lu, He, & Ellis, 2015). The number of chain dental clinics has increased in the 21st century. Sometimes such clinics are invested and owned by non-dentists and become a company-like enterprise. This type of chain clinic has opened up a new channel for providing oral medical services and has also created a new business model.

In the US dental clinics, the dentists spend 29.8% of the time on the filling treatment, 16.1% of the time on the restorative treatment, 11% of the time on the preventive treatment, 12.4% of the time on diagnosis, and 7.9%, 5.5%, 6.7%, and 7.5% on dental pulp and root canal treatment, periodontal treatment, surgical treatment and orthodontics respectively. In addition, 56.8% of the patients taken up by the dentists are obtained through recommendation by other patients, 12.3% are through direct mail and commercial advertisements, 5.9% are recommended by specialists, 4.2% are recommended by other doctors such as physicians, 4.3% are recommended by other practicing dentists, and 1.5% are taking new services recommended by dentists. As for the reception volume of dentists, the average number of patients received by a general practitioner is 2,700 per year (4,570 including dental cleaning).

The main reasons for dental disease are as follows: 67% of visitors wash and check their teeth once a year, 16% resort to a dentist, but less than once a year, and 12% only resort to a dentist in emergency treatment.

(2) Introduction of dental clinics in the UK

In the UK, more and more patients with oral diseases go to private clinics, while few choose hospitals in the national health service system with relatively low charges (Han, 2018). According to the British Dental Association, the current state of the dental industry in the UK has made many dentists who have been in the national health service system face a cruel choice: abandoning the work of the national health service to start their own clinic or abandoning the dental profession and simply change the career (Liu, 2008). In the case of regular dental services, the UK is implementing a free medical system, and the most grassroots practitioners are the general dentists who generally work in clinics. The clinics consist of one to three dentists or dental chairs and are funded by the government. They are responsible for regular daily dental work in a certain area. In the UK, everyone has their own general dentist (GDP). Patients with any dental disease, including malocclusion, must go to their general dentist's clinic. Unless it is an emergency case, patients are not allowed to directly go to general hospitals (Zhang, 2014).

Since the cost of dental care and materials provided by NHS is lower than the cost of the department, dental care in the UK tend to be offered by private clinics (Li & Li, 2008). Items paid by the NHS are free within a certain amount of money, and under the age of 18, this medical treatment is also free once the physician believes that there is a need for orthodontics. However, not everyone is eligible for NHS free (or partially paid) dental services. Patients must still apply for additional certification from NHS. The application form (HC1) can be obtained at the post offices, clinics or some of the eyewear companies. The contents of the application form are quite cumbersome, and this certification can provide some medical benefits. However, to go to the NHS dental clinics, patients have to be aware that they may have to wait for a long period of time. As a result, dentists in the UK only need two years of work experience before starting up their own business with no requirement of residency training.

(3) Introduction of dental clinics in Japan

In Japan, dental clinics are service providers offering oral health care directly to communities with a certain population and are similar to private dental hospitals and dental clinics in China. The service and design of dental clinics in Japan are user-friendly, and all the layouts and decorations of the clinics reflect the characteristics of patient-orientation (Yang,

Zhao, & Ding, 2019). Most dental clinics are decorated with a variety of flowers every day. Outside the clinic, there are often green areas and gardens, and there is a rest area is for patients to have a rest. These subtle designs not only enhance patient comfort but improve the working environment of the medical staff. Since most dental hospitals in Japan are privately owned, the environmental layout and interior design of the medical treatment room are often different according to the preferences of the hospital director (Zhang, Wang, Sun, & Wang, 2011). Japanese dental clinics are generally equipped with three to five dental treatment chairs, and the clinic is generally composed of waiting room, payment office, disinfection room, filming room, mechanic room, and consultation room (Ding, 2010). They also have advanced dental treatment equipment such as laser treatment machines. In addition, in terms of staffing, dental clinics have an average of one to two dentists, two to three dental hygienists, two to three dental technicians, and one to two dental assistants. The daily treatment time of the clinic is generally controlled at about seven to eight hours. The average treatment duration for dentists in the clinic is about 2,000 hours a year, which is significantly higher than the figure of 1,500 hours in Europe and America (Hong, 2017).

1.2.2 Status quo and progress of research on oral health service in China

1.2.2.1 Status quo of research on oral health manpower resources in China

Through analysis of statistical data, it is found that China's oral health manpower capital is mostly concentrated in areas with high income, high population density, advanced economic development and large cities. For example, the analysis of the distribution of oral health manpower resources in Sichuan province shows that 46.6% of the dentists are concentrated in Chengdu, the provincial capital, and 57% of the dentists in Hubei province are concentrated in Wuhan and seven other seven prefecture-level cities. In addition, the current distribution of oral health manpower within a province is uneven, the problem of uneven distribution of human resources in urban and rural areas is more prominent, and this uneven distribution is almost prevalent in each province, city, county and district (Wang, 2018). According to the latest research by Hu (2012) of the School of Stomatology of West China University of Medical Sciences, among the dental staff in Sichuan province, the proportions of doctors, medical assistants and health workers are 36.1%, 47.74%, and 16.13%. The number of dentists under the age of 35 accounts for 18.84% of the total dentists, the consultation rate of patients with oral diseases is 23.31% in urban areas and 5.15% in rural areas. Zhang and Xu (2006) from Zhejiang Provincial Stomatological Hospital adopted the

Delphi method to predict the demand of dental doctors in Guangdong Province, and proposed that there is still a large room for growth in the demand. Huang, Wang, Bai, Gu and Xiao (2010) and Wei (2012) from Beijing Medical University Stomatological Hospital took Beijing Miyun District as a sample to calculate the current and future demand for dental manpower using the improved WHO-CH model and JWG-6-M calculation software. Wang, Wang and Han (2000) and Feng and Zhao (2018) from Peking University Hospital of Stomatology used methods of stratification, clustering, and random sampling to extract data of all age groups of the actual population in Beijing and used oral health services demand method and the proportional analogy method to calculate the demand for oral health human resources in Beijing.

1.2.2.2 Oral epidemiology investigation and research in China

In modern times, the earliest record of investigation of patients with oral epidemics was in 1944 when Professor Jiang Yuanchuan investigated the dental caries of children aged from 5 to 15 in Chengdu. In 1957, the Ministry of Health of China established the National Statistical Survey Committee for Dental Caries and Periodontal Diseases and formulated the Regulation on National Statistical Survey of Dental Caries and Periodontal Diseases, which is the first time for China to formulated standards for the investigation of dental caries and periodontal diseases. About 10,000 people are surveyed across the country according to the Regulation, which initially reflected the prevalence of dental diseases in China. Later, in the 1950s and 1960s, Jiang published articles on the natural distribution of dental caries in the population and investigations on dental caries, and revealed the relationship between dental caries and age, providing scientific evidence for the adoption of preventive of measures at the optimal age (Jiang, 2006).

Since then, under the leadership of the Department of Disease Control of the Ministry of Health in China and the China National Committee for Oral Health and with the support of the China Oral Health Foundation, a total of four national oral health epidemiological sampling surveys were conducted from 1995 to 2018. The survey consists of two parts, one is about dental caries, periodontal disease, dental fluorosis, oral hygiene, denture wearing, and denture demand, and the other is the epidemiological survey of oral health behavior. The sample survey targets 11 provinces and cities and six age groups. From the results of the fourth national oral health epidemiological sampling survey in 2017, the prevalence rate of permanent tooth caries in children aged 12 years old was 34.5%, which is 7.8 percentage points higher than that of a decade ago. The prevalence rate of deciduous tooth caries in

children aged 5 years old was 70.9%, which is 5.8 percentage points higher than that of a decade ago. The rate in rural areas is higher than that in urban areas. As for the average number of decayed teeth of 12-year-old children, China is still at a low level of only 1.2 (Lv, 2017).

1.2.2.3 Status quo of development of dental clinics in China

At present, the major characteristic of China's oral health service system is that most of the oral health human resources are concentrated in stomatological colleges, specialized hospitals, and stomatology departments of hospitals at all levels (Zhao, 2016). Dental medical institutions across the world are mainly distributed in a mode of reasonable network in the communities and most of them are private dental clinics. The ratios of dentists working in public hospitals to non-public dental clinics are 2:8 in the United States, 1:9 in Germany, 3:7 in Japan, and 1:9 in Hong Kong. Patients with dental diseases basically receive treatment at community dental clinics. Currently almost all the dentists in China work in stomatological hospitals or stomatology departments of general hospitals (Zhang, 2015).

Development of private dental institutions in China began in 1980. After the mid-1990s, China has witnessed rapid development of private dental clinics. At the beginning of the 21st century, the Chinese government encouraged the development of Chinese-foreign joint venture, Chinese-foreign cooperation, and private medical institutions, and the national economy and people's living standards have also been further improved, which provided a broad space for the development of private dental clinics (Zhang, 2017). After China's accession to the World Trade Organization, the government stated in the China's schedules of specific commitments on services that it would open medical service and dental services in the health service sector. China's dental health care institutions have undergone transformation from the not-for-profit specialized stomatological hospitals and the general hospital's stomatology departments of single public ownership to a diversified ownership pattern (Chen, 2013). In 2004, there are not only not-for-profit private dental clinics, joint-stock dental clinics, but also for-profit private dental clinics, joint-stock dental clinics, and Chinese-foreign joint venture dental clinics.

1.2.2.4 Major problems existing in China's dental clinics

The vast majority of patients in China still prefer the state-owned stomatological hospitals and stomatology departments of general hospitals for medical treatment. However, in view of the current situation of stomatological hospitals or stomatology departments, and

the proportion of the number of dentists and the number of patients needing treatment, difficult access to treatment of oral diseases will exist for a long period of time. At present, the ratio of dentists to residents in the Chinese mainland is 1: 35,000 to 40,000, and the appropriate ratio recommended by the World Health Organization is 1: 5,000 (Huang, Wang, Bai, Gu, & Xiao, 2010). With the gradual opening up of the medical market and the socialization of the medical system, private dental centers and private dental clinics are increasingly being opened. To some extent, it has alleviated the contradiction of difficult access to oral medical services, but there are also many problems such as the lack of a unified dentist qualification standard, irregular management of clinic opening, poor technical level and academic status, low quality of disinfection, backward charging system, imperfect management regulations, and lack of unified management. These problems not only bring more pain to patients, but also tend to result in medical disputes and affect the normal and orderly development of stomatology (Wang, 2006).

(1) Lack of unified qualification standards for dentists

Xu et al. (2000) surveyed 42 individual dental clinics in Xiaoshan of Zhejiang Province, and found that among the 43 medical staff in total, 2.38% graduated from junior colleges, 26.19% graduated from high schools, 54.76% graduated from junior high schools, and 16.67% graduated from primary schools. In terms of professional training, 67.44% learn from experience handed down in the family from generation to generation, 30.23% receive training in hospitals, while only 2.33% graduate from regular medical colleges. The lack of unified dentist qualification standards will directly impair the quality of disease diagnosis and treatment. Therefore, in order to solve the problem of lack of dentist qualification and poor quality of medical practice, the apprenticeship in dental practice should be completely eliminated. In the knowledge and information society, it is necessary for dentists to have at least three to five years of systematic and standardized training in regular stomatological colleges and obtain junior college degree and bachelor's degree before carrying out clinical diagnosis and treatment. The requirements can be adjusted according to regional differences.

(2) Irregular management of clinic opening management

Irregular management of the practicing of licensed dentists and opening of private dental clinics is also a major problem affecting oral health services in China. In 2015, the opening of private dental clinics in China is approved by the district and county health bureaus and the approval process is simple (Cui, 2015). According to a survey conducted by the Beijing Association of Dental Workers on the oral medical industry of Beijing in 2009, the rate of individual and social medical institutions that did not registered regularly was as high as 80%,

and most of them were approved by the districts after the municipal health bureau stopped issuing the medical licenses. This will inevitably lead to chaotic management of the oral medical industry, severely impacting regular hospitals, and also leading to a decline in oral medical care (Li, 2005; Liu, 2018).

(3) Technical level and academic status to be improved

Continuing education should be carried out to improve professional skills. It is necessary to establish a regular training system for individual dental clinic practitioners, and clearly stipulate the times to take part in further learning each year (Kuang, Zhang, Wang, Ni, & Yu, 2018). Moreover, education and training should be carried out on a regular basis, and corresponding credits should be accumulated each year to understand the new development of the discipline. New technology should be introduced and applied in a timely manner to ensure continuous improvement of service quality (Zhao, 2018). In Denmark, the Danish Dental Federation publishes different specialized journals for public stomatological schools and private dental clinics to meet the diverse needs and preferences of readers on scientific research, clinical technology, dental disease prevention, and continuing education and holds regular academic annual meetings to ensure necessary academic exchanges (Wang, Wang, Luo, & Zhang, 2017). In addition, private dentists are often pro-active in participating in such academic activities to promote the upgrading of their knowledge.

(4) Need of improved standards and unified management

It is necessary to strengthen government intervention and standardize industrial management. It is necessary to break the fragmentation formed by the existing departments and administrative affiliation relations and integrate individual dental clinics of different business natures into the unified management of the health industry. Health policies and regulations should also be applied in the industry, and the Regulations on the Administration of Opening Private Dental Clinics and Joint Dental Clinics in China should be formulated as soon as possible so as to uniformly implement industry technical norms and industry access system. The individual dental clinics are supposed to treat daily oral diseases of residents in the neighboring communities and carry out multi-project oral health care. On this basis, the government should intervene and guide individual dental clinics to actively participate in community public oral health services, conduct oral health care prevention for primary and secondary school students, promote oral health education for residents, and incorporate individual dental clinics into the community oral health service system. A dental health care network should be established in the community so that every community resident can

acquire basic oral health care services that are compatible with socio-economic, and science and technology development and people's living standards (Li & Wang, 2004).

1.3 Research significance and research objectives

Through reviewing the literature, this thesis analyzes the development status quo of oral medical service institutions at home and abroad in an in-depth manner and analyzes the main problems faced by Chinese private dental care institutions in their process of development. Under the background of comprehensive promotion of general reform of public hospitals, the urban medical service network with private oral medical structure as the core fails to meet the health service needs of residents in the third-tier and fourth-tier cities in China. At the same time, stimulated by the acceleration of urbanization, increasing population mobility and the external environment where a large number of social capital from Putian businessmen entering the oral medical service market, private dental institutions will gradually lose their traditional advantages brought by their understanding of the local environment and market conditions. Therefore, considering the actual situation of limited quality medical resources at this stage, this thesis analyzes the case of Deron Dental and applies the resource-based view and dynamic competence theory to explore the key factors that restrict the development of private dental institutions. The thesis also analyzes the specific path of the continuous development of private dental medical institutions, such as improving the medical technology level and overall strength of private dental medical institutions to adapt to changes in the medical service market environment, so that the updating and promotion of service capacity and competitiveness of private dental medical institutions can be a continuous and dynamic process. This has certain theoretical and practical significance for the development and construction of private dental medical institutions and the effective implementation of reform of China's pharmaceutical and health system reform to meet the reform requirements that residents can effectively maintain their own health. The details are as follows:

1.3.1 The sustainable growth of private dental medical institutions is also an important task in the current reform of China's medical and health system

Since the deepening of the medical and health system reform in 2009, that is, after the launch of the new medical reform, the reform focusing on promoting the reform of public hospitals, improving the primary health care system, promoting the equalization of basic public health services, and establishing basic drug system and basic medical security system

has been gradually promoted, and the oral medical industry has also become a key area in this reform. In order to improve the quality of oral medical services and improve the service capacity of oral medical institutions, the Chinese government has issued a number of policy measures and guiding opinions to promote the service capacity development of oral medical institutions. The reform in 2014 covered the private oral medical institutions, mainly to regulate the development of private oral medical institutions, improve the medical experience for patients, provide quality services, and ease the contradiction between doctors and patients. In the recent “13th Five-Year Plan for Health and Family Planning”, the same emphasis is placed on “improving the medical and health service system and tangibly safeguarding the health of the people”. Through the issuance of the above documents, it can be seen that the under the background of building a “Healthy China” strategy, comprehensively improving the service capabilities of medical institutions, including private oral medical institutions, is an important task in the new round of medical and health system reform in China. Research and discussion on this topic is of great significance and can provide necessary decision-making support for the formulation of relevant medical and health policies in the future.

1.3.2 The service capacity of existing private oral medical institutions still fails to meet the needs of the public

The oral health care system is generally considered to be the main function of oral disease diagnosis and treatment, and is an organic whole composed of multiple medical institutions of different levels. The providers of oral health services include hospitals, primary-level health care institutions, and professional private dental care institutions. The private dental medical service system refers to the regional medical service network with the local large-scale chain dental medical institutions as the leading institution, the well-known oral medical specialist outpatient hospitals as the hub and individual medical institutions as the basis. As an important subsystem in China’s medical service system, its core function is to offer medical treatment for residents, especially to provide basic oral medical services. In the local oral health care system, the service capacity of large chain dental institutions plays a crucial role. However, as far as the current development is concerned, the medical service capacity of the local medical and health service network with private oral medical institutions as the core cannot meet the health service needs of residents in the region. Specifically, it is reflected in the following two aspects;

(1) The internal operation of private oral medical institutions is not smooth.

As the core link of the urban medical service system, the private oral medical institutions provide a full range of medical services for urban residents, including the diagnosis and treatment of common oral diseases, prevention of oral diseases, and also provide corresponding training and guidance for medical service practitioners. At present, private oral medical institutions are subject to multiple supervision by various administrative departments including health, drug supervision, and human resources and social security. The offside and absence of government functions coexist; the ownership, management and decision-making power of oral medical institutions are intertwined. The rights and responsibilities of investment subjects, business entities, and management entities are not clear or even confused, resulting in low management efficiency of private oral medical institutions; at the same time, due to the lack of scientific management concepts to guide their decision-making and management, private oral medical institutions lack the vitality of management; in addition, the competition mechanism and the backwardness of the distribution incentive mechanism have led to the inefficiency of private dental institutions in their internal operation.

(2) There is a big gap between the service capacity of private oral medical institutions and the actual needs of residents.

According to the latest statistics of the Fourth National Oral Health Epidemiological Survey, there are 528,760 oral medical institutions in 664 cities across China, accounting for 32% of the entire oral medical institutions in the country. The current status of a great deal of dental institutions has diluted the demands of urban residents for oral medical services and has led to the backwardness of the development of medical institutions. On the other hand, the decentralization of resources of oral medical institutions has affected the improvement of their own service capabilities, and at the same time increased the management and operating costs of private dental institutions.

Judging from the actual situation of the development of oral medical institutions at this stage, most of them have encountered practical problems such as insufficient talent development and training, and poor construction of the talent team. 80% of the high-quality medical resources are concentrated in large hospitals, including the core human resources such as hospital dentists and nurses. The relatively backward living conditions and low wages of private dental institutions make it difficult for them to attract excellent talent resources. To a certain extent, this has led to the relatively disadvantaged position of private oral medical institutions compared with hospitals in terms of service capability. This also highlights that the current private dental medical institutions in China cannot meet the growing oral health

needs of local residents, resulting in a large number of patients to “seek treatment in faraway hospitals with high-quality service capability rather than nearby ones”. Most patients choose to go to cities where there are a number of large hospital for treatment.

1.3.3 Strengthening research on the sustainable growth ability of private oral medical institutions has important exploration significance for China’s medical and health system reform

(1) The task of public hospital reform is arduous, requiring private medical institutions to serve as a booster.

The reform of public hospitals is the most difficult and complicated task in deepening the reform of the medical and health system. How to promote the reform process, how to achieve the free flow of personnel, and how to break the life-long employment have become important tasks of implementing the medical and health system reform. With the oral medical industry as an example, this thesis reveals the key factors in the growth of the enterprise by analyzing how private oral medical institutions realize the sustainable growth through a case. It is hoped that the analysis of this case can provide corresponding experience to promote the reform of public hospitals, and comprehensively implement all tasks in the new medical reform. A private dental medical institution is selected as the case for analysis, with an aim to finding out the key factors for its sustainable growth. On the one hand, it is beneficial to guide the growth of other private dental medical institutions and improve the urban residents’ trust in private oral medical institutions, which can substantially alleviate the problem of “difficult access to medical treatment” in public hospitals, especially large public hospitals. On the other hand, it has also set a good example for promoting the reform of public hospitals, enabling existing public hospital practitioners to have confidence and ability to accept the current personnel system reform. It also provides a good solution for their better development. The most important thing is that private dental medical institutions, as an important part of China’s medical service system as a whole, also undertake business guidance and training for relevant professional medical personnel, and, to a certain extent, they play a crucial role in the improvement of the oral medical service level within the region.

(2) The sound growth of private oral medical institutions is a strong support for the continuous advancement of public hospital reform.

It is worth noting that the purpose of evaluating medical service capabilities is to monitor the output of medical services and to provide a basis for management activities of hospitals

and the government. As one of the medical institutions offering oral health services for the public, private oral medical institutions act as a barometer in promoting the medical system reform in China at this stage. The development of private oral medical institutions is closely related to the success of the promotion of medical reform in China. Only by identifying the key problems in the development of private oral medical institutions, can it be possible to put forward good suggestions for decision-makers and managers to further formulate medical service capability development strategy and adjust relevant measures for reform in a timely manner.

Based on the above reasons, private oral medical institutions have gradually become a breakthrough in the reform of public hospitals in China. With the “new medical reform” as the opportunity, and with private oral medical institutions as the case, this thesis explores the key factors that restrict the development of service capabilities of private oral medical institutions. Studying the specific implementation path of improving the capacity of private dental medical services has certain theoretical and practical significance for the comprehensive capacity building of public hospitals, the cultivation of competitive advantages, and the effective promotion of the reform of medical and health system. On the one hand, the discussion on the service capacity building of private oral medical institutions is beneficial to optimize the rational distribution of existing medical and health resources in China, rationalize the internal operation mechanism, and improve the utilization efficiency of oral medical resources in China. On the other hand, it is conducive to improving the service capacity of most private oral medical institutions and effectively meeting the public demands for health and medical services. In addition, the practical significance of this thesis is that there is still a huge potential market in China’s dental clinic industry that has not been tapped. To survive and develop in an industry, using the right paradigm is a shortcut. However, research on the management paradigm of dental clinics is still rare. How to make the best of such a blue ocean? Some of the conclusions of this study can provide valuable guidance for the sustainable development of dental clinics in China, the healthy development of dental clinics and the oral health of the Chinese people. The theoretical significance is that it helps enrich and improve the relevant theories of industry development, especially offering new thinking for the application of resource-based view and the dynamic capabilities theory to the oral medical industry.

1.3.4 Research objective

The objective of this study is to reveal the development of medical service capabilities of private dental institutions and the cultivation of competitive advantages based on the case of Deron Dental in a dynamic environment through combined methods of theoretical research, literature research and case study from the perspective of the dynamic capabilities theory as well as discuss its strategy formulation and path implementation.

This study focuses on the development status quo of service capacity of private oral medical service institutions. Based on the full demonstration of the necessity of the development of private oral medical service capabilities in China, the Deron Dental is selected as the case for analysis and the dynamic capabilities theory and resource-based view are introduced to explore and analyze how the core competitiveness of private oral medical institutions changes during the development process and what key core resources do they have? A dynamic perspective is taken to build the key factor model for the sustainable growth of private dental institutions so as to provide theoretical support for the sustainable growth of the oral medical industry. In addition, the competitive advantage is the embodiment of the special ability of private dental medical institutions to gain operational benefits and surpass the opponents in the medical service market. In the building of medical service capacity, the competitive advantages of private dental medical institutions are embodied in the advantages of resource utilization and resource integration. This research will focus on the analysis of the two key links of resource-based view and dynamic capabilities. Firstly, it will analyze the cultivation of core competitiveness of Deron Dental at different stages in detail, and on this basis, put forward countermeasures and suggestions that are in line with China's national conditions and can promote development of the majority of private dental medical institutions. It not only satisfies the oral health needs of the masses, but also meet the purpose of promoting the reform of the medical and health system in China.

1.4 Research framework

The basic framework of this research is elaborated as per Figure 1-1, and the contents are as follows:

The first chapter mainly introduces the research background and significance, research ideas, research framework and innovation of this thesis. From the theoretical and empirical analysis, it summarizes the status quo and characteristics of development of private oral

institutions at home and abroad, makes a brief comment, and proposes the perspective of problem analysis and research methods.

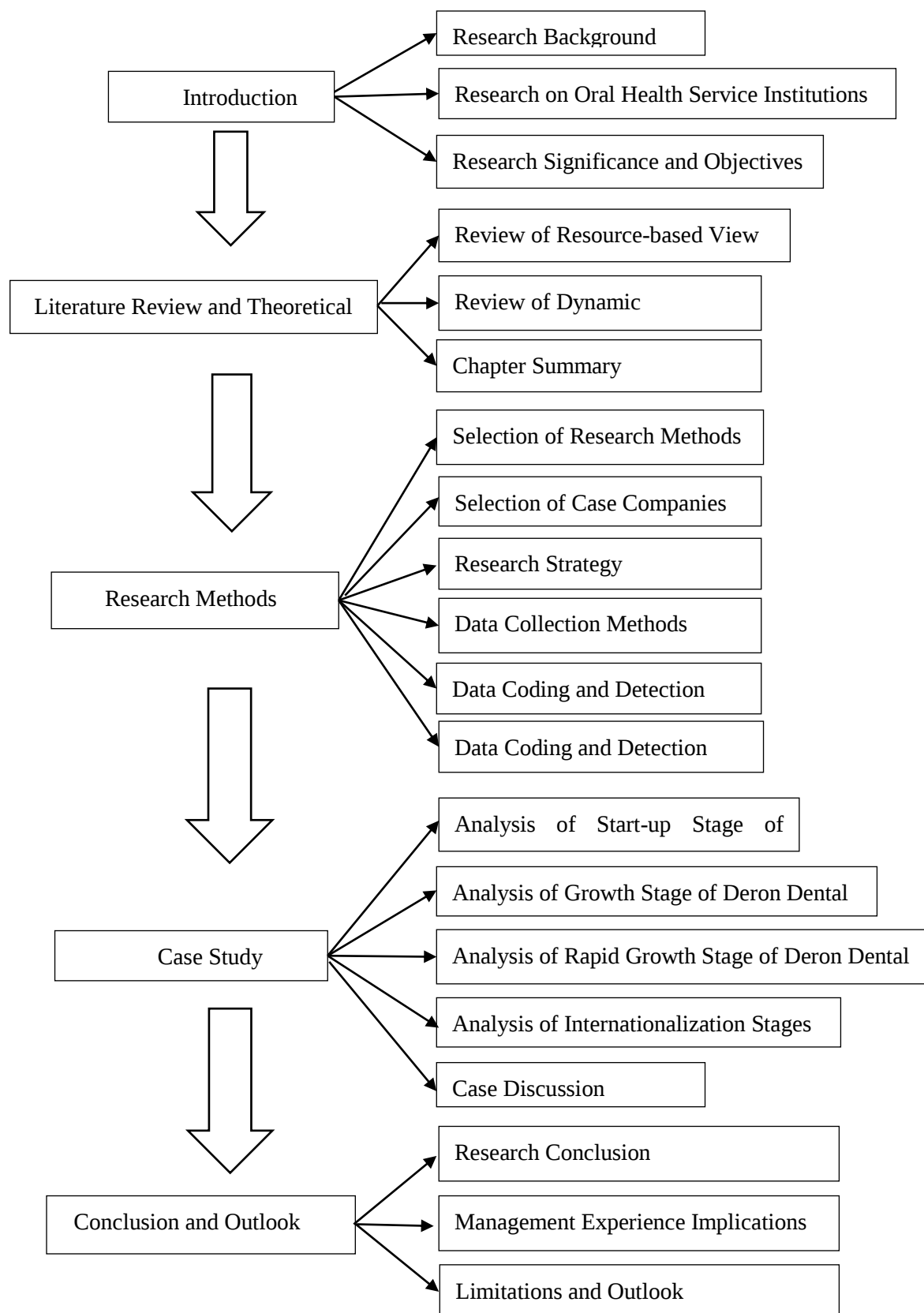


Figure 1-1 Research framework

The second chapter summarizes the resource-based view and the dynamic capabilities theory through review of literature and theories, focuses on the contents of existing research, and on this basis, pays attention to the application of resource-based view and dynamic capabilities theory in the medical field.

The third chapter mainly introduces the research methods from several parts. The first part introduces the case study method; the second part explains the reason why Deron Dental is selected and its overview; the third part is the introduction of the research strategy of this thesis; the fourth part is the data collection method of the case study; the fifth part explains how to encode and detect data.

The fourth chapter is a case analysis of the private dental institution Deron Dental. It explores how Deron grasps the core resources at different stages of development to achieve sustainable growth, and then discusses and summarizes the pattern of its growth.

The fifth chapter, based on the summary of the case of Deron Dental, reaches the conclusion of the thesis and provides countermeasures and suggestions for other private dental clinics in terms of future growth strategy.

1.5 Research innovations

The main characteristics of this thesis are as follows: First, the research object is clear and the thinking is clear. This research analyzes the history and existing problems of the development of private dental clinics in China. Second, its data are from authoritative sources including data from the National Statistical Yearbook and research reports. Third, there are various research methods such as case analysis method.

The main innovations of this thesis are as follows: First, the research objects are relatively rare to be mentioned. Private dental clinics are developing rapidly, but as for how to promote their development, most studies are still too general to analyze from cases, and the research contents and methods are not perfect. Second, based on the current policy of promoting the development of private dental clinics in China and according to existing problems of private dental clinics analyzed in the literature, this thesis selects a successful case of Deron Dental to carry out an in-depth analysis. It provides strategic advice for the growth and development of private dental clinics and is of great research significance.

1.6 Chapter summary

Based on the realistic background and theoretical status, this chapter puts forward the topic of this research, analyzes the theoretical and practical significance, clarifies the research object, method, technical route and chapter arrangement, and finally briefly explains the main innovations of this research.

In the research background, it is pointed out that in the context of continuous economic development in China, people's demands for medical services are more diversified and their level of expectation is increasingly higher. However, it is regrettable that the overall development of medical services in China and the relevant reform of medical institutions are still not satisfactory. Most people still tend to choose the public state-owned medical institutions for medical treatment so that the large hospitals are overcrowded every day, and many social problems such as doctor-patient disputes have been brought about. Although the introduction of private capital has alleviated this contradiction to a certain extent, there are still some unsatisfactory places in the development of private medical institutions.

It is especially so in the oral medical industry. As the industry started rather late and its development was also relatively slow, the needs of current consumers cannot be met and there are still problems such as over-treatment and inspection, unreasonable charges, and other irregularities. To a certain extent, this also restricts the further development of the private dental medical industry. Therefore, this thesis further analyzes the service status of oral health institutions at home and abroad. Through the comparative analysis of human resources, medical insurance, medical institution types of oral medical institutions at home and abroad, it is found that China's oral medical institutions, especially private oral medical institutions, have a ubiquitous problem of non-uniform qualification standards of doctors, non-standardized management, and low medical technology and academic research level.

Therefore, research on private oral medical institutions is of great significance. How to realize the sustainable growth of private oral medical institutions is an important task of the current medical and health system reform in China as well as one of the important explorations of China's medical and health system reform. More importantly, some of the conclusions of this study can provide valuable guidance for the sustainable development of dental clinics in China, the healthy development of dental clinics as a whole, and the oral health of the Chinese people. The theoretical significance of this research can also help enrich and improve the relevant theories of industry development, especially proposing a new direction for the application of resource-based view theory and the dynamic capabilities in the

oral medical industry.

Based on the needs of research, the research objective is to reveal the development of medical service capabilities of private dental institutions and the cultivation of competitive advantages based on the case of Deron Dental in a dynamic environment through combined methods of theoretical research, literature research and case study from the perspective of the dynamic capabilities theory as well as discuss its strategy formulation and path implementation. It is hoped that this research can provide a good reference for the sustainable growth of the oral medical industry in China.

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Chapter 2: Literature Review

2.1 Literature review

This chapter will first explain the theoretical logic behind the research contents so as to carry out the literature review work in a targeted manner; then, based on the research topic, extensive and systematic retrieval, collection and combing of the literature on resource slack and dynamic capabilities are conducted to summarize the progress and shortcomings of the existing research; finally, based on the shortcomings of the existing research, the relevant theories of resource slack and dynamic capabilities are integrated to propose the problems to be solved in this research.

2.2 Literature review design

This research aims to explore the relationship between enterprise resource slack, dynamic capabilities and performance. These research contents involve many different basic theories. Different theories have not only different concepts and propositions, but also different premise assumptions and application boundaries. The analysis of the theoretical logic behind the research contents and the communication between the various theories are conducive to making them complement each other to form the theoretical basis of this research. On this basis, the literature review design is formed, which will help to guide the literature review to be carried out in a targeted manner. The various theories can be organized according to the scientific and logical structure so as to discover the relationship between theories as well as existing problems.

How can enterprises obtain and maintain a competitive advantage and earn a profit higher than the industry average level is the core issue in strategic management. The strategic positioning school represented by Porter (1980, 1985) argues that the macro environment, industrial environment and industry competition determine the profitability and correct strategic positioning of enterprises in various industries; however, the strategic positioning school ignores the enterprise's own resources and differences in capabilities and therefore their theory cannot explain differences in performance between different companies within the same industry. In order to explain the differences in corporate performance and the source

of competitive advantage, the researchers have established a resource-based view from the characteristics of internal corporate resources.

Penrose (1959) first proposed the concept of enterprise resources. He regarded the enterprise as a collection of resources, and established a corporate growth path of “resources, products, competitive advantages, extensive operating, new resources”; Wernerfelt (1984) first proposed the analytical perspective of “resource-based view” in a clear way, emphasizing the role of internal resources of enterprises in acquiring and maintaining competitive advantage; Barney (1986) carried out an in-depth analysis of the specific process for corporate resources to form a sustainable competitive advantage; Barney (1997) pointed out that enterprise resources need to be effectively organized by the enterprise before playing the biggest role. At this stage, the resource-based view had gradually matured and become the basic theory in the field of organizational research. On the basis of the resource-based view, Hart (1995) developed the concept of natural resource endowment, and Grant (1996) developed the theory of knowledge-based view, which made the resource-based view more developed and more widely applied.

The resource-based view is based on two basic assumptions: resource heterogeneity assumption and resource immobility assumption (Barney & Hesterly, 2010). On the one hand, different enterprises have different resource allocations, so some companies are better at accomplishing certain activities than others; on the other hand, the flow of resources between enterprises is not completely free, and the heterogeneity of resources between enterprises can exist for a certain period of time, so the competitive advantage of enterprises based on specific resources is sustained (Teece, 2009; Romme, Zollo, & Berends, 2010).

Enterprise resources include tangible and intangible resources, but the most valuable to the enterprise are often intangible resources, such as knowledge, technology and intellectual capital. Barney (1991) pointed out the four characteristics necessary for the formation of competitive advantage of enterprise resources, namely, valuable, rare, inimitable and non-substitutable, and established a basic analytical framework of resource-based view. Peteraf (1993) further pointed out that enterprises should implement four complementary strategies, namely, obtaining Ricardo’s rent (excess profit) and Chamberlain’s rent (monopoly rent) through a competitive strategy centered on resource heterogeneity, ensuring the sustainability of these rents through restriction of competition afterwards, preventing other enterprises from eroding these rents through the immobility competition strategy, and expanding these rents by reducing the cost of enterprises by restriction of competition in advance. Collis and Montgomery (1997) further pointed out that the unique resources that

enterprises have and the way they allocate resources in a specific environment can bring Schumpeter rent (innovation rent) to the enterprise.

However, the valuable, rare, inimitable and non-substitutable characteristics of resources in the resource-based view are often defined by output variables, and there may be problems of synonymous repetition, which is difficult to obtain falsification (Priem & Butler, 2001). Moreover, the analytical framework of the resource-based view is static, ignoring the impact of corporate behavior, and not explaining the changes in the role of corporate resources in environmental change (Barney, Ketchen, & Wright, 2011). As a supplement and development of the resource-based view, scholars have established the core competence theory. The core competence theory believes that it is flawed to attribute the competitive advantage of enterprises to static resources. On the one hand, competence is a special kind of corporate resource that is specifically organized to increase the efficiency of other resources (Katkalo, Pitelis, & Teece, 2010); on the other hand, competence is different from resources. Competence is based on people in the enterprise and is reflected in the process of allocation, development, protection, utilization and integration of resources by the enterprise (Hamel & Heene, 1994). Enterprise competence is often expressed as organizational processes or practices and are a combination of different organizational processes and practices (Dosi, Nelson & Winter, 2000).

Core competence theory holds that enterprises are a collection of unique capabilities, while the core competence is an organic combination of tacit knowledge, key skills, and scarce resources, rather than relying solely on corporate resources (Christense, 1996). The financial performance of enterprises, the scope of economies of scale, and the field of diversification strategies ultimately depend on the core competencies of the enterprises. However, core competence tends to make enterprises feel complacent and fall into a trap of success. Some of the competences may become obstacles to corporate change when the environment changes, leading to the “core rigidity” problem (Teece & Pisano, 1994). Teece and Pisano (1994) and Teece, Pisano, and Shuen (1997) proposed the concept of dynamic capabilities in terms of problems in resource-based view and core competence theory, arguing that dynamic capabilities are the ability of enterprises to build, integrate, and reconstruct enterprise resources and capabilities so as to adapt to environmental changes. Only by keeping up with the changes in the environment and adjusting its resource base and reconstructing its operational capabilities to match new environmental requirements can an enterprise maintain its sustained competitive advantage. Eisenhardt and Martin (2000) further pointed out that the role of dynamic capabilities is to optimize enterprise resources and

upgrade enterprise capabilities. The dynamic capabilities are not only effective in a dynamic environment, but also play a significant role in forming a competitive advantage in a static environment, thereby expanding the application scope of dynamic capabilities. Winter (2003) introduced the concept of high-order capabilities and regarded dynamic capabilities as high-level capabilities that change a company's operational capabilities. Gavetti (2005) conducts an in-depth analysis of the micro-foundation of enterprise dynamic capabilities.

Through the above theoretical review, it is found that the resource-based view explains the source of competitive advantage from the resource characteristics possessed by the enterprise. The core competence theory emphasizes the role of enterprise subjective initiative in resource management and application process, and the dynamic capabilities theory further solves the problem of how is core competence developed and changed. Therefore, the literature review part of this thesis is mainly based on the perspective of resource-based view and dynamic capabilities, and the details are interpreted as follows.

2.3 Resource-based view

2.3.1 Theoretical origin of resource-based view

Focusing on the core issue of strategic management, namely, "how can enterprises acquire and maintain their competitive advantage", the Resource-based View (RBV) gives a rich and far-reaching understanding based on the uniqueness of internal corporate resources. The theory holds that enterprises are a collection of resources and capabilities and they acquire and maintain competitive advantage by capturing valuable, rare, inimitable and non-substitutable resources and capabilities (Wernefelt, 1984; Dierickx & Cool, 1989; Barney, 1991; Peteraf, 1992; Collis & Montgomery, 1999).

Although RBV was developed by strategic management scholars, it originated in the field of economics from the study on internal growth of the enterprises by Penrose (1959). At first, the theory was not accepted by industrial organization economists because the premise of RBV is that enterprises in the industry are heterogeneous because the resources (tangible and intangible resources) owned by them are different. However, the dominant idea of industrial organization economists is that the heterogeneity between enterprises is only temporary, and it is assumed that enterprises within the industry will eventually be homogenized over time.

Strategic management research assumes that enterprises try their best to differentiate themselves from their competitors in order to acquire and maintain their competitive advantage. Therefore, it is not difficult to understand why strategic management scholars will recognize and inherit the original view of Penrose (1959), that is, how enterprises use strategies to create advantages in the industry. Wernerfelt (1984) was the first scholar to link the competition for product market status and the competition for resource status and fully present the theory of resource-based theory in his research. The academic dialogue of Barney (1986, 1991) further promoted scholars' understanding of the competitive advantage of resource-based view. Dierichx and Cool (1989) proposed an asset stock and flow model that explains the development and maintenance of competitive advantage. Specifically, they believe that asset stock is strategic because it is subject to time-compressed diseconomy, path-dependence, interconnectedness, and social and causality ambiguity, and these characteristics collectively (sometimes separately) generate competitive advantage. In addition, they also pointed out that the sustainable competitive advantage of an enterprise changes as it continuously restructures its asset stocks and apply them to new market opportunities. Therefore, the most important resource for an enterprise is to accumulate rather than acquire strategic factor markets. These views help explain why two enterprises with a large number of similar resources have different performances and why two enterprises making similar investments at the same time get different results. Based on the above viewpoints, Barney (1991) proposed that enterprises need valuable and rare resources to gain competitive advantage. However, over time, in order to maintain this competitive advantage, resources must be inimitable and non-substitutable.

The studies of the above-mentioned scholars together sketch the basic outline of the resource-based theory. The view of Barney (1991) is simple, logical and easy-to-understand, and has therefore become the most popular model in strategic management research. Even so, it has been questioned by many scholars (Priem & Butler, 2001). The criticisms include the static nature of the theoretical view and neglect of the potential impact of the external environment. In addition, Barney's (1991) study also leads to some confusions such as the lack of clear definition of the concept of resources and capabilities (Makadok, 2001; Leiblein, 2011).

2.3.2 Research progress of resource-based view

“Resources” and “capabilities” are the nuclear concept of the resource-based view. To be specific, “resources” refer to tangible and intangible assets that can be exploited and manipulated by enterprises (Grant, 1991; Amit & Schoemaker, 1993), and “capability” refers to the ability of an enterprise to integrate, develop, and deploy resources to create value. Most previous studies have followed the paradigms of “resource-capability-competitive advantage” (Fiol, 1991; Hall, 1993; Srivastava, Fahey, & Christensen, 2001) and “resource-capability-enterprise performance” (Yang, Marlow, & Lu, 2009; Trainor, Rapp, Beitelspacher, & Schillewaert, 2011; Kauppila, 2015) to explore the influence of resources and capabilities on the competitive advantage of enterprises. However, with the deepening of research, scholars proposed that direct investigation of “resources and competitive advantage”, “capabilities and competitive advantage” and “resources, capabilities and competitive advantage” may neglect the intrinsic influence mechanism of the transformation of resources and capabilities into competitive advantage of enterprises, so it is impossible to answer the question “why the enterprise with valuable, rare, inimitable and non-substitutable resources cannot gain a competitive advantage”. Therefore, exploring the mechanism of how corporate resources are transformed into capabilities has become a topic of wide concern in various disciplines. Grant (1991) and Kuenzi (2011) proposed that the process of transformation of corporate resources into capabilities is the organizational path, which refers to a series of coordinated actions performed by individuals in the enterprise, aiming at achieving the corporate goal and creating value. These actions are considered as dynamic in order to adapt to changes inside and outside the enterprise. Teece, Pisano and Shuen (1997), Zollo and Winter (2003) pointed out that a path is an organizational process that uses resources to achieve the desired results.

In summary, the resource-based view holds that corporate resources are an important source of competitive advantage for enterprises (Barney, 1991). However, resources must have certain attributes to give full play to the advantage. Barney (1991) proposed three important attributes of resources, namely, they must be valuable, rare, and imperfectly imitable. Only resources that can create competitive advantage are be considered as valuable; only resources that most enterprises do not have or are difficult to obtain by other enterprises can create competitive advantage; in many cases, valuable and rare resources are often acquired by other enterprises in a variety of ways, so only those resources that are imperfectly imitable can create sustained competitive advantage. It is not difficult to tell that only when

the corporate resources have these three attributes, can they create sustained value, and such resources are the power and source of sustained competitive advantage.

However, more and more research proves that corporate resources do not have the same function for the acquisition of competitive advantage. Resources within an enterprise must be tied together in a certain way before they can develop into capabilities and thus form value (Jüttner & Wehrli, 1994). In other words, these resources must be properly allocated, and the value created will be maximized only when the categories and amount of resources reach a certain level. This process in which enterprises generate value through proper allocation of resources is the process of resource management (Sirmon & Ireland, 2007).

2.3.3 Resource management

Resources are an important source of competitive advantage for enterprises, but not all resources can form competitive advantage. Only resources that are valuable, rare, and imperfectly imitable can be the source for enterprises to gain competitive advantage (Barney, 1991). However, research shows that possessing these resources does not necessarily bring long-term competitive advantage to the enterprise, because the advantages to competitors brought by these attributes of resources will disappear as the environment changes. Especially when the enterprise is in a dynamic environment, for instance, when the market demand is highly uncertain or the industrial environment changes rapidly, the enterprise needs to continuously update and accumulate resources to improve the heterogeneity of enterprise resources.

The result of resource management is the formation of capabilities and generation of competitive advantage. Finney, Campbell and Powell (2005) analyzed the entire process of resource-to-product management from a resource perspective, and divided the process into effective resource acquisition, resource integration, market positioning, and resource maintenance or protection. Other scholars have also conducted relevant research on the resource management process, but Sirmon and Ireland (2007) pointed out that the existing research does not open the black box of the process from resource to the value generation. Therefore, through systematic analysis of the resource management process, they proposed that resource development process includes resource identification, acquisition, integration, and capability utilization, and they believe that resource integration is the process of resource allocation and value creation. Chinese research on resource management started rather late,

and only a few scholars have paid attention to the topic in recent years, such as Rao (2007), and Liu and Cai (2010).

Sirmon and Hitt (2003) have studied family businesses and proposed that family businesses have more unique resources than non-family businesses, and these unique resources are not enough to form competitive advantage and create value. Therefore, management of these resources through integration and utilization can greatly enhance their potential value. This research result has unveiled the process of resource-to-value transformation, which greatly complements the resource-based theory. However, the research only pays attention to the family business. Since family businesses are unique and have some special resources, so they are quite different from the general enterprises. In addition, resource management is a dynamic process that is influenced by multiple internal and external factors. Subsequently, Sirmon and Ireland (2007) analyzed the resource management process model in dynamic environment based on contingency theory and organizational learning theory. Resources are integrated and structured based on external environment and corporate strategy to build capabilities which are utilized to create value and competitive advantage. This resource management process is dynamically changing, so enterprises need to constantly adjust the resource management process according to changes of the environment, and organizational learning is an important means of adjustment.

In addition, Morgan (2000) also proposed a resource management process model to analyze value creation from efficient acquisition of resources, resource bundling, resource positioning, and resource maintenance/protection. Based on the existing research, the research on the resource management process is mostly concentrated on large or mature enterprises. New enterprises have to face liability of newness, their congenital resource shortage is a major challenge to resource development, and the coordination ability of managers also has a major impact on the resource development. In addition, most existing research focuses on resource integration within the enterprise, while overlooking management and utilization of resources in the external network. In response to these characteristics of new enterprises, some scholars have begun to pay attention to network resource integration in recent years, including Baraldi and Str nsten (2009), Tolstoy (2010), and Tolstoy and Agndal (2010). According to the relevant viewpoints of network resource integration, the integration of various resources scattered in the social network can help better cope with the external environment and bring opportunities and create value for enterprises. Network resource integration provides a good channel for new enterprises to make up for the lack of resources, but this view focuses more on external resources.

The above studies are mainly targeted at general resources, but some resources such as knowledge resources are unique as they need carriers to be transmitted and utilized, so some scholars also pay attention to the process of knowledge management and knowledge creation. More and more research shows that knowledge has become a key resource for enterprises to gain sustained competitive advantage (Teece, 2005; Spraggon & Bodolica, 2008; Nonaka & Takeuchi, 1995). The arrival of the era of knowledge economy especially poses challenges to the knowledge management of enterprises. The acquisition, exchange, integration and creation of knowledge resources have a great impact on the survival and growth of enterprises, especially for those technology-based enterprises.

On the whole, the existing research on the resource management process still has certain limitations. Morgan (2000) analyzed the resource management process from four stages: efficient resource acquisition, resource integration, resource positioning, and resource protection and maintenance. Chinese scholars Liu and Cai (2010) proposed four resource management stages of resource identification, acquisition, integration and utilization on the basis of previous studies, and refined and deepened the resource management process. Resource management describes and analyzes how resources create value and is considered as an important complement to resource-based theory. From the existing research, the resource management process is gradually being unveiled, and the impact of environmental variables, strategic variables, and organizational factors has been taken into consideration. How to integrate the internal and external organizational variables to comprehensively analyze the dynamic management process of resources is the focus of future research. Therefore, it is necessary to combine the classical resource integration view proposed by Sirmon and Hitt and the network resource integration view proposed by Tolstoy to analyze resource integration of new enterprises from the network perspective so as to study the mobilization of internal and external organizational resources by new enterprises.

2.3.4 Resource integration

From the viewpoints of the above scholars, resource integration is an important part of the resource management process. According to Sirmon and Ireland (2007), bundling is the process by which resources are allocated and capabilities are formed. They propose that stabilizing, enriching, and pioneering are the three different bundling processes, which is widely recognized by scholars. Resource integration is the process of rational allocation of resources to create capabilities, and an important stage for enterprises to obtain sustained

competitive advantage. The resource integration processes for different enterprises are quite different, which strengthens the inimitability.

Table 2-1 Resource integration views from different perspectives

Perspective	Main Viewpoints	Representative Scholars	Comments
Network Perspective	The exchange and integration of resources creates value, but resources are embedded in the network. Therefore, interaction with internal and external organizational relationships is an important way to achieve rational resource allocation.	Tsai and Ghoshal (1998); Baraldi and Stromsten (2009); Tolstoy and Agendal (2010)	The current view is that new enterprises, especially those aiming to explore the international market, need to integrate resources in the external network; but mature enterprises and large enterprises need to pay attention to communication within the internal departments.
Knowledge Management Perspective	Knowledge creation is very important to enterprises, but knowledge is dispersed in individuals or groups; due to the limited resources, enterprises need to use different ways to integrate these knowledge to create new knowledge and value.	Tolstoy (2009); Vainio (2005)	The knowledge management perspective focuses on knowledge-based enterprises, and knowledge integration is often linked to the external network.
Strategic Management Perspective	Corporate resource management is a way to establish sustained competitive advantage, but the implementation of different strategies (such as low-cost strategy and differentiation strategy) will affect the resource management behavior of enterprises.	Finney et al. (2005)	It emphasizes on linking corporate strategy and resource management.
Life Cycle Perspective	The important resources needed by enterprises and resource integration behavior need to be changed according to the development of enterprises.	Lichtenstein and Brush (2001);	Resources and resource integration behavior need to change constantly to keep up with environmental changes. Organizations that adopt positive attitude towards change will achieve sustained development.

In addition to Sirmon and Hitt (2003), the research on resource integration has attracted great attention from other scholars in the field of strategic management in recent years. Their

views are summarized to form a resource integration analysis from different perspectives as shown in Table 2-1.

The table summarizes relevant research on resource integration. Existing research on resource integration can be divided into network perspective, knowledge management perspective, strategic management perspective and life cycle perspective. The network perspective believes that resources are scattered or embedded in network relationships. Enterprises need to build reasonable network relationships and integrate these scattered resources through interaction of the relationships to create value for enterprises.

The knowledge management perspective emphasizes the importance of knowledge resources, and enterprises need to continuously use various methods to fully integrate these knowledge resources to create greater value. The knowledge management perspective also emphasizes connections with the external environment to acquire and exchange external knowledge resources. The strategic management perspective argues that the strategic choice of the enterprises affects the resource integration behavior of the manager. For example, when the enterprise emphasizes the differentiation strategy, resource integration is particularly important, and managers need to spend substantial energy to focus on resource integration activities (Finney, Campbell, & Powell, 2005). The life cycle perspective focuses on resource integration from different development stages of the enterprise, emphasizing that the resource integration behavior of the enterprise should adapt to the changes within the organization and in the external environment. Faster changes can promote the development and growth of the enterprise (Lichtenstein & Brush, 2001).

2.3.5 Application of RBV in the medical industry

Relevant policies, journals, and monographs are reviewed to obtain literature materials to get a comprehensive understanding of the application of RBV in the medical industry and provide a corresponding reference for the development of China's oral medical industry. In the China National Knowledge Infrastructure (CNKI) database and Wanfang Data, with the key word or topic of resource-based view, there are in total 1,623 valid academic papers. As for the foreign research, in the web of science (WOS) core database and Google Scholar, with the keyword of resource-based view, there are 528 Chinese and foreign academic papers closely related to the medical industry from 2008 to 2018. Please refer to Figure 2-1 for details.

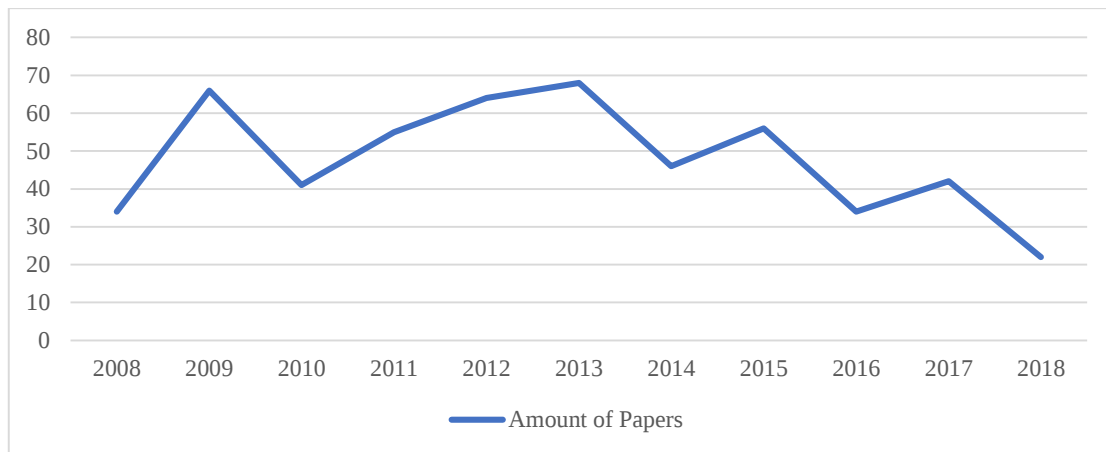


Figure 2-1 Amount of papers on RBV from 2008 to 2018

Source: Based on the relevant literature

In the foreign research, the strategic management develops two schools of thoughts according to the source of hospital competitive advantage. One is the organizational adaptability school focusing on endogenous strategic research, and the other is the strategic choice school focusing on exogenous strategic research. Improvement of organizational adaptability may help the hospital achieve “independent growth”, and strategic choices can help the hospital achieve “forced growth”. However, due to the rapid changes in the internal and external environment of the hospital, defects in the theories of the two schools applied to guide the practice of hospital sustained growth are increasingly prominent. Scholars have been debating around the “endogenous” and “exogenous” types of hospital growth (Peteraf, 1993; Teece, Pisano, & Shuen, 1997). The former believes that organizational adaptability can fundamentally ensure hospital sustained growth, while the latter believes that timely seizure of market opportunities is the root of the hospital’s further growth. Recently, the strategic choice school has also begun to recognize that the successful transformation of hospitals is inseparable from the effective transformation of organizational adaptability, while the adaptability school believes that the failure of hospitals is often because they cannot grasp market changes in a timely manner.

As for the research in China, Lan (2015) believes that human capital is the most active resource of the organization and should also bring competitive advantages to the organization. Therefore, hospitals as medical institutions must change their thinking and fully recognize the strategic significance of human resources. In the hospital development, rare human resources should be considered as the focus of attention, and corresponding human resources policies should be formulated and put into practice based on the internal and external conditions of the hospital. Wang (2016) believes that with the promotion of public hospital reform, the

phenomenon of staff redundancy, mismatch of duties and responsibilities, and unclear duties in public hospitals have also been exposed. The existence of these phenomena highlights the defects of human resource cost management of public hospitals, and it is necessary to study human resource cost management from a strategic level. To this end, countermeasures such as strengthening cost control, designing a reasonable salary system, conducting systematic human resource training, and establishing a reasonable talent flow mechanism were proposed. Wang (2014) proposed the organizational and environmental mechanism affecting the growth and development of traditional Chinese medicine hospitals by constructing the theoretical framework of the traditional Chinese medicine hospital growth model. They also proposed the connotative and extensive growth strategy of Chinese medicine hospitals through the analysis of external social environment and internal organizational resources. Wang (2018) believe that the input-output efficiency of science and technology resources plays an important role in promoting the personnel training, team building, discipline development and social comprehensive service of university affiliated hospitals. Correlation analysis of and research on scientific research input and output performance can help understand the status quo, tap potential and identify defects. It can also help to adjust the research direction and personnel structure in time, provide decision-making information and basis for management decision-makers, and promote the hospital scientific research management to develop in a rationalized, standardized and scientific manner.

2.4 Dynamic capabilities

The source of competitive advantage has always been a hot topic in the field of strategic management. In the 1980s, on the basis of Penrose's Endogenous Growth Theory, scholars formed an analytical paradigm of "resource-based view", arguing that "the heterogeneous resources within the enterprise are the source of competitive advantage". In the 1990s, Prahalad and Ramaswamy (2010) proposed the Core Competence Theory on the resource-based view of firm, arguing that in a complex business environment, enterprises must continuously acquire, integrate, reconstruct, release resources, and optimize resource allocation to form new resource structures. Only those with valuable, rare, inimitable and non-substitutable resources can adapt to changes of the situation and support the sustained growth of enterprises. In the late 1990s, due to the rapid development of technology, the dynamic characteristics of the external environment of enterprises are more prominent and the changing environment has made it increasingly difficult to use the static analytical

perspectives of the “resource-based view” and “core competence theory” to explain how enterprises obtain competitive advantages and sustained growth in a dynamic environment. According to Leonard-Barton, if an enterprise cannot update the core competence in accordance with the changing environment, the rigidity of core competence will put the enterprise at a disadvantage. In this context, dynamic capabilities theory emerges at the proper moment. Teece et al. attempted to study the formation of the sustained growth and competitive advantage of enterprises from the perspective of dynamics and capability integration and defined dynamics as the capability to update competitiveness to keep up with the changing competitive environment. Therefore, “dynamic capability” refers to the ability to change with the changes of the environment, that is, the ability of enterprises to continuously integrate and reconstruct internal and external organizational knowledge, skills and resources in order to adapt to the changing market environment. From the perspective of corporate growth stages, the external environments faced at each stage are different.

The existing research on enterprise dynamic capabilities mainly involves the connotation, influencing factors, and evolution mechanism of enterprise dynamic capability theory, the constituting dimensions of dynamic capabilities and measurement of each dimension, and empirical research on the relationship between dynamic capabilities and corporate performance or competitive advantage. This section summarizes the connotation of dynamic capabilities and the existing problems in research and explores the constituting dimensions of dynamic capabilities.

2.4.1 Connotation of dynamic capabilities

Teece et al. (1997) proposed the concept of dynamic capabilities on the basis of the resource-based view, which is an important milestone in the development of the dynamic capability theory. The resource-based view holds that the resources and capabilities of different companies are generally heterogeneous and that these resources and their distribution in these enterprises will last for a relatively long period of time. Since the resources and capabilities are valuable, rare, imperfectly imitable and non-substitutable, the enterprises can achieve sustained competitive advantages. However, in essence, the resource-based view analyzes the source of competitive advantage from a static perspective, so it is difficult to analyze why enterprises can gain and maintain competitive advantages in a rapidly changing environment. Therefore, Teece et al. (1997) proposed a research framework of dynamic capabilities in response and defined dynamic capabilities as “the firm’s ability to

integrate, build, and reconfigure internal and external competences to address rapidly changing environments”.

Teece et al. (1997) emphasized that “dynamic” indicates that firm’s ability to continuously make adjustments and integration in order to adapt to environmental changes, and “capabilities” means the integration and configuration of resources and capabilities within and outside the firm. Please refer to Figure 2-2 for details.

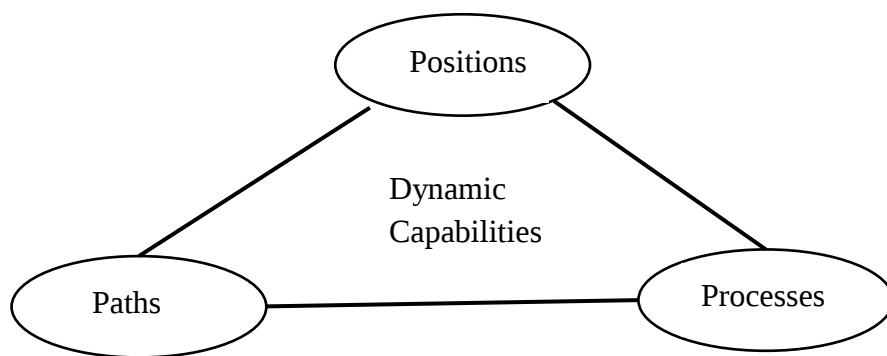


Figure 2-2 Analytical framework of dynamic capabilities by Teece et al

Source: Teece et al. (1997)

Many other concepts of dynamic capabilities are subsequently proposed, some of which are still close to the resource-based view, and some tend to adopt approaches similar to evolutionary economics. The main definitions of dynamic capabilities by scholars such as Zahra, Sapienza, and Davidsson (2006), and Barreto (2010) are listed as shown in Table 2-2, with the first six definitions being more representative. These views differ significantly in terms of nature, specific role, relevant environment, generation and evolution mechanisms, types of output outcomes, and heterogeneity assumptions.

According to the above analysis, there are still major differences between the existing definitions of dynamic capabilities. The inconsistencies in the definitions proposed by the above scholars, including Teece et al. (1997), lead to vagueness and poor operability of dynamic capabilities. This thesis further refines the connotation of dynamic capabilities, and believes that it can be described as the ability of enterprises to dynamically updates their strategy to adapt to environmental changes and form the potential to systematically solve problems through resource interaction with the environment, internal integration, external coordination and organizational learning.

In the research on dynamic capabilities, many scholars often divide the concept into different dimensions so as to carry out classified research from different perspective as well as

improve the operability. The dimensions of dynamic capabilities summarized by Chinese and foreign scholars are listed as shown in Table 2-3.

Table 2-2 Main definitions of dynamic capabilities

Author	Main Idea
Teece et al. (1997)	The firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments.
Eisenhardt and Martin (2000)	The firm's processes that use resources—specifically the processes to integrate, reconfigure, gain and release resources—to match and even create market change. Dynamic capabilities thus are the organizational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve, and die.
Zollo and Winter (2002)	A dynamic capability is a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness.
Winter (2003)	Dynamic capabilities are those that operate to extend, modify or create ordinary capabilities.
Helfat et al. (2007)	A dynamic capability is the capacity of an organization to purposefully create, extend or modify its resource base.
Teece (2007)	Dynamic capabilities can be disaggregated into the capacity (1) to sense and shape opportunities and threats, (2) to seize opportunities, and (3) to maintain competitiveness through enhancing, combining, protecting, and, when necessary, reconfiguring the business enterprise's intangible and tangible assets.
Lee et al. (2002)	Dynamic capabilities are the source of enterprise competitive advantage to deal with the environmental changes.
Zahra, Sapienz and Davidsson (2006)	They are the abilities to reconfigure a firm's resources and routines in the manner envisioned and deemed appropriate by its principal decision-maker.
Wang et al. (2010)	Dynamic capabilities refer to a firm's behavioral orientation to constantly integrate, reconfigure, renew and recreate its resources and capabilities, and most importantly, upgrade and reconstruct its core capabilities in response to the changing environment to attain and sustain competitive advantage.

Table 2-3 Dimensions of dynamic capabilities

Scholar	Dimensions
Luo (2000)	Acquisition capability, allocation ability, and renewal ability
Eisenhardt and Martin (2000)	Capability to integrate, reconfigure, gain and release resources
Subba (2001)	Technology knowledge diversification capability, marketing dynamic capability
Wang and Ahmed (2007)	Adaptive capability, absorptive capability and innovative capability
Protogerou et al. (2005)	Coordination: integration, learning, transition and restructuring
Wang (2006)	Organizational values, individual static and dynamic capability, organizational static and dynamic capability
He (2006)	Customer value orientation, technical support system, organizational support system, institutional support system, update impetus, strategic isolation
Xu (2006)	Market positioning ability, attraction and transformation ability, coordination ability, collective thinking ability
Li (2006)	Environmental insight ability, value chain configuration and integration ability, resource configuration and integration ability
Teece (2007)	Opportunity sensing, opportunity seizure and strategic reconfiguration
Zheng (2007)	Organizational culture dimension, organizational process dimension, assets and technology dimension, growth path
Wang (2008)	Market sensing ability, knowledge absorption ability, resource reconfiguration ability
Tan (2007)	Strategic upgrading mechanism, strategic matching mechanism and knowledge innovation mechanism
Luo (2007)	Entrepreneurship ability, technical innovation ability, organizational coordination ability
Jiao (2008)	Environmental insight ability, reform and upgrading ability, technical flexibility, organizational flexibility
Yu (2008)	Strategic adjustment ability, resource configuration and integration ability, value chain configuration and reconstruction ability, marketing and service integration ability
Yi (2008)	Insight ability, configuration ability, reform ability
Meng (2008)	Search and absorption ability, reform and innovation ability, transformation and integration ability, network cooperation ability, rule adaptability
Cao et al. (2009)	Dynamic information utilization ability, resource acquiring ability, internal integration ability, external coordination and resource releasing ability
Lin (2009)	Organizational learning, integration ability, market orientation, organizational flexibility, risk prevention ability
Li et al. (2009)	Organizational sense-making capability, flexible decision-making capability, dynamic implementation capability and integration of these capabilities
Huang (2010)	Integration ability, organizational learning ability, reconfiguration ability
Qin (2010)	Selection ability, diffusion selection, innovation ability, adaptation ability

As shown in Table 2-3, there appears “contention of a hundred schools of thought” as for the constituting dimensions of dynamic capabilities, and it is mainly because scholars have different understanding of the connotation of dynamic capabilities. At present, there are two main perspectives on the division of dimensions of dynamic capabilities. One is based on the

overall behavior of the enterprise, and gradually expands to the direction of organizational cognition in the development of more than 20 years; the other is based on the perspective of specific organizational processes, and dynamic capabilities are seen as a process behavior in which specific strategies are implemented.

For the first perspective, Teece (1994) divided dynamic capabilities into three dimensions of integration, building, and reconfiguration of resources when proposing the concept of dynamic capabilities, and developed this view in 1997; Teece (2000) further emphasized the impact of external environmental changes on the core competence of enterprises, and incorporated the ability of perception and the ability to seize opportunities into the research on dynamic capabilities; as the influence of organizational cognition on performance gradually attracted attention of the management academic circle, Teece (2007) further took the impact of the senior leadership team and decision-makers on corporate strategy, and interpreted dynamic capabilities in a new way by disaggregating dynamic capabilities into the capacity (1) to sense and shape opportunities and threats, (2) to seize opportunities, and (3) to maintain competitiveness through enhancing, combining, protecting, and, when necessary, reconfiguring the business enterprise's intangible and tangible assets. Based on the theory of organizational duality, the organizational strategic behavior is divided into the ability to search and develop existing capabilities within the enterprise and the ability to across the enterprise boundary and create new capabilities.

2.4.2 Constituting dimensions of dynamic capabilities

Barreto (2010) developed the views of Teece et al. and divided dynamic capabilities into resource integration capability, reconfiguration capability, and opportunity and threat sensing capability. Wang (2007) summarize that dynamic capabilities should include three capabilities to respond to changing environments, namely, adaptability, innovation ability, and absorption ability. Adaptive capacity includes reconfiguration of structure, process, and culture; innovation ability enables enterprises to develop new products and open up new markets; absorption ability allows enterprises to select and digest new knowledge from the external environment.

For the second perspective, Eisenhardt and Martin (2000) put the focus of research on dynamic capabilities on the organizational behavior level of solving specific problems. Other scholars believe that dimensions of dynamic capabilities include R&D and marketing capability, market development capability, resource divestment capability, new technology

and new process development capability, alliance establishment capability and strategic decision-making capability. Oliver and Holzinger (2008) even considered political management ability as a dimension of dynamic capabilities.

In fact, dimensions of dynamic capabilities in the second perspective are excessively detailed. According to the definition of dynamic capabilities by Eisenhardt and Martin (2000), dynamic capabilities should be organizational processes initiated to address specific corporate competition issues, suggesting that any capability could be dynamic as the external environment changes. On the one hand, it leads to criticism of repetition for the same meaning. The concept of dynamic capabilities becomes too general and vague, losing the strategic significance. On the other hand, this understanding blurs the common characteristics of the dynamic capabilities of different enterprises, making dynamic capabilities a generalized corporate behavior and leading to a hidden conclusion: the competitive advantage of enterprises only comes from differentiation. Therefore, this study prefers the first perspective, which regards dynamic capabilities as the cognitive behavior and organizational process of the enterprise as a whole. Based on Teece (2007) and O'Reilly (2007), considering the whole process from facing the external environmental change to making corresponding responses, the dimensions of dynamic capabilities are divided into the ability to sense, the ability to judge and seize opportunities, and the ability to integrate or reconfigure resources.

2.4.3 Measurement of dynamic capabilities

Review of relevant literature shows that scholars have not yet reached a consensus on the dimensions of dynamic capabilities, and Chinese scholars have basically conducted more direct, concrete and clearer discussions on the basis of foreign research and the Chinese context. However, due to the different understanding of the definition of dynamic capabilities, there are no unified conclusions on the measurement of dynamic capabilities. As far as the measurement of dynamic capabilities is concerned, the existing measurement methods can be roughly divided into three types.

The first is to use the case study method, Kotha (2001) conducted research on Yahoo and excite and found that resilience is the major factor for an enterprise to win competitive advantage; Danneel (2002) carried out research on Corona and found that the dynamic capabilities of product innovation is the key to the competitiveness of an enterprise; Zhang and Jin (2011) studied the formation of dynamic capabilities from the perspective of innovation factors and innovation transfer. The second is to use questionnaire method. Verona

and Ravasi (2003) found that dynamic capabilities consist of knowledge creation and absorption capability, knowledge integration capability, and knowledge reconfiguration capability; Schilke (2014) conducted longitudinal research on 279 enterprises in the chemical, mechanical, and automotive manufacturing industry and found that the dynamic capabilities of enterprises consist of strategic alliance management capability and new product development capability; Makkonen (2014) conducted research on 452 companies in the Finnish shipping, media, and food processing industries and found that dynamic capabilities consist of regeneration and renewal capabilities; Dannels (2010) found that enterprise dynamic capabilities consist of two dimensions of the capability to identify and enter new markets, and the capability to identify and acquire new technologies. Other scholars have also used the questionnaire measurement method to study the concept and dimension of dynamic capabilities (Zhang, 2005; Wang, 2006; Jiang, 2006; Wang, 2007; Wang & Ahmed, 2007; Lin, 2008; Jiao, 2008; Li, 2009; Wang, 2010). The third is to use the simulation method. Zott (2003) found that the timing and cost for an enterprise to restructure resources and the choice of learning methods have a significant impact on corporate financial performance. Please refer to Table 2-4 for details.

The current measurement methods of dynamic capabilities in the field of strategic management are mainly case study method and questionnaire method (Bao, 2015). The case study method is a qualitative method that uses interviews and text records to analyze cases. Although it is beneficial for researchers to start from the concept and explore the characteristics, generation and development of dynamic capabilities, the case study is subjective and lacks universality. Questionnaire method is a quantitative analysis method. Large sample is used to infer the characteristics of the total population and the relationship between variables and to enhance the universality of research. Therefore, the questionnaire method has gradually become the most common measurement method in the current research on dynamic capabilities theory at home and abroad.

Table 2-4 Measurement methods of dynamic capabilities

Case Study Method	Questionnaire Method	Simulation Method
	Verona and Ravasi (2003)	
Kotha (2001), Danneel (2002), Zhang and Jin (2011)	Zhang (2005); Wang (2006); Jiang (2006); Wang (2007); Wang and Ahmed (2007); Lin (2008); Jiao (2008); Li (2009); Wang (2010); Makkonen (2014)	Zott (2003)

2.4.4 Other aspects

The following section analyzes the above representative views from the nature, specific role, relevant environment, generation and evolution mechanism, heterogeneity hypothesis, and categories of relevant results of dynamic capabilities.

(1) Nature

The the nature of dynamic capabilities is broadly divided into a capacity, process, and routine. After Teece et al. (1997) put forward their view, many scholars defined dynamic capabilities as a capacity (Winter, 2003; Zahra, Sapienza, & Davidsson, 2006; Teece, 2007). In the definition of Helfat (1997), the term “capacity” is used not only to indicate “the ability to complete a task in at least a minimally acceptable manner”, but also to illustrate its repeatability (to distinguish it from a one-time change). The dynamic capabilities described by Eisenhardt and Martin (2000) are specific and identifiable processes, and Zollo and Winter (2002) conceive dynamic capabilities as mastered and stable collective activity patterns which are similar to previous definition of routine: “regular and predictable behavior patterns”. In addition, Eisenhard and Martin (2000) argue that the nature of effective dynamic capabilities varies in accordance with market dynamics from relying on detailed and complex routine of existing knowledge to simple and empirical rules based on new knowledge of specific situations.

(2) Specific role

Recent studies tend to identify the nuclear role of dynamic capabilities as the change of the key factor within the firm, although the contents of the factors changed are different, such as resources and capabilities (Eisenhardt & Martin, 2000; Teece et al., 2007; Winter, 2003), operational routines (Zollo & Winter, 2002), and resources and routines (Zahra et al., 2006). Some scholars choose a two-level structure, namely “zero-order capability” and “high-order capability”. In this context, the “zero-order” capability is consistent with the “ordinary” capability, that is, the capability enabling a company to survive in the short term (Winter, 2003); or it is consistent with the “physical” capability, that is, the capability to solve problems (Zahra et al., 2006). In contrast, dynamic capabilities are the “high-order” capability to change ordinary capability (Winter, 2003) or physical capability. Similarly, Zollo and Winter (2002) put forward two types of routines: routines applied to business operations (operational routines) and routines devoted to change operational routines. Teece (2007) suggests that in addition to resource configuration capabilities, the other two types of

“capabilities” should be considered, that is, the capability to sense opportunities and threats and the capability to seize opportunities.

(3) Relevant environment

There are significant differences in the types of external environments related to dynamic capabilities. Researchers in this field can be divided into those who confirm that dynamic capabilities correspond to highly dynamic environment, those who accept that dynamic capabilities correspond to different levels of dynamic environments and those who neglect the specific environmental characteristics of dynamic capabilities. The inevitable connection between dynamic capabilities and a rapidly changing environment is rather evident in the views of Teece et al. (1997).

In contrast, Eisenhardt and Martin (2000) argue that dynamic capabilities are important not only in rapidly changing markets, but also in the markets underlying moderate dynamics. The market underlying moderate dynamics is a market in which changes occur frequently, but in a predictable, linear path. In addition, they predict that different dynamic capabilities depend on whether the enterprise is in a rapidly-changing environment or a moderately dynamic market. Zahra et al. (2006) argue that “an unstable and changing environment is not part of dynamic capabilities”, and Zollo and Winter (2002) also hold a similar view that dynamic capabilities also exist in a slowly-changing market environment. However, both Zahra et al. and Zollo and Winter acknowledge that dynamic capabilities are more valuable in a rapidly changing environment. Finally, the concepts of dynamic capabilities proposed by some other scholars fail to accurately indicate the correspondence with the external environmental conditions, and it is inherently assumed that the dynamic capabilities are not related to environmental conditions.

(4) Generation and development mechanism

There has been research on the mechanism of the generation and evolution of dynamic capabilities, and according to the perspective of evolutionary economics, the main emphasis is on learning mechanism. According to Eisenhardt and Martin (2000), variation and selection are two crucial factors in the evolution of dynamic capabilities. When other conditions are certain, variation is more important for the medium dynamic market, and selection is more relevant to rapidly-changing markets.

Zollo and Winter (2002) fully considers and affirms the key role of organizational learning mechanism in the generation and development of dynamic capabilities. They not only focus on the accumulation of semi-automated experiences, but also place more emphasis on certain more deliberate cognitive routines, such as knowledge clarity (brainstorming or

performance evaluation process) and knowledge coding (recording tool of implicit knowledge of existing specific routines). They argue that when the causal relationship between the action and performance of the task is highly uncertain, more deliberate learning mechanism often becomes more effective in developing dynamic capabilities. Zahra et al. (2006) added some other mechanisms of the generation and development of dynamic capabilities, namely trial and error, improvisation and imitation. They argue that learning from experience is more often adopted by mature enterprises and that trial and error and improvisation involve more about start-ups.

(5) Heterogeneity hypothesis

There are two different types of views as for the heterogeneity hypothesis of enterprise dynamic capabilities in the existing literature. Similar to Teece et al. (1997), most scholars, especially those who apply resource-based view in the dynamic capabilities framework, either explicitly or implicitly assume that dynamic capabilities have corporate heterogeneity in essence. They believe that the path dependence of the heterogeneity of corporate investment and operation plays an important role in the generation and development of dynamic capabilities. In contrast, Eisenhardt and Martin (2000) claim that dynamic capabilities show commonality among enterprises. They insist that there are multiple equally effective ways to perform corporate tasks and these methods can be developed into the dynamic capabilities of the enterprise. This view implies that there are multiple paths to acquire the same dynamic capabilities, which is inconsistent with the path dependence view. However, these scholars also point out that there are no identical dynamic capabilities between firms, because although some commonalities are manifested, they are still heterogeneous in detail.

(6) Relationship between corporate dynamic capabilities and performance

Many previous studies in the field have clearly assumed a direct relationship between dynamic capabilities and performance (Teece et al., 1997). These scholars have stated that the structure itself is to explain the success or failure of the enterprise, the competitive advantage and the generation of corporate wealth. Zollo and Winter (2002) also identified a direct link between dynamic capabilities and better performance and business survival. Teece (2007) reiterated that “the purpose of the dynamic capabilities framework is solely to explain the source of long-term competitive advantage at the enterprise level”, and “dynamic capabilities are the key to success or failure of the enterprise”. In contrast, other scholars propose that there is no way to identify an inevitable and direct link between dynamic capabilities and performance. Eisenhardt and Martin (2000) argue that “dynamic capabilities are necessary but not sufficient conditions for competitive advantage”. In their view, the long-term competitive

advantage does not depend on the dynamic capabilities themselves, but on the allocation of resources by dynamic capabilities and “the ability to apply dynamic capabilities in a timelier, agile, and accidental manner than competitors”. Similarly, Zott (2003) argues that dynamic capabilities do not directly lead to enterprise performance, but affect performance by modifying the enterprise resources or routine combination. In addition, Eisenhardt and Martin (2000) believe that enterprises with dynamic capabilities will surpass those who lack these capabilities. Zott (2003) believes that enterprises with the same dynamic capabilities may obtain different levels of performance due to their different resource combinations.

Zahra et al. (2006) argue that dynamic capabilities indirectly affect performance through the quality of the physical capabilities they change. They also point out that dynamic capabilities can sometimes undermine rather than improve the performance of the business by applying dynamic capabilities when they are not needed and by making false causal assumptions. Winter (2003) has suggested that because of other costs, it is not necessarily advantageous for enterprises when they choose to apply or develop dynamic capabilities. According to his point of view, dynamic capabilities sometimes not only occupy certain resources for a long time (as long as they are not applied, they will not generate profits), but also generate opportunity costs, that is, there are other alternative methods to solve the problem.

Unlike the above points of view, other researchers are skeptical about the direct link between dynamic capability performance and the inevitable results of dynamic capabilities. Eisenhardt and Martin (2000) argue that dynamic capability is a necessary but not sufficient condition for a company’s competitive advantage. The acquisition of long-term competitive advantage cannot rely solely on the dynamic capability itself but on the resource allocation created by dynamic capabilities and ability to put into practice the dynamic capabilities in an earlier, more astute, more unexpected way than the competitors. Similarly, Wheeler (2002) believes that dynamic capabilities can be imitated and can be developed through a variety of learning pathways, and have commonalities between different companies and even different industries. Therefore, dynamic capabilities are not the source of a company’s sustained competitive advantage. Winter (2003) mentioned that enterprises with a higher level of dynamic capabilities means that they will bear higher cost burdens, so it does not necessarily lead to the emergence of sustained competitive advantage; especially in the short run, the relationship between dynamic capabilities and corporate performance is obviously not straightforward. There may be many intermediate links involved in this relationship chain. Therefore, whether dynamic capabilities can bring sustained competitive advantage to

enterprises depends on the trade-off between investment costs and income. Zahra et al. (2006) also suggested that when a company's performance is not ideal, does it mean that it lacks dynamic capability, or when a company's performance is superior, does it mean that it has dynamic capabilities; they point out that the relationship between dynamic capabilities and performance is only indirect; dynamic capabilities work by changing the quality of actual capabilities. They also noted that dynamic capabilities can jeopardize rather than improve business performance if they are used when not needed or under false assumptions.

2.4.5 Application of the dynamic capabilities theory in the medical field

According to the research objective, relevant policies, journals and monographs are retrieved to obtain literature materials to get a comprehensive understanding of the application of dynamic capabilities in the medical field, thus providing a corresponding reference for the development of China's oral medical industry. The China National Knowledge Network (CNKI) and Wanfang Data are selected and 193 valid articles are retrieved with "dynamic capabilities" as the topic or keyword. As for foreign research, the web of science (WOS) core database and Google Scholar are selected and 646 valid articles are retrieved with the keyword of "dynamic capabilities". The literature retrieved was from 2008 to 2018, and there are 355 Chinese or foreign studies or reports closely related to the field of medical and health services. The literature is temporally distributed in Figure 2-3.

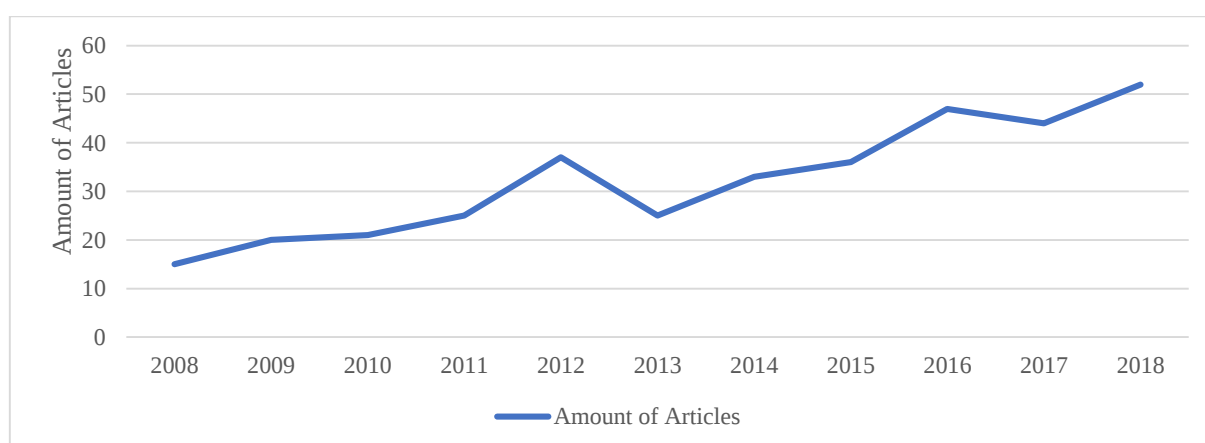


Figure 2-3 Temporal distribution of relevant literature on dynamic capabilities

Source: Based on the relevant literature

Dynamic capabilities theory is an emerging research direction in the field of strategic management, and relevant applied research in the medical field has increased since 2008. The related theories of dynamic capabilities are mostly empirical research. The main topics are:

First, how to use the dynamic capabilities theory to improve the ability of the learning organization of medical institutions, especially hospitals; second, how to cultivate and develop competitive advantage of hospitals, especially some specialties.

As for foreign studies, Kerr and Trantow (1969) defined medical capability from a target perspective and pointed out that medical service capability is the response to the health needs of the public. From the perspective of development potential, Fraser and Greenhalgh (2001) defined capability as the ability to adapt to changes, generate new knowledge, and continuously improve its performance to ensure that hospitals can keep up with the changing environment and provide needed health care services. Robinson (2002) believe that key factors affecting medical service capability building include service infrastructure development, human resource development, resource allocation, service network, and assessment of service capabilities. Epstein and Hundert (2002) define the professional competence of medical staff from the core and resource level of medical services as habitually and wisely using communication, knowledge, technical skills, clinical reasoning, emotions and values to serve individual and community interests. The above viewpoints fully reflect the idea of dynamic capabilities. At present, research on hospital in China mainly involves competitiveness, performance evaluation, medical quality, and cost-effectiveness, with little focus on the dynamic capabilities of hospitals.

As for research in China, Chen (2017) believes that research on dynamic capabilities of public hospitals can ensure that public hospitals respond to reform requirements and national needs in a timely manner during social transition, which has strong theoretical and practical significance. Through analysis of county-level medical institutions, Min (2017) believes that competitive advantage is a concrete manifestation of dynamic capabilities, and the main form of hospital medical service capacity is defined as the dynamic competitive advantage of medical services. The competitive advantage is decomposed into business capability advantage and resource capability utilization advantage, and he builds the medical service capability development model of county-level public general hospitals from the perspective of dynamic capabilities. With the analysis results of the economic data of 16 tertiary hospitals in Wuhan in the past three years, Fang (2015) used the dynamic capabilities theory to study the strategic path suitable for the long-term development of hospitals. Peng and Ji (2008) believe that with the deepening of the national medical insurance system and the reform of the medical and health care system, the Chinese medical industry must use dynamic capabilities to analyze and cultivate the hospital's sustained competitive advantage, so as to guide China's medical industry to seize the historical opportunity to achieve transformation and upgrading.

Zuo, Lian, Xu, Wang, Li, and Yang (2008) believe that it is necessary to adapt the hospital's core competitiveness to the needs of hospital development under the new medical model. Introduction of the concept, necessity and main contents of the core competitiveness dynamic management provides a theoretical basis to achieve dynamic management of core competitiveness.

Through construction of the industrial dynamic capabilities evaluation index for the pharmaceutical manufacturing industry based on technological learning in the central China and experimental research on the technological learning and industrial dynamic capabilities of pharmaceutical manufacturing industry in central China, Du (2010) found that the regional development of technological learning and industrial dynamic capabilities of the pharmaceutical manufacturing in central China is very uneven. It is necessary to strengthen inter-regional scientific and technological cooperation, increase manpower and capital investment in innovation, and establish a diversified and multi-level scientific and technological input system to lead the economic development of the central region. Qiao (2010) identified the important role of knowledge transfer in the development of dynamic capabilities of pharmaceutical companies and conducted research on the dynamic capabilities of pharmaceutical companies based on knowledge transfer, studying the nature and characteristics of knowledge transfer and enterprise dynamic capabilities in an in-depth manner. In addition, he constructed the analytical model of dynamic capabilities of medical and pharmaceutical enterprises, which provides a valuable reference model for the development of pharmaceutical enterprises. Fang (2016) pointed out the growth path of "Chinese Time-honored Brand" enterprises through the case analysis of Yunnan Baiyao, which is to focus on multi-channel financing such as Internet financing, improve cultural influence, and inherit and protect professional skills from the perspective of corporate resource-based view and to strengthen the management of equity checks and balances, adjust the rights of the board of directors and CEOs in a timely manner, and dynamically adjust the development direction from the perspective of dynamic capabilities theory. Jiang (2016) identified the inherent mechanism of technological innovation alliances affecting the technological innovation performance of enterprises and explained the mediating role of dynamic capabilities from the perspective of resource-based view, which has certain theoretical guiding significance to improvement of the efficiency of the technological innovation alliance of the pharmaceutical industry, the screening of alliance members, and the training and governance of alliance members.

2.5 Review of research on core competence of medical institutions

2.5.1 Research background of core competence of medical institutions

The process of China's health care reform (1978-2018) shows that as China's economic system changes from a planned economy to a market economy, the medical and health care services, which used to emphasize the public welfare nature, have gradually been market-oriented and medical institutions with different natures are encouraged to compete with each other. In recent years, the competition in the medical market is as fierce as the competition among enterprises. The law of survival of the fittest is also applicable in the medical market. In the context of the medical market, what is the way out for private medical institutions to seek survival and development? How can private medical institutions achieve advantages in enterprise management in the fierce medical market competition? Core competence is the source of competitive advantage for private medical institutions. The reason why private medical institutions can obtain sustainable competitive advantage is that the cultivation, improvement and application of core competence are fundamental. In the new medical reform, the basic medical and health system is considered as a public product that is offered to the general public, and all the people are supposed to have access to basic medical health service. The design of reform scheme, the establishment of health system, and the construction of service system should all follow the principle of public welfare. However, emphasizing the public welfare nature of medical and health services does not mean denial of the market-oriented mechanism in the operation and management of private medical institutions or denial of competition in the medical market. Adhering to the unity of fairness and efficiency and the combination of government dominance and market mechanism will become one of the important principles of medical reform in China (Gu, 2005; Gu, 2006; Wang, 2007; Xu & Xu, 2007). The foundation of sustainable development of private medical institutions is the same as that of enterprises, which is establishment of the core competence of private medical institutions, and achievement of the win-win situation among patients, medical institutions, the government, and stakeholders, rather than unilateral benefits of any one party. This is the foundation proposed by the author to establish core competence for private medical institutions (Hu, 2006; Sun, 2008).

In the context of China's implementation of the new medical reform, how to improve the internal management of private medical institutions, maximize the value of medical institutions, and maintain the competitive advantage of private medical institutions in the

market competition? How to reflect the public welfare nature of China's medical and health services so that private medical institutions can achieve good and rapid sustainable development is a question that every manager of private medical institutions must seriously take into consideration.

As is known to all, there is a market for medical and health care services, and where there is market, there will be competition. As far as the chain private medical institutions are concerned, although they have the same management system as the public medical institutions, there are huge differences in terms of operation, products, services, technologies, and management control. In the exploration of their survival and development strategies, some of these private medical institutions have succeeded as they explored strategies and measures suitable for their own development, achieved constant development and obtained remarkable performance, while some have failed or are in a state of decline with low operation efficiency, difficulty in survival, poor performance and some are on the verge of bankruptcy. Some medical institutions have made development in certain areas such as owning a great deal of high-tech sophisticated equipment, but the patients, sub-health population, healthy people with health needs and the general public are still not satisfied, which is quite different from what is expected. Some medical institutions even frequently encounter conflicts between doctors and patients and medical institutions and clients have serious conflicts of interests. The social image of medical institutions is continuously deteriorating. The public welfare nature of some non-profit medical institutions has significantly been weakened and they lack the motivation to undertake social responsibility.

Why does this situation occur, and how will it affect the future management of private medical institutions in China? When we focus on this seemingly ordinary but actually significant issue, it is found that staying at an advantageous situation is not necessarily the "magic weapon" for all medical institutions to win in the competition. In other words, the foundation for private medical institutions to achieve good and rapid sustainable development is the competitive strategic thinking of multi-party all-win. Through this strategic thinking, core competence is built in the internal management of medical institutions and the sustainable competitive advantage of medical institutions is maintained so that a win-win situation for society, medical institutions and service targets is achieved.

2.5.2 Competitive strategy thinking of multi-party all-win of private medical institutions

The strategy of three-party all-win for society, private medical institutions and service targets is a major issue that determines the sustainable development of private medical institutions in China. It is also a subject that has not yet been resolved and urgently needs to be studied. It involves research and exploration of the external management system, internal management system, service concept, social responsibility fulfillment and supervision of private medical institutions.

2.5.2.1 Changes in external management system and operational mechanism

At present, the management modes of medical institutions fall into two categories: one is direct government management, or the “unity of government regulation and management” mode, that is, the currently so-called public medical institutions; the other is the indirect government management of private medical institutions, or “government regulation and management separation” mode, and the majority of them are private medical institutions (Gao, 2003; Yang, 2010). The management styles of the two modes are very different in terms of leadership system, human resource management, and service scope decision-making. Historical and realistic data show that the “separation of government regulation from management” model is a general development trend. When the management of private medical institutions is handed over to private medical institutions or medical groups, they will be operated and managed according to the enterprise model, which can improve their operating efficiency and enable them to meet the needs of patients and the society. The current management mode of private medical institutions in China belongs to the “separation of government regulation from management” mode. In the new round of health system reform, the recognition of this mode by the society is increasingly high (Zhao, Liang & Li, 2004; Zhao, 2007). Although the institutional reform or ownership reform of medical institutions in China exert a significant impact on the survival and development of private medical institutions, it is not the decisive and unique factor. The current system faced by private medical institutions in China is the same, but their operational efficiency still has huge differences, suggesting that there are more important influencing factors.

2.5.2.2 Regulatory role of NGOs in medical services

The non-government organizations can represent the interests of different parties in the medical service system, express viewpoints and opinions of different groups, and voice different ideas, which will help strengthen regulation of the medical and health industry. For

instance, promotion and supervision of the information disclosure and transparency will help alleviate the contradiction between doctors and patients and achieve fairness and justice in resolving conflicts. Therefore, NGOs can play an important role in the effective communication between the government, private medical institutions and the general public, and they also play a regulatory role in balancing the interests of the three parties (Xie, 2005).

2.5.2.3 Customer-centered business philosophy

With the social advancement, economic development, and improvement of people's living standards and health awareness, the service targets of private medical institutions will inevitably expand from patients to target patients, sub-healthy people, and healthy people with health needs. Focusing on the service target is an important philosophy for the operation of private medical institutions in market economy. Patient-orientation is one of the important signs that private medical institutions adopt a people-oriented philosophy. As a special kind of organization, private medical institutions face the management of two categories of people, one is their own employees, and the other is the patients they serve. The reasons of patient-centered or client-centered philosophy are as follows. First, private medical institutions have complex work processes and heavy responsibilities, and they involve the safety of patients. Second, the services of private medical institutions are directly oriented to patients or clients. Third, the society often evaluates the quality of institutions from the experience of the patient or client in the service process provided by the private medical institution. Fourth, the survival of private medical institutions relies to a large extent on fee for service paid by patients, sub-healthy people, and healthy people with health needs. Fifth, the existence of the medical market and the limited nature of medical resources make the competition among medical institutions an inevitable trend. The market shares of service objects that can be charged for fees will inevitably become the focus of competition and attention. Therefore, the business philosophy of private medical institutions centering upon the service targets not only reflects the interests of patients but also the interests of private medical institutions and the interests of society.

2.5.2.4 Harmony of doctor-patient relationship

The doctor-patient relationship is a specific relationship generated during the medical treatment between the medical staff and patients, and is the key to medical interpersonal relationships. The famous medical historian Sigerist once said that "Every medical action always involves two categories of people, namely, doctors and patients, or in a broader sense,

medical community and society. Medical science is nothing more than a multi-faceted relationship between these two groups”. The advanced development of modern medical science has expanded the “medical staff” from a narrow sense of medical group to the whole private medical institution staff participating in medical activities. The “patients” have also expanded from simple medical treatment seekers to each social relationship related to them. In the traditional doctor-patient relationship, the doctors take the patients’ interests are their responsibility, the medical workers enjoy a relatively high social status because they relieve pain for the patients and save people’s lives, and the rescued patients also treat their doctors with a grateful attitude. In recent years, the relationship between doctors and patients has become increasingly tense, and the contradiction between them has intensified. The latest survey of doctor-patient relationship carried out by the Chinese Medical Doctor Association shows that many doctors believe that their legal rights cannot be protected. In recent years, there have been frequent incidents of medical disputes in private medical institutions. For instance, some patients have smashed private medical institutions and wounded doctors. Small medical disputes disrupt the order of medical work, and large medical disputes can influence the reputation of private medical institutions, and even lead to the closure of medical institutions. Research on consumer behavior shows that dissatisfied customers may not file complaints, but they will tell dissatisfaction to others, which will exert a huge negative impact on the image and performance of private medical institutions.

The disharmony between doctors and patients is a double-edged sword, which not only affects the performance of private medical institutions but also harms the interests of patients, as well as wastes limited medical resources. For example, when treating patients, doctors can choose new technologies, but because of fear of danger and doctor-patient disputes, doctors may eventually choose to give up. This kind of choice is not conducive to the development of new technologies or the treatment of patients. To give another example, in order to keep evidence to prevent onus proof conversion in future medical disputes, doctors may increase safety factor for the purpose of self-protection. They will select and implement medical decisions and actions that may lead to multiple consequences and this is also called “self-protective medical care”. Excessive medical examinations may be carried out during the course of diagnosis and treatment, resulting in a waste of limited medical resources. Exaggeration of medical risks and usage of sensitive and esoteric terminology may lead to unnecessary stress and injury to the patients and unnecessary and frequent signatures may lead to distrust of the patients to the doctors.

2.5.2.5 Social responsibility of private medical institutions

Private medical institutions are also social welfare public institutions for the country to implement certain welfare policies, and they are also economic entities with independent legal personality. The social responsibility of private medical institutions refers to their responsibility to their stakeholders while acquiring their own survival and development. Stakeholders of private medical institutions include the government, medical insurance institutions, clients of private medical institutions, sub-healthy people, healthy people with health needs, employees of private medical institutions, suppliers, community groups, and partners of private medical institutions and investors. The social responsibility of private medical institutions can be divided into economic, cultural, educational and environmental responsibilities. In terms of economic responsibility, private medical institutions must charge fees reasonably and accumulate funds by increasing service items and improving medical technology. In terms of environmental, cultural and educational responsibilities, private medical institutions must provide employees with an environment in line with human rights, educate employees to abide by professional ethics and social morality in behavior, and meet environmental protection requirements in production. Private medical institutions must fulfill their social responsibilities. First, they should get rid of the misunderstanding of traditional private medical institutions that social moral responsibility focuses only on the health of individual patients, and emphasizes the clinical diagnosis and treatment of patient diseases, while ignores the social prevention and social health services. The second is to surpass the “economic” temptation of the medical market. During the operation of private medical institutions, there are a large number of economic activities, and it is necessary to manage the economic activities of private medical institutions in accordance with economic laws. However, the public welfare nature of private medical institutions requires that the economic management of them cannot be based on the pursuit of the maximized economic interests, but should be based on the provision of low-cost and high-quality medical services. In their economic management, private medical institutions should not only protect their own interests to guarantee the virtuous cycle of operation, but also ensure that the interests of stakeholders are not damaged or are taken into account. In the economic management of private medical institutions, social benefits should come first to regulate their own business behaviors so as to display social responsibility while pursue economic benefits in the management measures of private medical institutions. Third, to practice medicine according to law and legal operation are the basic ethical requirements for the organization managers.

2.5.3 Establishment of core competence inside medical institutions-change of internal management system and strategies

External management system changes and reforms as well as social supervision are only external causes, while internal management of private medical institutions is the internal cause, and external causes take action only through internal causes. How to manage private medical institutions? What strategies and measures can be used to maximize the value of private medical institutions and to maintain competitive advantage of private medical institutions in the case of coexistence of various public, private, joint-stock, foreign-funded and joint-venture private medical institutions as well as insufficient government investment? How to maintain and ensure the interests of the service targets? How should private medical institutions fulfill their social responsibilities to reflect the public welfare nature of China's medical and health services, so that not only the service targets are satisfied but also private medical institutions can obtain sustainable development? The author argues that the reform of the internal management system and strategy of private medical institutions is a more important and urgent issue worthy of further study in the context of China's current medical and health system, medical environment and national economic development level. The construction of core competitiveness or core competence of private medical institutions may be the link to achieve a win-win situation among private medical institutions, service targets and the society (He, 2008).

The core competence of private medical institutions is a unique capability of private medical institutions formed by fusion of outstanding culture and medical practice and organic integration of a series of complementary technologies, knowledge and various resources inside and outside the private medical institutions to achieve sustainable competitive advantage in one or several domains within certain areas. Its constituent elements involve various subsystems (Chen & Zhang, 2007) such as technology, resources, knowledge, culture, and organizational management of private medical institutions. The core competence of private medical institutions affects the interests of private medical institutions, target patients, sub-healthy people, healthy people with health needs, and the society from multiple aspects. For example, by building core competency, private medical institutions have improved their soft environment, visibility, high-tech human resources team, medical equipment, infrastructure construction, and environment, thus attracting more service targets, expanding the market share, and significantly enhancing the social and economic benefits. In the building of core competence of private medical institutions, the interests of patients are

manifested at a higher level. The improvement of the medical technology level of private medical institutions has improved the cure rate or remission rate of diseases as well as the satisfaction of service targets and their health. This has manifested the social responsibility and social benefits of private medical institutions. The value of the society obtained through the services of medical institutions is reflected in the improvement of the health status of all citizens, the handling of public health emergencies, the fulfillment of government-designated medical and health treatment tasks, the medical assistance activities without economic benefits, and various health services, preventive health services, health education promotion knowledge, belief and action, and education and communication of health knowledge (Hu, 2006). The strategic thinking and strategy of realizing the win-win situation of private medical institutions, service targets and the society will also become an important basis for the author to build the core competence of private medical institutions.

2.5.4 Domestic research on core competence of medical institutions

After 1996, the theory of core competence was introduced from abroad to the domestic economic and management circles, and has been applied to the daily operations of domestic enterprises, strategic management and the sustainable development of enterprises. The core competence theory was applied in medical institutions after 2000. In 2000, Zhu (2000) of the Jilin Provincial Health Economics Association published *Cultivating Core Competence and Promoting the Development of Private Medical Institutions* in the Health Economics Research, and it is the first academic article on the core competence of medical institutions that can be retrieved. From the perspective of fierce competition in the medical market as well as the actual situation of the operation of medical institutions at that time, this article puts forward the idea of building the core competence of medical institutions, gives a preliminary explanation of the components of the core competence of medical institutions and proposes four approaches to cultivate the core competence of medical institutions. In 2003, Wang (2003) of the Second Military Medical University published an article entitled *What is the core competence of medical institutions* in the Hospital Administration Journal of Chinese People's Liberation Army, which gives a detailed theoretical discussion on the core competence of medical institutions.

2.5.4.1 Characteristics of core competence of medical institutions

The integrative nature of core competence of medical institutions refers to the organic integration of the core skills, technology, management capability, team and individual

capabilities of medical institutions. The isolated skills and technology cannot be a core competency; instead, they must be coordinated with other skills and abilities of medical institutions should show significant advantages over competitors in the process of providing services to clients. This advantage outcome can be evaluated through financial and non-financial indicators. The heterogeneity of the core competence of medical institutions means that the formation of the core competence of private medical institutions is related to the organizational structure, department scale, resource scale and combination, and personnel quality inside the private medical institutions. The core competences of medical institutions formed are also different, each has its own characteristics and shows significant differences. The inimitability of the core competence of medical institutions stems from their heterogeneity. It is the result of complex synergy effects between various factors inside and outside private medical institutions. It can be used for reference, but it cannot be copied without change. It is obtained through continuous learning, creation, exploration and construction. The value-added nature of the core competence of a medical institution means that a medical institution with core competence can contribute to the perceived utility of the service targets through a series of medical processes or links, and final products or services, create value for service targets as well as the medical institutions, and the value created is significantly better than the competitors.

Non-substitutability means that the core competence of medical institutions is the result of multiple internal factors and long-term construction. It plays a leading role in the sound and rapid development of medical institutions and the acquisition of competitive advantages. It is non-substitutable within a certain period of time or circle. The cycle or update speed of the service or technology of medical institutions, the substitutability of services, and the price elasticity of demand for services directly affect the substitutability of their core competence. The constant innovation and development of core competence of medical institutions is manifested in the faster upgrading speed of service or technology in medical institutions, lower market replacement rate and the price elasticity of demand for service items, and stronger non-substitutability of the core competence of medical institutions. The dynamic nature of the core competence of medical institutions refers to the volatility of core competence caused by changes in the external environment of the medical institutions, which is manifested in the periodicity of technology, service items and service quality of medical institutions. The periodicity is reflected in the following five stages: uncompetitive stage, primary core competence stage, mature core competence stage, core competence weakening stage and core competence re-birth stage. The core competence of medical institutions must

be continuously innovated, developed and nurtured in order to get a rebirth. Otherwise, as the time goes by and the strengthening of competitiveness of competitors, the original leading edge will be lost. The indicators of medical institutions at different stages of core competence development are different. The development stage of core competence can be identified through the analysis of financial and non-financial indicators at different stages.

The continuity of the core competence of medical institutions means that the competitive advantage obtained is long-term rather than short-term. When short-term business objectives conflict with long-term goals of cultivating the core competence of medical institutions, the objectives of the long-term core competence of medical institutions must be considered. Analysis and evaluation of continuity should comprehensively consider the impact of the recent indicators of medical institutions on the future strategic goals or long-term benefits and sustainable competitive advantages. It does not mean that a medical institution with core competence is superior to its competitors in all aspects. The core competence of a medical institution may exist in some processes and links in which the medical institution provides services to its clients. For example, when offering service to patients, if the medical institution has an advantage in winning market share, it can be regarded to have core competence. Even if a medical institution is not superior to its competitors in many links, but the integrated efficiency of all the business processes can be superior to its competitors, and it also indicates that the medical institutions have special advantages in management. Medical institutions should focus on the development of strong and potential disciplines and distinctive technologies in accordance with the needs of the market or service targets and on the basis of their own technical characteristics, development level, development potential and other resources, and create their strong discipline and characteristic technology.

2.5.4.2 Influencing factors of core competence of private medical institutions

The influencing factors of the core competence of private medical institutions include their constituent elements and are the basis for constructing the evaluation indicators of the core competence of private medical institutions. Based on literature review and the author's understanding, the influencing factors generally include the following aspects.

(1) Learning ability (knowledge)

Knowledge is a person's understanding of the nature, social phenomena and laws, including the accumulation and induction of experience, the processing or understanding of information, learning or science. The OECD divides knowledge into four categories of know-what, know-why, know-how, and know-who. The first two categories belong to the

knowledge of facts and laws and are explicit knowledge, while the latter two categories belong to skills and application and are tacit knowledge. Tacit knowledge is difficult to be transferred as it is learned through practical activities such as studying and training. When knowledge is systematically learned and applied, it can be transformed into the learning ability of private medical institutions so as to form the basic components of core competence. Learning ability can continuously input new knowledge for the cultivation of core competence in private medical institutions, and become the basis for new core competence. Learning ability is a deeper thing behind the formation of knowledge, and it is the source of new core competence for private medical institutions.

(2) Resources

Resources refer to an objective existence of a certain amount of accumulation in nature and human society that can be used to create material wealth and spiritual wealth, including natural resources such as land, minerals, forests, oceans, petroleum resources, and social resources such as human labor, technology, economics, social relations, and information resources. The resources involved in the formation of core competence of private medical institutions include both natural resources and social resources, such as material resources needed by production, service and R&D as well as human resources, brand, reputation, customers, suppliers, and marketing network. Evaluation resources should not only assess the stock resources in the balance sheet, but also evaluate the input process to obtain resources such as the cost invested in maintaining the leading position in products, services and technology, the training costs to improve the quality of employees, and the relevant compensation system and incentive mechanism to mobilize employee enthusiasm.

(3) Culture of private medical institutions

The culture of private medical institutions is the sum of the values, basic beliefs and behavioral norms that are unique to private medical institutions in the long-term development and are shared by the majority of staff. It can also be expressed as a general term for group consciousness such as values, codes of conduct, team awareness, ways of thinking, work style, psychological expectations and group belongings accepted by all members of private medical institutions. The culture of private medical institutions has many characteristics such as consciousness, systematicness, cohesion, orientation, plasticity and chronicity. The culture of private medical institutions usually consists of four levels, namely, the material level, the behavioral level, the institutional level and the spiritual level.

The material culture of private medical institutions is a superficial organizational culture characterized by material forms, which is the condition for the formation of the cultural,

spiritual and institutional levels of private medical institutions. The development of service items private medical institutions, the quality of services, the credibility of services, and the service environment, living environment, cultural facilities and other material phenomena reflect the material and cultural level of the private medical institutions. The behavioral culture of private medical institutions is the activity culture of private medical institution employees in medical practice, medical service, learning and entertainment, including the cultural phenomena arising from business activities, public relations activities, interpersonal activities, and recreational activities of private medical institutions. The behavioral culture of private medical institutions is a dynamic embodiment of their management style, spiritual outlook and interpersonal relationship, and is also a reflection of the spirit and core values of the private medical institutions. Institutional culture is the intermediate level of the culture of private medical institutions, and it integrates the material culture and spiritual culture of private medical institutions into an integral whole. It mainly refers to the part that has a normative and restrictive influence on the behavior of private medical institutions and employees, and is the sum of various rules and regulations, ethics and employee codes of conduct. It embodies the requirements of the material and spiritual levels of organizational culture for members and organizational behavior. The institutional level stipulates the code of conduct that employees of private medical institutions should abide by in their joint medical service activities, including the leadership system, organizational structure and organizational management system. Spiritual culture is the mental set and value orientation of the employees formed by private medical institutions in the long-term practice. It is the sum of the moral values of private medical institutions, and is the basic beliefs, value standards, professional ethics and spiritual outlook shared by the leaders and employees of the private medical institutions and it reflects the common pursuit and common understanding of all employees. The spiritual culture of private medical institutions is the core of their values. It is the crystallization of the fine traditions of private medical institutions, the spiritual pillar that sustains their survival and development, and the core and soul of the culture of private medical institutions. Spiritual culture influences the positioning and value orientation of the core competence of private medical institutions, while institutional culture and behavioral culture are the guarantees for the realization of spiritual culture, and also the guarantee for the continuity of the core competence.

(4) Management ability

From the perspective of economics, ability refers to the acting force of an individual or organization to turn one resource into another resource or social wealth, such as turning

petroleum into gasoline. The formation of core competence requires the integration of various skills, technologies, knowledge and resources. The resource integration is a process of action of management ability. The essence of integration is to enhance the coordination between the various factors of core competence through intervention of management, and to obtain the multiplication and amplification of the functions of each factor. Therefore, the evaluation of management ability should fully reflect the coordination of the various factors of core competence of private medical institutions and their output results at different stages.

Competitiveness is the combination of ability and resources, and the two are interdependent and can transform into each other (Qiang,2006). Without the ability of people, resources are difficult to play the role; without necessary resources, people's ability cannot be put into full play neither. The key factors determining the competitiveness of private medical institutions are excellent talents and human resources. Human resources are the symbiosis of resources and ability. On the one hand, as the operators of labor force, technicians and employees have the nature of resources. On the other hand, they are the basic carriers of the operational ability, because the knowledge and skills of the operators, technicians and employees are the main contents of the ability of the private medical institutions. The mutual transformation of resources and ability is manifested in the fact that human capital investment at the expense of resources can improve people's ability, and people's ability can also be transformed into resources through training. Resources can directly replace human ability in some aspects, such as using machines instead of human resources to do repeated and simple manual labor, using computers instead of human brains for program analysis and calculations. Ability can also directly form, develop, and amplify resources. For example, a person's innovative ability and invented patents directly constitute an important resource for an organization or a private medical institution. The competitiveness of private medical institutions is determined by both ability and resources, but it is not resources but ability that determine the organization's sustainable development. With the same resources consumed, if the abilities are different, the wealth created will be greatly different. Therefore, human ability is the most valuable asset to an organization. Resources that are constantly transformed into ability constitute the core resources of private medical institutions. Therefore, the utilization of existing resources of private medical institutions should be centered around the ability to form core competence of private medical institutions.

2.5.4.3 Dialectical relationship between core competence and comprehensive competitiveness

The competitiveness of private medical institutions refers to their ability to compete with other private medical institutions for their own interests. A private medical institution with various capabilities is not necessarily competitive, and it is competitive only if it can compete with other private medical institutions or win in competition with other private medical institutions. Competitiveness is the performance of the overall strength of a private medical institution, and it is a comprehensive ability, and the competitiveness with certain characteristics is the core competence (Qiang, 2006). The comprehensive competitiveness of private medical institutions refers to their long-term competitiveness in a certain region, including the potential for long-term development of private medical institutions, the ability to meet the needs of medical services to the greatest extent, the image of private medical institutions and the possession ability (Gao, Wang, Zhang, Xu & Bai, 2000) of the medical market. The core competence is different from comprehensive competitiveness. The core competence is the competitiveness of private medical institutions in a certain field or core link, and does not represent the entire private medical institution. The core competence of private medical institutions and their comprehensive strength are in a dialectical relationship. The former needs the support of the latter, and the latter needs the traction of the former. The two restrict each other and both of them promote the core competence of private medical institutions, and are the key and core for private medical institutions to survive in the fierce medical market competition (Liu, 2004).

The comprehensive competitiveness of private medical institutions includes not only the hard power composed of production factors such as capital, technology, equipment and land, but also the soft power embodied in the culture, management model and values of private medical institutions. Hard power is an indispensable material basis for the development of private medical institutions and it can be owned as long as institutions invest funds. However, it is extremely difficult to copy the culture, management model, management methods and values of a private medical institution. Soft power cannot be bought by money. Soft power is an ultimate competitive force and is at the core part of competitiveness. Therefore, evaluation of the performance of a private medical institution should focus not only on its hard power, but also the soft power and the resulting cohesiveness. It plays a significant role in the long-term operating performance of private medical institutions and is a key factor in maintaining long-term advantages.

2.5.5 Review of literature on core competence of medical institutions

2.5.5.1 Progress and evaluation of research on medical institution core competence in foreign countries

The management of medical institutions in foreign countries has been drawing on the theory and practice of enterprise management, which is consistent with the medical institution management mechanism of separating government regulation from management. In order to gain a competitive advantage, medical institutions, both for-profit and not-for-profit ones, must also build their own core competence. There are many studies and reports on the concept of core competence of medical institutions, the approaches to construct core competence, and the impact on the performance of medical institutions. Compared with the purely theoretical discussion in China, foreign research tends to prefer empirical research methods, and the research is more detailed, extensive and profound. For example, there is research on how the heterogeneity (Steward, Musa, Willis and Ali, 2008) of the management team of medical institutions support or hinder the organization and how the clear, strong and harmonious relationship between the environment, organizational culture and management strategy affect the sustainable development of medical institutions and obtaining of competitive advantage. Through an investigation of a not-for-profit medical institution, the author explores how the culture of medical institutions affects their performance (Michael and Fratantuono, 2008). There are also studies adopting the evidence-based strategic management method. For instance, the Medical Center Hospital in Texas positioned itself as the third largest referral center in the state through re-assessment of its strategy plan and market, re-introduction of talents, and adjustment of service lines and service products. After the implementation of evidence-based strategic management, the medical institution has undergone significant changes. From 2006 to 2008, the service volume had increased by 19% annually, and after adjustment, its discipline has become a regional leader. The application and innovation of information technology has become an important strategy for medical institutions to gain competitive advantage and has also become an important part of competitiveness (Sung, 2008; Chow, 2008). There is also research adopting the empirical analysis method to study the efficiency and quality of medical institutions, and to examine the value orientation of medical institutions (Huerta, Ford, Peterson and Brigham, 2008). In addition, quantitative neural network analysis method is also used to study the behavioral pattern of consumers in selecting medical institutions to explore the core competence of medical institutions and how they gain

competitive advantage (Lee, Shih, & Chung, 2008). A better medical experience is an important criterion for the patients to choose medical institutions in addition to the reputation, geographical location, and doctor's recommendation. Brand value of medical institutions is created through customer relationship management, such as integrity or mutual trust, customer satisfaction, relationship commitment, brand loyalty, and brand awareness (Kim and Kang, 2008). The clinical treatment centers affiliated to American universities have significantly increased the number of patient visits, increased the market share of medical services, and increased the profitability of medical institutions through the development of key industrial chains or superior disciplines in cardiac and vascular surgery, clinical oncology, and pediatrics. It has also significantly improved patient satisfaction, and clinical teaching and clinical research have also been developed simultaneously. The key to the successful implementation of this strategy is the close cooperation between clinical administration and clinical experts in the service chain. There is also research on how, in the fierce medical market competition, experts from large medical institutions develop the relationship with family doctors, specialists and general practitioners to obtain the patients contacted by these doctors, and ensure that the medical institutions have sufficient patient sources through, for example, offering of telephone number, fax, web page, timely referral to the patient, timely communication with the original doctor, timely transfer of the patient back, and consideration of doctors at different levels as partners (Ramirez, 2008). According to a study conducted in Thailand, the most important factor affecting the competitive advantage in the service industry is the quality of service, followed by the services provided and the customer-centered philosophy (Phusavat & Kanchana, 2008). Effective management of organizational knowledge and improvement of organizational learning capabilities by means of information technology can significantly reduce organizational operating costs and improve organizational performance (Sun & Chen, 2008). Some scholars have studied how medical institutions compete and construct an Internet-based decision-making model for medical institutions under different compensation mechanisms. In this decision-making model, the final winner of all participating medical institutions will be the one with the best performance, including achieving the goals of the medical institutions themselves and the goals of regional health policy (Rauner, Kraus, & Schwarz, 2008). There is also research on how to manage the non-clinical facilities and logistics services of medical institutions to increase the output of the health care service industry (Heng, McGeorge, & Loosemore, 2005). There is also research that discuss the relationship between strategic management and the core competence of medical institutions from a strategic level, such as establishing the unique vision, formulating

specific, clear development strategies, building effective participants, and implementing strategic management (Alexander, 2006). It is also argued that talents are an important component of the competitive advantage of medical institutions (Dubinsky, Greengarten, Grossman, Hundert, & Whittaker, 2008). In terms of the management of medical institutions, medical institutions in the United States are also undergoing various changes, such as organizing service chains, providing personalized services, cooperating with banks to issue credit cards to pay medical expenses like enterprises. Strategically speaking, we should understand that to compete with competitors in a certain area to become the leader, what strategies and measures should be adopted to ensure patients' medical safety and access to quality medical services. The specific conditions of each medical institution are different, and the competition strategies adopted are also different, so they cannot be copied blindly. Otherwise it will lead to costly mistakes (Kaissi & Begun, 2008).

The constituent elements of medical institution core competence in foreign countries also cover strategic management, organizational culture, technological innovation, organizational learning ability, human resource structure, brand, and information technology application, as well as the social responsibility of medical institutions. Most of the studies adopt empirical method and statistical analysis methods include neural network analysis, data envelopment analysis, structural equation modeling, and conventional analysis of variance and factor analysis.

2.5.5.2 Progress and evaluation of research on medical institution core competence in China

At present, the consensus on the medical institution core competence theory is that the components of the core competence of medical institutions mainly include the quality and ability of human resources, technological innovation ability, strategic management and operational management ability, cohesiveness of medical institution culture, learning ability of medical institutions and the attraction or appeal of brands. In the construction of core competence, we must grasp the five key points. The first is speed. The competition between medical institutions is to a certain extent the competition for decision-making speed, implementation speed and degree of convenience. The second is persistence. It is necessary to do everything in management and service to the greatest length. The third is acuteness. Once the market changes, it is necessary to quickly recognize them and take action. The fourth is flexibility. It is necessary to have a flexible internal operation mechanism to constantly adjust the corresponding management system and operation plan to adapt to changes in the

environment and the market. The fifth is innovation. It is necessary to continuously innovate, develop and nurture core competencies so as to maintain and expand the leading edge over competitors.

From 2000 to 2018, there are 1,025 academic articles retrieved from published academic journals with medical institution core competence and medical institution core capability as the key words. It is obvious that the research is very active. However, most of the research focuses on theoretical discussion of its importance and role at the level of single factor (Zhang & Zhu, 2005; Gao, 2008) such as technological innovation, human resources, medical institution culture, management innovation, brand, learning ability, conflict handling ability, creation of superior disciplines, execution power, doctor-patient relationship, and strategic alliance.

2.6 Chapter summary

First of all, the thesis systematically reviews relevant research on resource-based view, with a focus on the contents and context of the existing research, and, on this basis, explores the application of resource-based view theory in the medical field. The resource-based view points out that resources are the source of competitive advantage, but not all resources can form a competitive advantage. An enterprise's resources must be valuable, rare and imperfectly imitable before they can be the source of competitive advantage (Barney, 1991). However, research shows that possessing these resources does not bring long-term competitive advantage to the enterprise, because the advantages of these resource characteristics to competitors will disappear as the environment changes. It is especially so when the enterprise is in a dynamic environment, for instance, when the market demand uncertainty is high, and when the industry environment changes rapidly. Therefore, the enterprise needs to continuously update and accumulate resources to improve the heterogeneity of resources. These heterogeneous resources cannot be directly translated into corporate value to increase development opportunities (Barney & Arikan, 2001), and they need to be effectively managed (Sirmon et al., 2007). Subsequently, this study reviews relevant research on resource management. In addition, the relevant research on the impact of resource-based view on the growth of medical enterprises is reviewed, which provides a basis for the construction of theoretical framework.

Second, any organization must exist in a certain environment. How to use the resources and capabilities to create and maintain the competitive advantage is the research focus of

strategic management theory. Through review and analysis of relevant theories, this chapter analyzes the components of organizational dynamic capabilities based on the full understanding of the relationship between organizational capabilities and competitive advantages. In the era of knowledge economy, the emergence of rapidly updating science and technology, frequent product upgrading, diversified customer demand and other market economy characteristics means the arrival of the “mega competition era”. In the “mega competition era”, the speed at which organizations create and destroy their competitive advantage is gradually accelerating. Undoubtedly, these rapidly changing environmental factors have made strategic managers pay increasing attention to the dynamic capabilities of organizations rather than focus only on relatively static resources and core competence. In the face of the accelerating economic globalization, the dynamic changes of the environment require that the organization must fully reconstruct the capabilities in its operations. Based on the previous studies, this study analyzes and defines the connotation of dynamic capabilities and believes that competitive advantage is the concrete manifestation of organizational dynamic capabilities. However, the theory of enterprise dynamic capabilities needs to be further explored, because the current research on enterprise dynamic capabilities is always in the stage of theoretical research, which seriously affects the practicality and applicability. There has been no research on the application of dynamic capabilities theory and methodology to the medical industry in China. As a result, in the following chapters, this thesis will conduct in-depth research on the cultivation of competitive advantage of the service of China’s oral medical industry in the dynamic environment based on the dynamic capabilities theory.

Finally, through review of research on core competence of medical institutions in China, a relatively unanimous view on the core competence of private medical institutions is that the constituent elements of the core competence of private medical institutions mainly include the quality and ability of human resources, technological innovation capabilities, strategic management and operational management capabilities, the cohesiveness of private medical institution culture, the learning ability of private medical institutions and the attraction or appeal of brands. In the practical construction, the five key points of the core competence of private medical institutions must be grasped. The first is speed. The competition between private medical institutions is, to a certain extent, the competition of decision-making speed, implementation speed and convenience. The second is persistence. It is necessary to do everything in management and service to the greatest length in a perfect manner. The third is acuity. Once the market changes, it is necessary to quickly recognize and take action. The

fourth is flexibility. It is necessary to have a flexible internal operation mechanism, constantly adjust the corresponding management system and operational plan to adapt to changes in the environment and the market. The fifth is innovation. To continuously innovate, develop and nurture core competency is the only way to maintain the competitive advantage and expand the competitive edge over competitors. The management of private medical institutions in foreign countries has been drawing on the theory and practice of enterprise management, which is consistent with the management mechanism of private medical institutions that separate government regulation from management. In order to gain a competitive advantage, both for-profit and not-for-profit private medical institutions must also build their own core competence. Most of the research on this respect in China is purely theoretical. In contrast, most foreign researchers adopt empirical research methods. For example, how does the heterogeneity of the members of the medical institution management team (Jocelyn, Steward, Philip, Geoff, & Shahid, 2008) support or hinder the organization? How does the clear, strong and harmonious relationship between the environment, organizational culture and management strategy affect the sustainable development and medical institutions and their obtaining of competitive advantages? For example, some foreign researchers adopt quantitative neural network analysis to study the behavioral pattern of consumers in choice of medical institutions to explore the core competence of medical institutions. Some scholars resort to customer relationship management to create the brand value of medical institutions, to be specific, to create brand value through the integrity or mutual trust, customer satisfaction, relationship commitment, brand loyalty and brand awareness (Kyung, Kang, Dong, Jong, & Suk, 2008). There is also research on how, in the fierce medical market competition, can experts from large medical institutions develop relationships with family doctors, specialists, and general practitioners to obtain patients contacted by these doctors, and ensure that medical institutions have sufficient patient sources, such as providing information, telephone number, and fax for contact, treating referred patients in a timely manner, communicating with the original doctor for previous treatment, referral of patients back after their conditions are stable and treating doctors of different levels as partners (Ramirez, 2008). According to a study in Thailand, the most important factor affecting the competitive advantage in the service industry is the quality of service, followed by the philosophy of customer-centered service (Phusavat, 2008). Effective management of organizational knowledge and improvement of organizational learning capabilities by means of information technology can significantly reduce operating costs of organizations, thereby improving organizational performance (Sun & Chen, 2008).

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Chapter 3: Research Method

The selection of research methods should follow the principle of “problem-oriented” so as to choose the method that is most suitable for the research topic (Li, 2012). According to the specific theme and research needs, this thesis mainly adopts the case study method, because the case study method is a very important social science research method. In the case of limited data and samples, case study can be used to identify and analyze problems (Yin, 2009).

3.1 Research method

This thesis adopts an exploratory longitudinal case study method to explore the internal mechanism of the sustained growth of Chinese dental clinics with a focus on Deron Dental Clinic, which is a single case study. In addition, case study is of great significance in discovering new theories and enriching existing theories (Luo, 2017). There are also other reasons for adopting the case study method.

First, the growth of a dental clinic is a complicate process composed of many components and influencing factors, which requires an in-depth exploratory analysis. The case study method can form a comprehensive understanding of the research objects and the situation they are in, describe and explain the phenomenon and trend of an activity, and answer the questions of “why” and “how” (Yin, 2009).

Second, the longitudinal study is an exploratory analysis of the same object at two or more different time points to ensure that the research contents are more in-depth and thorough so as to improve the reliability and validity of the research conclusion.

Third, although there has been substantial research on the growth of medical institutions and a mature medical institution growth process model has been formulated, there are few studies on the growth process of the oral medical industry. Existing research shows that there are huge differences in the growth of enterprises in different contexts and industries (Dong, 2012).

Therefore, research on the growth process of the oral medical industry still belongs to exploratory research and should follow the exploratory research paradigm.

3.2 Selection of case enterprise and overview

Deron Dental in Tianhe District of Guangzhou is selected as the research object, and exploratory analysis is carried out on the four development stages of Deron Dental (start-up stage, growth stage, high-speed development stage and internationalization stage). According to the customary practice of case studies, case selection cannot be randomized, and proper cases should be typical, representative and even extreme. The reasons why the growth process of Deron Dental is selected as the research object are as follows. First, Deron Dental was founded in 1996, when China was in an important period of economic transformation. As a private dental clinic, Deron faced more obstacles in its entrepreneurial process than public hospitals. However, by taking a different approach, Deron integrated and managed its medical resources and constantly overcame the obstacles encountered in the process of enterprise growth to achieve leap-forward development, and eventually became a typical representative clinic of the dental medical industry in Guangzhou. Its founder used to serve as a member of the Chinese Stomatological Association and was invited to participate in the standard setting of the medical oral industry. In addition, Deron Dental itself is the designated dental clinic of many foreign institutions in Guangzhou. Therefore, its development process fully reflects the characteristics of how Chinese private dental medical institutions overcome the obstacles in the growth process and achieve development at different stages of growth. It is an ideal research sample, which meets the requirement of typicality and representativeness. Second, with a history of 22 years, the growth of Deron witnesses the whole process of the medical reform and growth in China, and Deron has achieved sustained growth at different stages of growth. Therefore, its growth activities at different stages are typical and representative with high value for research. Third, ever since the establishment, the leadership of Deron has been stable during the development of more than 20 years. In addition, a member of the research team is one of the Deron's senior management with more than ten years of work experience in Deron, so he is familiar with its development process, which guarantees the availability of the data. Fourth, Deron Dental and the research team are in the same geographical area, which makes it convenient for research and investigation (Aldrich & Fiol, 1994).

Founded in 1996, Deron Dental is a medical clinic in Guangzhou. In the past over 20 years since its establishment, it has been recognized in the industry for its corporate culture, values and reputation. In 2010, Deron Dental was invited by the Clinical and in Vitro Diagnostic System Standardization Committee of the Chinese Stomatological Association as a drafting member to participate in the formulation of industry standards. Its founder is a

member of the International Congress of Oral Implantologist (ICOI), a member of the Chinese Stomatological Association, a member of the Guangdong Provincial Stomatological Association, and the top ten outstanding alumni of Guanghua School of Stomatology of Sun Yat-Sen University. According to the key events in the development process of the enterprise (Figure 3-1), the growth of Deron Dental is finally divided into the start-up stage (1996-2000), the growth stage (2000-2005), and the high-speed development stage (2006-2010) and internationalization stage (2011-now) for case analysis. The reasons for selecting the four stages as the detailed analytical units are as follows. First, these four different stages are representative as operators of Deron Dental identify the core elements of growth and seize the opportunity to complete tasks in all the four stages. Second, these four stages different growth backgrounds, so the characteristics of the corporate growth process at each stage can be compared or verified. Third, Deron Dental has achieved remarkable results in these four stages, and its experience is worth learning. Fourth, all these four different stages of growth have abundant data, which can guarantee the credibility of the research results. Please refer to Figure 3-1 for details.

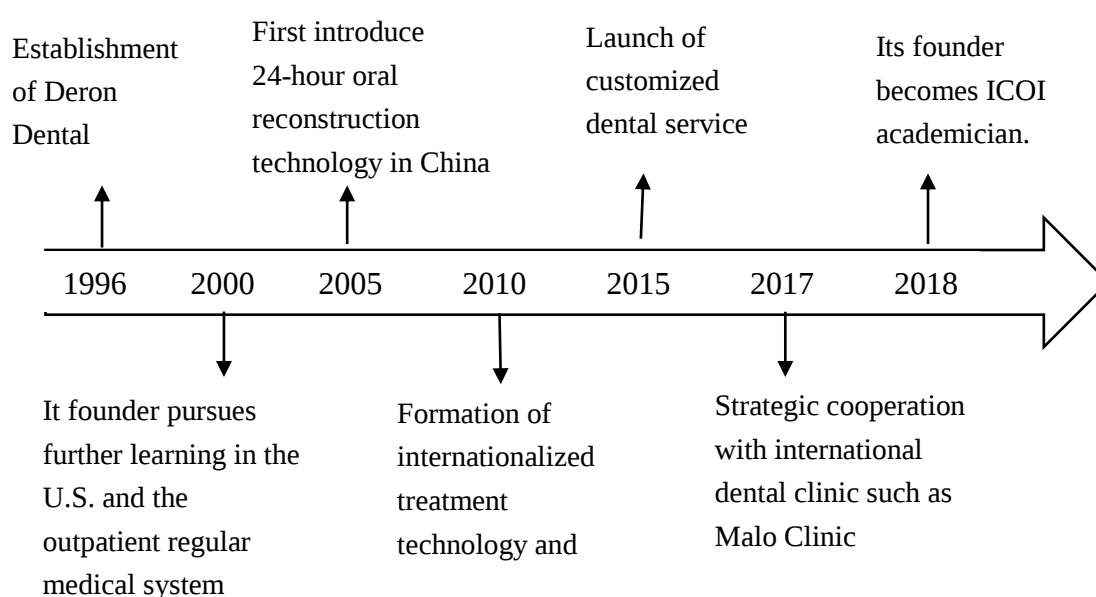


Figure 3-1 Key events in the development of Deron Dental

3.3 Research strategy

This study strictly follows the case study paradigm of “identifying research issue→designing case study draft→collecting data→analyzing data”. In the pre-research

stage, the case study team has long been concerned about and tracking the growth of various dental clinics such as Deron, Delong, Yanke, Taoyuan, and Yuemei, and it is found that the growth process of Deron Dental is more typical and representative. As a result, the research issue is identified as exploration of the sustained growth process model of dental clinics with Deron Dental as an example. After the research issue is identified, the research team evaluates various situations that may occur in the subsequent study and formulates the case study draft on the basis of research and evaluation. In the data collection stage, the research team strictly follows the basic principles of data collection in case study, using a variety of evidence sources to form data triangulation. When selecting publications, the team pays special attention to identify whether the publication is thought-provoking. Yin (2014) believes that as long as a publication is thought-provoking, it can be used as the basic material for academic research. Therefore, this thesis selects various forms of secondary materials published in authoritative academic journals as well as some of the speeches and interviews of the founder of Deron Dental. After the data are collected, the research team identifies the coding strategy and carries out data analysis. The case data analysis process is divided into two phases. The first phase is to determine the typical case analysis units and perform case data coding. The coding technique proposed by Corbin and Strauss is used for open coding of the case data and refinement of concepts and categories. Then, the relationship between the categories is determined by axial coding to form a chain of evidence. Through selective coding, the core category in the evidence chain is selected and is systematically linked with other categories to verify their relationship, complement and improve the category, and form a preliminary model. The research team consists of four members and all of them received relevant theoretical and corporate background training before coding. The same case was first coded by the four members back-to-back, and then they discussed the coding results together, focusing on the concept and scope that are not agreed unanimously. The data would not be recorded in the database until a consensus was reached. The second phase is to carry out theoretical saturation test and construct the model. The second and third analysis units are compared with the previous analysis results to confirm and correct the preliminary model so as to finally obtain a perfect model.

3.4 Data collection

This thesis collects data from multiple sources of information, aiming to form data triangulation to improve the research reliability and validity (Eisenhardt, 1989; Pettigrew &

Andrew, 1990). The data collection methods include semi-structured interview, field observation and secondary data.

3.4.1 Semi-structured interview and field observation

The research team conducted in-depth interview with three middle-level and high-level managers and eight grassroots employees through semi-structured interviews, including the firm's chairman, chief financial officer, marketing director, administrative staff and medical nurses. The average time for each interview was 1-1.5 hours, and the whole interviews were recorded. The details that could not be recorded on site would be complemented according to the recordings, and all the data were organized within 24 hours after each interview. The information of interviewees is as per Table 3-1. In addition, the research team also visited Deron Dental's reception room, clinic, exhibition room, and science popularization center and talked briefly with the staff to collect as much information about Deron as possible.

Table 3-1 Information of interviewees

Data Collection Method	Interviewee	Amount of Person	Interview Duration
Semi-structured Interview	High-level manager	1	60-90 minutes
	Middle-level manager	2	60-90 minutes
	Primary-level manager	4	60-90 minutes
	Employee	4	60-90 minutes

3.4.2 Secondary data collection

Table 3-2 Secondary data collection

Source	Secondary Data	Data Form
Official Website	Corporate information, background and news	Written form
HR Department	Employee work summaries	Written form
Finance Department	Corporate financial statement	Numbers
Social Network Site/Platform	Internet posts and reviews	Written form
Previous Cooperation Programs	Interview summary, meeting minutes, observation record	Written form and recording

The research team collected the secondary data of Deron Dental through the following channels. First, the team browses the official website of Deron Dental and reviews internal conference materials and internal publications to understand its development status; second, the team searches relevant literature of Deron Dental in CNKI and Wanfang Data; third, the team uses search engines such as Google and Baidu to retrieve news and reports about Deron's innovation and entrepreneurship. In addition, the research team also looked through the tracking records of historical events and financial information during the entrepreneurial process of Deron Dental. Please refer to Table 3-2 for details.

3.5 Data coding and test

This thesis mainly adopts the content analysis method for data analysis. First, a research team member aggregates the research notes, interview records, and secondary data. Subsequently, based on the data coding and analysis method of Xu, Wu, and Chen (2013), two other research team members used the double-blind form to carry out multi-level coding of the aggregated data. The results are presented in tabular form in terms of constructs and measures. After the coding is completed, the two coders compare their coding results, and the more consistent their coding results are, the higher the data reliability will be.

Table 3-3 First-level coding principle

Data Source	Data Category	Coding
Interview Form	Semi-structured interview	M1
	Field investigation	M2
	Clinic website	N1
	Academic literature	N2
	Search engine	N3
Secondary Data	Internal data	N4
	News report	N5
	Internal documents of corporate team management	N6

First, according to the data source, the research team carries out first-level coding of the aggregated data. The records with similar meanings in the same source are only listed as one item. After coding, a total of 201 first-level items are obtained. The coding principle is shown as per Table 3-3. Second, the first-level items are coded according to the start-up stage,

growth stage, high-speed development stage and internationalization stage to form the second-level items. To be specific, there are 43 second-level items in the start-up stage, 64 second-level items in the growth stage, 78 second-level items in the high-speed development stage, and 16 second-level items in the internationalization stage. Third, the second-level items in the item library are coded according to the core elements of the resource-based view (rareness, value, inimitability and non-substitutability) to form third-level items, and they are assigned to the item library in terms of the constructs. The three-level coding is carried out in the form of double-blind coding of two coders to ensure the reliability of the results. At the same time, the confusion matrix of Marques and Mccall (2005) is used to test the reliability, and the number of valid third-level items is 185. The reliability of this coding is $185/201=92\%$.

Finally, items in the construct item library are encoded to form fourth-level items according to the measurement variables. In addition, different items between the two coders are deleted. The fourth-level coding is completed based on the 185 valid third-level items to ensure the accuracy of the data. Items in sustained corporate growth path are coded according to trust, human resources, information technology and cultural definition. Items in the core element of the sustained corporate growth are coded according to rareness, inimitability, non-substitutability and value. Items in the resource acquisition path are coded according to self-accumulation, merger, and cooperation. Before the fourth-level coding is carried out, the two coders need to convert the measurement metrics into some keywords. Subsequently, with the double-blind form, the two coders classify the keywords and the items in the construct item library according to their own opinions, and recognize the items with the same or similar meaning as the measure variables under a certain keyword. The fourth-level coding has a total of 168 valid items, and the reliability between the scorers is $168/185=89\%$. The constructs, validity measures, keywords, and amount of valid items are shown as per Table 3-4.

3.6 Chapter summary

According to the characteristics of the research questions, this thesis adopts the longitudinal single case study design. First of all, the growth of dental clinics based on the resource-based view in this research is a dynamic process. The single case study will help to deepen the management practice of representative case, and conduct an in-depth analysis and interpretation of corporate behavior based on the rich research and investigation background and environmental information, thus deepening the understanding of similar events and

summarizing the management patterns in the new phenomena. Secondly, the growing process of dental clinics in this thesis requires researchers to collect case information at different time nodes. The advantage of longitudinal case design is that it can introduce the dimension of time to present the changes of case enterprises at different stages. Moreover, the longitudinal case design helps to reveal or confirm the driving logic of the dental clinic's evolution from one stage to the next, and can be used to track the whole process of the entrepreneurship of the dental clinic.

In terms of the selection of case, according to the two typical sampling principles of “typicality” and “feasibility” of the case study (Yin, 2009), Guangzhou Deron Dental is ultimately selected as the case. Firstly, in terms of the principle of typicality, the reason why Deron Dental is selected is reflected in the following three aspects. First, industry representativeness. Deron Dental is the most representative enterprise in the high-end dental industry in Guangzhou. The company has developed rapidly and is a leader in the dental care industry. It has been established for a long period of time and experienced different stages of growth, which meets the requirement of long time span in this case study. Second, internationalization representativeness. Deron Dental is currently at the internationalization stage. Through years of technical accumulation, under the leadership of the founder, Deron Dental has achieved the upgrading of dental diagnosis and treatment technology, and has been fully integrated into the international mainstream dental industry alliance. It has become the designated medical institution of the foreign embassies or consulates in Guangzhou or other cities in Guangdong Province. Third, the founder is the core leader of the company. The transformation and upgrading of Deron Dental have been achieved right under the leadership of the founder. Secondly, in terms of the principle of feasibility, the reason why Deron Dental is selected is reflected in the following two aspects. First, the case selected in this research was established in 1996, and the corporate leadership and main business are relatively stable, so the continuity and accessibility of various core data in the different stages of corporate growth based on the resource-based view can be guaranteed. Second, Deron Dental is adjacent to the institution of the research group. It has a good location advantage in organizing field research and in-depth interview, and can provide abundant data for the research of this case.

In terms of data collection, in order to improve the construct validity and reliability of the case, this research mainly has three types of data sources: interview materials, literature and company file records as well as field observation, which constitutes a “data triangle”. First, the collection of interview materials. The layer-by-layer interview method is adopted.

The starting point of the interview is 1996 when the enterprise was initially started, and the interview covers the whole span from the establishment to the current development. The interviewees include the founder, assistant general manager, chairman secretary and office director until we think the number of interviewees has been achieved theoretical saturation.

The average interview duration is 80 minutes, the minimum is no less than 30 minutes, and the maximum is no more than 120 minutes. Second, literature collection. In order to ensure diversified research information and data sources, we also learn about relevant information of Deron Dental through the website of Deron Dental, the website of the government authorities and the industry association website and search information about Deron Dental in the search engines. Finally, collection of company file records. We reviewed the company's annual report, company memorabilia and promotional materials.

In the longitudinal case study, the division of stages is the basis of the subsequent analysis, and the criterion of division is the key event and turning point that leads to the great change of the research construct. This thesis focuses on the growth of Deron Dental. According to the core competitiveness resources that are relied on by the entrepreneurship path and growth of Deron Dental at different stages, the development of Deron Dental is divided into four stages, and the key events are as follows. In 1996, the founder of Deron Dental quit the public hospital job and began to start his own business, marking the beginning of Deron Dental. This key step was the first entrepreneurship venture of the founder of Deron Dental. Thanks to the reform and opening up, Deron Dental occupied a huge share of the oral medical market in Tianhe District, and this stage is defined as the start-up stage. In 2000, the founder of Deron Dental went to the United States for further study and exchange. The formation of the outpatient routine medical system marked that the core competitiveness based on the diagnosis and treatment technology and modern medical diagnosis and treatment system began to exert its effects, and this stage is defined as the growth stage. In 2008, it first introduced one-day oral reconstruction technology to China and the internationalized diagnosis and treatment technology and team have taken shape, marking the beginning of a new stage in the development of Deron Dental, and this stage is defined as the high-speed development stage. In 2016, with the cooperation between Deron Dental and the internationally renowned dental clinic Malo Clinic and the establishment of technical centers and research centers with major dental medical research centers, it marked that Deron Dental had taken an important step on the internationalization road, so this stage is defined as the internationalization stage.

Table 3-4 Statistics of the coding items of constructs, measurement variables and keywords

Construct	Measurement Variables	Keyword	Stages				In Total
			1	2	3	4	
Sustained Corporate Growth Path	Trust	Sincere treatment with each other, close cooperation and mutual trust, practice what one preaches, keep promise, brand, popularity	10	13	8	8	39
	Human Resources	Technical personnel; improvement of working process; incentive mechanism; team building; talent team; learning and exchange	8	3	9	8	28
	Information Technology	User experience, fast iterative mechanism, knowledge sharing, technological improvement, performance improvement, technique improvement, information search	7	2	7	9	25
	Culture	Unity of moral quality, enterprise brand and product; professionalism, high-end, high-quality; value war only, on price war	9	8	6	7	30
RBV Requirements	Valuable	Reform and opening up, unique organizational culture, medical team, tangible technology	5	7	8	8	28
	Rare	International sophisticated medical technology, expert team of key hospitals, good platform	3	9	5	4	21
	Inimitable	Geographical location, growth experience, entrepreneurship, management philosophy	2	5	6	5	18
	Non-substitutable	Renowned scholar, honorary fellow, industry association president	1	4	7	8	20
Resource Acquisition Channel	Self-accumulation	Stomatological major, clinical experience, good reputation	8	1	3	1	13
	Merger	Bigger and stronger, expand the clinic, customized service	1	4	2	1	8
	Cooperation	Malo Clinic, Guanghua School of Stomatology of Sun Yat-Sen University, Switzerland, Famous Clinics in HK	1	1	8	9	19

As for interview materials, literature and archive records, this thesis mainly adopts the method of content analysis. The use of data follows the triangulation principle of researchers and data sources to ensure the reliability and validity of data analysis. First, the key events of Deron Dental at different stages of growth are sorted out. The time points, event expressions and key performances are carefully checked against different source data through integrated verification and cross-validation. Then the case is analyzed and the main growth stages of Deron Dental is defined. The changing process the core competitiveness resources of Deron Dental at different stages of growth is identified, and the core resources on which different growth stages depend are also found out. Subsequently, performances of the case at different stages are compared. In this process, we constantly switch between case data, emerging constructs and dimensions, and existing literature, and through the continuous iterative comparison, the key constructs, interrelationships and theoretical models gradually became clear. Finally, based on the theoretical model and literature comparison, the data are further supplemented until theoretical saturation. In the process of data analysis and coding, we strictly follow the content analysis method. First, in terms of the source of the case data, the research team sends the interview text to the respondent for confirmation. If there is any misunderstanding or inaccurate information, the research team will correct the text in a timely manner to ensure the accuracy of information. In addition, the key constructs and relationships of the research are based on the “triangular data link” formed by diversified data. In terms of coding, the research team adopted a double-blind coding approach. The three coders are divided into two groups. After completing the primary and secondary coding respectively, they will discuss the coding results. If the results are consistent, they will be accepted. If the results are inconsistent, they will be discussed until a consensus is reached, and the inconsistent items will be deleted. In the end the research team obtain the key construct measurement variables and keywords.

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Chapter 4: Case Analysis

4.1 Corporate growth stages and evolution of dynamic capabilities

The analysis of corporate growth is usually reflected in both quantity and quality. The growth of quantity is reflected by the increase in the total assets, operating revenue, operating profit, and number of employees. The growth of quality is reflected in product innovation, technological innovation, organizational innovation and institutional innovation. For the outpatient health care industry, the growth is more reflected in human capital, technology accumulation and organizational system innovation. In addition, qualitative and quantitative changes present different characteristics in different stages of corporate growth, which are reflected in the differences in corporate scale, strategy, management, market, technology and organizational structure in different stages of growth. Growth is manifested in the overall expansion of the enterprise based on the continued use of internal and external resources and the formation of its own capabilities within a certain period of time. Only enterprises that have formed a competitive advantage can achieve sustained growth. Therefore, the sustained growth of an enterprise should be a process in which it forms a competitive advantage in the market.

Therefore, at different stages of growth, enterprises will develop dynamic capabilities that are adapted to the environment to overcome the obstacles of development at that stage and realize the development from a small enterprise to a large one and a weak enterprise to a strong one.

Due to the different influences of the corporate development stages and the dynamic capabilities required by the external environment, these capability factors play different roles at different stages of corporate growth. At each stage, the enterprise should form a key dynamic capability to help it successfully pass this stage. From the perspective of the entire process of the corporate growth cycle, it is manifested in the characteristic of evolution of dynamic capabilities along with the development of enterprises.

4.1.1 Corporate characteristics and dynamic capabilities at the initial growth stage

At the initial growth stage, since enterprises are still focusing on market development with small assets and low profitability, most of them face difficulties in terms of capital,

market, and technology. Enterprises in the medical industry at this stage are usually characterized by low popularity, weak technical accumulation and focus on word-of-mouth marketing in production. Therefore, outpatient medical enterprises must rely on medical technology advancement, innovation or entrepreneurship, and consumer word-of-mouth marketing to survive or gain market niches, and their organizational structure is relatively simple. Leaders slash the operating costs of the enterprise through a personalized leadership style. If the bottlenecks can be broken through and sufficient financial and human resources can be obtained, a foundation will be laid for successful entrepreneurship of the enterprise and it will enter the initial growth stage. At this stage, identifying and grasping the opportunity and technical capabilities will be the key factors for the enterprise to achieve initial growth.

For dental clinics, whether they can successfully break through the resource bottleneck at the initial stage and form a preliminary competitive advantage depends largely on the whether the founder has the ability to identify and grasp the opportunity, whether he has a sharp insight and extraordinary courage, whether he is fearless in the face of danger and blaze new trails in a pioneering spirit, whether he is good at grasping market opportunities and national policy trends, and whether he acts decisively. In the initial growth stage of dental clinics, this ability to identify and grasp opportunities is a key factor determining the success of entrepreneurship. Technical ability is the basic ability of entrepreneurial success and initial growth for the dental clinic industry and it is related to the technical level, human resources and corporate culture of the enterprise. AT the initial growth stage, the technical ability is mainly manifested by the accumulation, introduction and absorption of technology. To serve the consumers and ultimately make profits is the goal pursued by the outpatient dental industry. Due to the limitations of the medical environment and the founder's own technical level, the ability of independent innovation is often insufficient at the early stage of entrepreneurship. However, sustained profitability is not limited to the accumulation, learning, and digestion of technology; instead, enterprises need to learn to make innovations independently, which is an important constraint to the sustained corporate growth. Therefore, after the dental clinic industry introduces and absorbs related technologies, whether further innovations are made becomes an obstacle that restricts the further development of the enterprise as well as a bottleneck for the enterprise to enter the next stage of growth, so the formation of the innovation mechanism and the innovation culture is crucial. Especially when the technological level of enterprises is continuously improving, the innovation ability of technology and system is more and more important, which will directly affect the cultivation and maintenance of the competitive advantage of enterprises.

4.1.2 Corporate characteristics and dynamic capabilities at the rapid growth stage

When the enterprise breaks through the predicament of the initial growth stage, it enters the rapid growth stage, which is manifested in the rapid expansion of the corporate scale and business scope. At this time, the product categories of the enterprise began to increase, the market size began to expand, and some enterprises began to diversify their operation. For the dental medical industry, it means that the clinic area, personnel, medical equipment, medical treatment technology and service volume are expanding. The expansion of dental clinic size and the complexity of operation require establishment of rules and regulations and maintenance of organizational operation stability. At this point, it is impossible for entrepreneurs to attend to everything personally. In order to improve efficiency, they must give authority to their subordinates. The organization system gradually becomes sound and all aspects of management have become standardized, specialized and functional. At this stage, enterprises often achieve rapid growth through two strategies, namely, main business expansion or adjoining business expansion. The main business expansion is mainly reflected in the increase of product varieties, the expansion of sales scope or the rapid growth of sales in the main business. For the dental medical industry, it is more reflected in the expansion of the main business, which means the increase of medical personnel, improvement of the capability to cure various kinds of oral diseases, and diversification of the service population. This type of extension can be achieved through the self-accumulation, transformation and internal restructuring of the enterprise. At this stage, the key dynamic capabilities of dental medical enterprises have evolved into organizational capabilities and resource integration capabilities.

Through research on the history of industrial development in the United States and Europe, Chandler (2010) believes that for globally leading large enterprises, although economies of scale are one of their important advantages, the more important advantage is the huge organizing ability accumulated in production, management, and marketing. Teece et al. (1997). pointed out that the way in which internal management personnel organize production is the source of differences in the capabilities of enterprises in various fields. After experiencing the initial growth stage, the enterprise gradually forms unique organizational capabilities in production, marketing, technology and management. Once the organizational capabilities are formed, they become unique abilities that other enterprises cannot copy and imitate, and they are the foundation for the competitive advantage and rapid growth of the enterprise.

Establishing platform for cooperation and promoting the continuous adjustment of talent structure is the development strategy adopted by the dental medical industry to integrate resources, overcome internal resources constraints and promote its rapid growth. On the one hand, the dental clinics can expand their original business scale or scope by establishing a good cooperation platform; on the other hand, they can obtain the management and technical talents that are urgently needed for development and they can also use the various resources and intangible assets on the platform. However, the dental clinic industry must integrate the newly acquired tangible and intangible assets with the original assets to achieve strategic integration, human resource integration, financial integration and cultural integration, and avoid “seemingly in harmony but actually at variance”. Only in this way, will it be possible to bring into play the effect of resource integration and promote the rapid growth of enterprises more effectively.

4.1.3 Corporate characteristics and dynamic capabilities at the regrowth stage

After rapid growth, enterprises will experience a period of sluggish growth. Some scholars call it “the later stage of maturity”, which is mainly characterized by sluggish growth of main business supporting corporate growth, decline in efficiency and efficiency, rising costs, low internal decision-making efficiency, unsatisfactory communication, group thinking, and organizational structure rigidity. These phenomena have reduced the ability to make innovations and give flexible responses. If not overcome, they will lead to the decline of the enterprise. It requires enterprises to take measures to reverse the trend, overcome the sluggish growth in the later stage of maturity, and enter the regrowth stage. At this stage, the corporate dynamic capabilities evolve to learning and innovation capability, strategic capability and transformational capability. This is especially true for the dental clinic industry.

(1) Learning and innovation capability

In a dynamic environment, any successful enterprise is a learning organization. Only by continuously improving learning ability, can the enterprise create conditions for sustained growth. At the same time, the enterprise must constantly carry out dynamic innovation and create dynamic competitive advantages. When analyzing the successful experiences of the most competitive enterprises in the world, the Fortune magazine puts forward “The first is innovation, the second is innovation, and the third is innovation”. For enterprises, no innovation means no vitality and no driving force for growth. It can be seen that successful enterprises are not only learning organizations but also innovative organizations. Enterprises

with strong learning capability will have strong innovation capability, and enterprises with strong innovation capability will have strong growth capability, thus forming a virtuous circle of learning-innovation-growth.

Table 4-1 Characteristics of corporate growth stages and corresponding key dynamic capabilities

Corporate Growth Stages	Initial Growth Stage	Rapid Growth Stage	Regrowth Stage
Characteristics	Limited capital, technology and marketability Single product Survive or gain market niches depending on technological progress, innovation or entrepreneurship	Rapid expansion of enterprise scale and business scope Management gradually becomes standardized, specialized and functional Diversified operation	Change the situation of sluggish growth, reducing profits and rising costs through transformation Form a benign circle of learning-innovation-growth through learning and innovation
Key dynamic capabilities	Technical capability The capability to identify and grasp market opportunities	Organizing capability Resource integration capability	Learning and innovation capability Strategic capability Transformational capability

(2) Strategic capability

If enterprises want to overcome the obstacles at the maturity stage and enter a benign cycle of regrowth, they must know what they are doing now, where they will go in the future, and how to reach their destination. Therefore, enterprises must proactively evaluate the business units they already have, look for industrial support for sustained growth, make strategic adjustments under the evaluation of factors such as industry, products, and markets, look for emerging business units and new profit growth points, and grasp opportunities and create profits through strategic adjustment.

(3) Transformational capability

In today's world, the only constant is "change". To achieve sustainable development, the only way is to become faster and better. Therefore, enterprises must carry out various aspects of transformations. Not only should the corporate strategy be adapted to changes in the market environment, organizational structure, operating model, business processes, and human resource management must all be transformed to meet the strategic needs.

In summary, at each stage of the corporate growth, the enterprises present different characteristics. At the same time, in order to meet the needs of sustained corporate growth, the

key dynamic capabilities of the enterprise also present the evolutionary characteristics, as shown in Table 4-1.

4.2 Case analysis of different growth stages of Deron Dental

4.2.1 Start-up stage of Deron Dental: 1996-2000

(1) Analysis from the perspective of resource-based view

As a form of economic organization, an enterprise is a relatively dynamic concept. From the perspective of the enterprise system itself, the characteristics of the production factors required by enterprises in different external institutional environments and at different growth stages are different, and therefore their established scale boundary and optimal system choice are also different. From the perspective of the external institutional environment of enterprise growth, the institutional arrangement of private enterprises is the result of their operation in the market. The government uses public power to conduct macro-control of the market. Therefore, the external environment of the system design that is compatible with the growth stages of the enterprises requires to be regulated and adjusted by the government through a series of institutional arrangements so as to maximize the efficiency of the institutional arrangement of the enterprises. It can be seen that for the growth of private enterprises, the most critical factor does not depend solely on whether there is a so-called advanced modern corporate structure or simply on the degree of price liberalization of the market system in which they survive; instead, it depends on the compatibility of the system set that determines the corporate growth (including the institutional arrangement of the enterprise and the institutional environment outside the enterprise).

Deron Dental was established in 1996 thanks to the implementation of the reform and opening up policy, because with the development of the national economy and improvement of people's living standards, the public were requiring better health services. However, the public medical institutions at that time could not fully satisfy the residents' demands for medical services, so under the guiding policy of emancipation of the mind, the health department allowed and encouraged more social organizations and individuals to invest in private medical services. Particularly in 1992, the State Council published Opinions on Relevant Issues of Expanding Health Care Services, marking the beginning of the market-oriented reform of medical institutions. In this context, more and more private medical institutions emerged, and the founder of Deron Dental seized this opportunity. In addition to

grasping the advantages of the external institutional environment, its internal institutional structure is also quite solid.



Figure 4-1 Photos of the founder of Deron dental when he was a student
(Guanghua School of Stomatology, Sun Yat-sen University)



Figure 4-2 Deron Dental initial store

As for the academic and practicing experience of the founder, he graduated from the medical school of Sun Yat-sen University and had been engaged in clinical work for five

years after graduation with rich clinical experience and superb clinical medical skills (Figure 4-1). In the Tianhe District where the Deron Dental was located, he was deeply trusted by the local people and had a good reputation (Figure 4-2 and Figure 4-3).



Figure 4-3 News coverage of Deron Dental initiation

In summary, the reason for the success of Deron Dental in the start-up stage was that the founder seized the opportunity of the external environment when the government supported the rapid growth of private medical institutions plus the good market management quality and excellent medical technology of the founder. The internal and external factors have promoted the gradual development of Deron Dental in its start-up stage. Please refer to Table 4-2 for details

(2) Analysis from the perspective of dynamic capability

From the perspective of dynamic capabilities, growth of Deron Dental at the initial stage can be analyzed from the aspects as follows.

First, as research on strategic decision-making ability focuses on the decision-making ability of major issues affecting the overall development of the enterprise in the complex and turbulent market environment and the process of continuous enterprise development, the research team reviews a large amount of information and selects some major issues for analysis according to the frequency of reference. At the initial stage, the first clinic of Deron Dental was established in Tianhe District in 1996. The success of Deron Dental is not only due to the huge development space of the oral medical market in the commodity economy,

but also the strategic decision of the founder to leave the original state-owned institution. It is a turning point in the development of the enterprise, and also a breakthrough in the cognitive level of the employees within the system. In response to changing situation of the market, the founder of Deron Dental can make timely decisions to keep abreast of the times.

Table 4-2 Examples of quotations in the start-up stage of Deron Dental and encoding

Construct	Measuring Variables	Examples of Typical Quotations	Source	Keywords
Sustainable Corporate Growth Path	Trust	The general public highly recognize Deron Dental which is quite famous within Tianhe District. Even some patients in the downtown areas of Guangzhou will resort to Deron.	M1	Popularity
	Valuable	At that time (in the early 1990s), everyone was following the trends to start-up businesses, especially after Deng Xiaoping delivered his south tour speeches.	M1	Reform and opening up
Resource-based View Requirements	Inimitable	By adopting the strategy of “surrounding the cities from the countryside”, we selected Tianhe District, a suburban area, as the place of business. At that time, there were few dental clinics and high-quality dentists here, but the public demand was huge.	N1	Entrepreneurship
Resource Acquisition Channel	Self-accumulation	My major was stomatology and my university was also renowned (Sun Yat-sen Medical University). I worked in Guanghua Stomatological Clinic for five years.	M1	Clinical experience, stomatological major

Finally, from the perspective of human capital, since human capital exists throughout the corporate development, enterprises will gradually raise their awareness and requirements for the high quality and good structure of personnel. At the initial stage, whether it is because of

the economic development limit of the times or the limit of enterprise scale, Deron Dental's staff are mainly medical technicians with relatively fewer service personnel. Apart from the founder, the education level of other personnel is also generally low. All these indicate that the enterprise is at an initial stage of human capital development.

Second, from the perspective of oral medical technology, it is an important skill familiar to most developing dental clinics. During the initial period, although the founder of Deron Dental owned many oral medical technologies, the introduction, digestion and absorption of many new and internationally leading medical technologies were still included in the corporate development history. In addition, from the perspective of marketing and service capabilities, it is well known that marketing and service capabilities are the dynamic capabilities on which enterprises depend to complete product sales to obtain profits. At the initial stage, Deron Dental had a greater dependence on marketing and service capabilities and put the main focus on the service. Due to the lack of large medical equipment and other resources, service had become the focus of Deron Dental. The word-of-mouth effect of patients even led to long queue in the medical market. Therefore, the important value of the marketing and service capabilities of Deron Dental to corporate operation was well reflected.

4.2.2 Growth stage of Deron Dental: 2000-2008

(1) Analysis from the perspective of resource-based view

With the continuous reform of China's medical system and the marketization of its medical industry, the competitive landscape in the market has undergone profound changes. In the new competitive landscape, the three factors of resources, capabilities and core competitiveness constitute the internal environmental advantage of corporate development. At this time, it may have a more important impact on the corporate performance than the conditions in the external environment. As is known to all, no competitive advantage can last forever. In a certain period of time, competitors will use their unique resources, capabilities and core competencies to form different and effective ability to create value, which may bring competitive advantage that is several times stronger. Effective management of core competencies requires enterprises to carefully and systematically analyze resources and capabilities.

In the process of its rapid growth, Deron also encountered fierce competition from its competitors. In order to maintain long-term sustainable development and secure market share, Deron Dental initiated the branding process in its growth stage and built core competitiveness

resources that are valuable, rare, inimitable and non- substitutable. Please refer to Table 4-3 for details.

(1a) Medical technology level

The oral medical service is a special kind of service, so it is necessary to follow the basic logic of the service industry, that is to win the future development with quality service. For dental clinics, the level of medical technology is a core of its medical service quality, because with the purpose of relieving the pain, patients tend to first consider which clinic has higher technical level or which doctor has higher medical skills. When patients choose dental clinics, the clinic reputation, or the external image, is also one of the important factors. The quality of medical technology of a dental clinic directly affects its survival and development.

For this reason, Deron Dental had increased its investment in medical technology in the growth stage. In order to learn better medical technology, its founder went to the United States for further study, which has greatly improved the medical level of Deron Dental. For instance, a whole-process treatment system has been established covering services from dental diseases prevention, teeth cleaning, periodontal treatment, tooth filling, root canal treatment, tooth extraction, fixed prosthesis, to dental implantation and orthodontics. This has met the needs of multi-level consumers to a certain extent. The number of outpatient medical beds increased from four in the start-up stage to eight in the growth stage, indicating that consumers recognize the technical level and therapeutic effect of dentists at Deron Dental. With trust of customers, the brand effect of Deron Dental began to emerge.



Figure 4-4 Team members in the oral growth stage of Deron

Table 4-3 Examples of quotations in the growth stage of Deron Dental and encoding

Construct	Measuring Variables	Examples of Typical Quotations	Source	Keywords
Sustainable Corporate Growth Path	Trust	During the start-up and growth stage, the company's colleagues showed strong cohesiveness. Everyone treated each other with all sincerity and always insisted on pushing the company to a better and faster development track. To this end, a new round of branding was gradually launched.	M1	Treat each other with all sincerity, Brand
	Human Resources	For dental clinics, the medical technology level is the core of its medical service quality, so we focus on the introduction of medical technology and talents and the learning, digestion and absorption of advanced stomatological technology.	M1	Technical personnel, Learning and exchange
	Culture	Being aware of the importance of service, Deron Dental continuously strengthens the education of the dental clinic staff to offer quality services, such as paying attention to the cultivation of communication ability of the medical staff, developing their ability to patiently listen to patients' requirements during the consultation and answer the patients' questions, and requiring them to respect the patients.	M1	Unification of moral quality, enterprise quality and product quality, professionalization
Resource-based View Requirements	Valuable	After years of clinical practice and further learning in foreign countries, the founder has helped the clinic to form a whole-process treatment system covering services from dental diseases prevention, teeth cleaning, periodontal treatment, tooth filling, root canal treatment, tooth extraction, fixed prosthesis, to dental implantation and orthodontics.	M1	Tangible Technology

Resource Acquisition Channel	Rare	The quality of medical technology of a dental clinic directly affects its survival and development. For this reason, Deron Dental had increased its investment in medical technology in the growth stage. In order to learn better medical technology, its founder went to the United States for further study, which has greatly improved the medical level of Deron Dental.	M1	World Top Medical Technology
	Inimitable	The service awareness of “patient-centered” is especially important for dental clinic staff. Measures such as empathy with patients, giving patients more humanistic care, strengthening communication between doctors and patients, and actively providing more humanized and family-like services can effectively avoid possible medical complaints or disputes. For patients who go to the dental clinic for medical treatment, their satisfaction will be greatly improved after getting the best and most enthusiastic service, which also increases the patient’s recognition of the medical service quality of the dental clinic. Therefore, it is imperative to raise the service to a new level and realize scientization and standardization of the service.	M1	Management Idea
	Self-accumulation	By continuously improving its stomatological technology level, consumer service level, and concern for the growth of employees, the company has left a good reputation in the minds of consumers, employees and the competitors.	M1	Good Reputation

(1b) Accumulation of human resources

The existing practical experience proves that the improvement of the overall medical technology level of a dental clinic cannot be completed in a short period of time. Instead, it takes a long time of accumulation to win the trust of patients, and the key lies in the building of a suitable talent echelon in the entire outpatient department (Teng, 2005). Training and retaining talents can be carried out simultaneously through various means and approaches (Figure 4-4): training the technical backbones of each dental department; attaching importance to the introduction, digestion and absorption of the latest dental diagnosis and treatment technology, and investing a large amount of manpower and material resources on advanced medical equipment as much as possible; encouraging staff in all departments to further their study in major medical institutions at home and abroad to improve their development; building a platform for talents to display capabilities so as to form an internal management environment that makes the best use of everything. By strengthening the quality supervision and management of various technical links, a mature quantitative evaluation system for medical institutions will be established, and effective incentives will be adopted to continuously improve the medical service technology level of dental clinics. Oral medical institutions with staff enjoying superb theoretical knowledge and skilled medical technology can help patients better relieve their illness.



Figure 4-5 Deron Dental exchange to the United States

Deron Dental has made great efforts in the cultivation of human resources, and it had stipulated that its medical services must be in line with international standards from the

beginning of its establishment (Figure 4-5). It has spared no efforts in terms of talent training. For example, it has improved the employment system and attracted a large number of stomatological major talents, stomatological hospital and clinical marketing professionals and senior trainers. It has also improved the internal training system to form a self-hematopoietic function, and has established a set of scientific and effective local talent training systems. Finally, it has established long-term cooperative relationships with well-known doctors in famous hospitals (Figure 4-6), and these social talents are hired as the consultant team in the form of resource integration and will be called upon when needed. In this way, Deron Dental has realized the scientific and efficient use of resources and achieved a “win-win” situation.



Figure 4-6 Deron international dental cooperation team

(1c) Standardization and scientization of service

Medical services of dental clinics are very different from other service industries in terms of scientificity, integrity and timeliness. The sense of responsibility of the dental clinic staff and their medical technology level is the major factor that determines whether patients can rest assured to be treated in the institution (Zou, 2012). The service awareness of “patient-centered” is especially important for dental clinic staff. Measures such as empathy with patients, giving patients more humanistic care, strengthening communication between doctors and patients, and actively providing more humanized and family-like services can effectively avoid possible medical complaints or disputes. For patients who go to the dental clinic for medical treatment, their satisfaction will be greatly improved after getting the best

and most enthusiastic service, which also increases the patient's recognition of the medical service quality of the dental clinic.

Being aware of the importance of service, Deron Dental continuously strengthens the education of the dental clinic staff to offer quality services, such as paying attention to the cultivation of communication ability of the medical staff, developing their ability to patiently listen to patients' requirements during the consultation and answer the patients' questions, and requiring them to respect the patients. The outpatient doctor should provide sufficient explanation to the patients when proposing the treatment plan, and listen carefully to their opinions. Doctors should give patients choices of various medical technologies and drug prices so that patients can truly feel their status as outpatient customers. At the same time, in the process of treatment, the medical staff should constantly care for the patients so that they are full of confidence in recovery, and even telephone calls are made to guide the patients in rehabilitation. Through mutual understanding and empathy between the medical staff and patients, contradictions and disputes between doctors and patients have been reduced, thereby improving the satisfaction of dental clinic patients.

(2) Analysis from the perspective of dynamic capability

Similarly, for Deron Dental at the rapid growth stage, its dynamic capabilities are manifested in a different pattern compared with those at the initial growth stage.

First, from the perspective of strategic decision-making capability, after the establishment of Deron Dental, with the increasing popularity among patients, it began to integrate relevant resources through collaboration and brand management. It has successively cooperated with key stomotological hospitals in Guangzhou and performed normalized and standardized training on its self-management. In short, its dynamic capabilities have been strengthened in the situation of expansion. Second, in the accumulation of dental medical technology. In a complex market environment, the technological accumulation ability is crucial to the construction of competitive advantage. The founder of Deron Dental continuously introduced, digested and absorbed foreign leading dental diagnosis and treatment technologies according to market demands and always adhered to the philosophy of medical technology accumulation + customer-centered service to transform and enhance fundamental strength and development potential, and adopted the three-in-one business model integrating introduction of dental diagnosis and treatment technology, introduction of talents, and patient service first. At the same time, the company has strengthened its institutional innovation and has been at the forefront of the industry in terms of management and service standardization.

Finally, from the perspective of marketing and service capability, at the rapid growth period, Deron Dental was awarded the “Organization with Best Service in Guangzhou” by Guangzhou Stomatological Medical Association in 2005, which was also due to the strengthening of marketing capability. In 2001, Deron Dental promised patients to respond to problems in a timely manner to demonstrate its service capability. Since entering the 21st century, Deron Dental had continuously realized that with the expansion of corporate business, the patient groups are destined to be diversified. The existing marketing network is not suitable for the corporate development, and it is imperative to adjust the marketing network, establish a corporate marketing system that adapts to market changes and create a distribution network for patients at all levels. At this stage, the dynamics of marketing and service capabilities are reflected in the adjustment of the marketing and service systems according to changes in the market environment.

4.2.3 High-speed development stage of Deron Dental: 2008-2015

(1) Analysis from the perspective of resource-based view

(1a) Further upgrading of medical technology

Core competency refers to the core capability that can bring competitive advantages to enterprises compared with their competitors. It is what makes an enterprise stand out from the competition and can reflect its characteristics. The core competency is “the jewel in the crown of an enterprise”, which enables enterprises to surpass their competitors. Through these core competencies, enterprises add value to products and services within a certain period of time. To become a core competency, the capability must be “valuable and non-substitutable from the perspective of customers and unique and inimitable from the perspective of competition”. At present, Deron Dental mainly offers all kinds of dental treatment including oral comprehensive treatment, cosmetic dentistry, orthodontics, dental implantation and pediatric dentistry. In addition, Deron has its own dental laboratory center which guarantees the service and quality assurance for cosmetic restoration, orthodontics, and dental implantation. In terms of stomatological technology, the differences between different dental clinics are not obvious, so it is easy to form a substitution effect among competitors, and existing clinics are often imitated and copied by newly entered enterprises or potential entrants (Zhou, 2013). Being aware of this point, Deron has been devoted to promoting innovation in its service so as to cultivate its own brand characteristics and brand effect. In its products and oral care services, it has always been sticking to the principle of establishing its own brand

characteristics and has attracted a group of loyal customers. Therefore, guided by this purpose, Deron has been constantly exploring and improving its own products and services. In recent years, it has formed its own brand characteristics which are analyzed as follows.

The first is to offer personalized services. Deron Dental combines internationalized diagnosis and treatment technology with family-like warm service. After more than ten years of development, it has possessed rich oral medical experience and internationally advanced medical management mode and offered “tailor-made” high-quality oral medical services to foreigners. Deron Dental has become the designated dental service clinics for Americans of professional organizations, multinational corporations, well-known banks and insurance institutions in South China. Deron’s tailor-made oral medical services are in line with the customer’s own actual conditions to the greatest extent, and it strives to provide the quality, satisfactory and professional treatment services in response to every subtle requirement.

The second is that the medical team is more professional and international. Many of Deron’s dentists graduated from renowned universities such as University College London, School of Stomatology of Peking University, and School of Stomatology of Sun Yat-sen University. The proportion of dentists with master’s degree or doctoral degree is over 60%, and most dentists are members of the Chinese and international stomatological associations.

In addition, Deron has a medical advisory committee composed of well-known dental experts at home and abroad. With the latest expert partnership model, Deron cooperates with professional dental clinics in Israel, the Netherlands, Hong Kong and the United States to introduce the latest technology and medical facilities such as pediatric dentistry, tooth whitening, invisible orthodontics and full mouth implantation to ensure its leading position.

Furthermore, Deron Dental has also cooperated with well-known stomatological hospitals in South China to provide better platforms for its dentists and improve the medical quality of Deron Dental while enhancing the ability to solve complex dental cases. Deron Dental implements the international standard four-handed operation system, equipping each dentist with a full-time nurse assistant to provide patients with smoother and more professional services.

(1b) Strengthening of informatization construction

Only with modern equipment can dental clinics improve service quality and work efficiency, which is one of the effective ways to enhance competitiveness. To lead corporate management to a social, professional and modernized path, it is necessary to apply mature science and technology to the specific management practice of the dental clinic in a timely manner and improve management efficiency and management quality (Gong, 2015).

Deron Dental has long recognized the important role of informatization. It has already established a website and invested considerably in the maintenance of the website and WeChat public account. In addition to the basic functions of clinic profile, clinic news, introduction of medical services, patient services, successful cases, contact information and online messages, its website and WeChat public account also have the functions of frequently-asked questions by patients, external publicity network, recruitment of medical staff and management personnel, and online forum (Dai, 2013).

Moreover, the information and data released on the website are updated in a timely manner to improve internal work efficiency and sharing of valuable information. In the process of informatization, Deron Dental continuously intelligentizes the service model through continuous innovation, which promotes better interaction with patients. The offline patients are guided to communicate with the medical staff online, and then online patients are guided to get treatment in the offline clinic through a series of marketing approaches.

Particularly in the process of artificial intelligence, Deron Dental cooperates with South China University of Technology to build a “knowledge base” for common questions of patients, and an artificial intelligence robot is used to answer the questions online. In addition, with the enhancement of the technical strength of the clinic, the level of artificial intelligence is continuously improved. Some patient demands and questions can be met and resolved through the artificial intelligence, which not only increases the efficiency, but also improves the patient experience.

(1c) Further improvement of environmental facilities

The environmental facilities of a dental clinic lay the foundation for the patient experience. The scientific arrangement of service areas and service facilities and reasonable division of different functions, creation of a humanized service environment, offering of a full range of convenient services, and equipment with advanced medical apparatuses can improve patients’ feeling of satisfaction during their treatment, thus improving their satisfaction with the overall quality of medical services (Wang, 2012). The dental clinic environmental facilities mainly include the overall layout of the outpatient functional buildings, the layout of the consultation rooms in the outpatient building, internal decoration, medical equipment and human resources.

As for the layout of the existing environmental facilities of Deron Dental, once entering its outpatient hall, patients will feel like entering a family library-style coffee house which is quiet, clean and orderly with soothing music and pleasant temperature. The doctors and nurses are well dressed, polite, well-trained and courteous. Patients come here because of its

reputation and get treatment as expected. As soon as the patient enters the hall, there is a special receptionist guiding the patients with appointment and the re-visiting patient. If patients reach the clinic in advance, they can enjoy a quiet and comfortable reading time in the lobby lounge area, or enjoy authentic American cuisine and coffee at the front desk until the appointed time when a specially-designated person will take the patients to see the dentist.

From the perspective of the existing treatment process, Deron Dental has created a comfortable, warm and family-like feeling for patients to relax and enjoy the moment of life at the beginning of their visit. As their body and mind are liberated, they will naturally not be nervous during the treatment. This humanized service environment model is basically unrivalled among the dental clinics in Guangzhou.

In the corridor to the consultation room, the first thing catching the eye is the automatic door which is convenient, energy-saving and cross-infection-proof, and the oral health care area with infrared-sensing water volume adjustment faucets and automatic hand drying system. The most praiseworthy is that Deron Dental has now realized the electronic medical record treatment mode. Patients no longer need to bring or copy medical records, because Chinese insurance companies in China and medical insurance offices have shared resources with Deron Dental. In addition, Deron's computer center has a powerful backup system. Once there is a system failure, it will start immediately within minutes without any impact on treatment.

In addition, Deron Dental is equipped with high-calibre medical personnel to ensure quick and convenient access to dental services. As an internationalized dental clinic with high quality medical service, there are many foreign dentists working in the clinic and there are also many foreign patients. In this language environment, dentists and nurses study hard in foreign languages. Due to frequent communication with foreign patients, dentists and nurses can speak fluent English, and some can speak many foreign languages, so that foreign patients can also feel the warmth of home.

(2) Analysis from the perspective of dynamic capability

From the perspective of dynamic capabilities of Deron Dental at the regrowth stage, there are mainly the following characteristics (refer to Table 4-4 for details). First, in terms of strategic decision-making capability, in the continuous advancing social environment, only by utilizing joint forces and adhering to timely management innovation, can enterprises develop new competitive advantages in the continuous development. Three main initiatives were taken by Deron Dental at this stage. First, in early 2009 the founder decided to learn the advanced diagnosis and treatment technology and talent introduction of the top dental clinics at home

and abroad. Second, the founder has carried out comprehensive testing and evaluation of organization, leadership and strategy according to the values of performance excellence, injecting fresh blood into corporate management. Third, Deron Dental launched a new round of organizational and institutional revolution in 2011, introduced top ERP system from foreign countries, broke through the original information management system and achieved an overall update, and accelerated the integration between big data and informationization of outpatient medical services. These three strategic decisions are conducive to the overall growth of the enterprise, reflecting the important value of strategic decision-making capability to the enterprise.

Second, in the accumulation of medical treatment technology, Deron Dental paid special attention to the updating of medical technology. On the one hand, it has strengthened technical cooperation with universities, research institutes and relevant international research institutions in the past few years. For example, it has jointly established a postgraduate internship laboratory with Guanghua School of Stomatology of Sun Yat-sen University and the “Strategic Alliance of Stomatological Medical Industry in Guangzhou”. Through cooperation with scientific research institutions and institutions in the same industry, the basic medical treatment technology and organizational management innovation capability of Deron Dental have been significantly enhanced with better economic benefits. In addition, the cooperation approaches are diversified, which reduces the communication costs. On the other hand, in response to patient needs, Deron Dental further strengthened the research and development of medical-specific artificial intelligence robots with South China University of Technology in 2015 and invested three million yuan in research and development for the upgrading and category extension of medical robot products to further consolidate its core competitive advantage in the intelligentization of oral health. Finally, in terms of marketing and service capability, Deron Dental has improved the patient care network by increasing investment. So far, it has a number of marketing networks such as Guangdong TV Station, Guangdong Radio, various residential property media, and we-media, which can provide patients with quality service consultation at all stages of sales. Through the expansion of marketing network coverage and the improvement of quality of marketing and service staff, its dynamic role has been continuously enhanced.

4.2.4 Internationalization stage of Deron Dental: 2016 till now

The internationalization strategy of an enterprise is the corporate strategy of development of products and services outside the homeland. As the corporate strength continues to grow and the Chinese market becomes saturated, forward-looking entrepreneurs are turning their attention to the global markets outside China. It is the development plan of an enterprise in the internationalized business process, and refers to a series of decisions made to guide the enterprise to an orderly track and continuously enhance the corporate competitiveness and environmental adaptability. For Deron Dental, it has established an internationalization strategy led by the local center strategy since 2016. The aim is to gain a continuous competitive edge in the competition with Guangzhou and international counterparts with a highly integrated image and strength. How does it practice the initial strategic planning at the internationalization stage? The specific practices are as follows Table 4-5.

4.2.5 Focusing on advantageous resources

Deron Dental has an innate advantage in international communication and international collaboration, and has formed a unique resource and cultural background in the certification of international dental clinics. First of all, Deron Dental has been working with the Malo Clinic for five years since the beginning of its internationalization stage. In addition, Deron Dental sends two to five medical and administrative staff to the Malo Clinic for further study every year. Deron Dental values the English and foreign language level when recruiting employees, and it invites foreign teachers from the Malo Clinic to teach spoken foreign languages. Therefore, the foreign language skills of staff in Deron are unrivalled in Guangzhou, which lays a good foundation for exchange with foreign patients in the future.

Secondly, Deron Dental has a large group of foreign experts. Since the establishment of the clinic, many experts from Europe and the United States have visited the clinic to participate in various medical activities, contributing to improving the outpatient medical level and attracting more Chinese and foreign patients (Figure 4-6). This is also a powerful resource for the future internationalization of Deron Dental, and this resource is difficult to be gained by other dental clinics in China. The dental clinic will give full play to the expertise of these experts and create medical, language and religious conditions for the medical market of Chinese and foreign patients. Deron Dental has also achieved relative advantages in hardware resources. With the opening of the new branch, the number of beds in Deron Dental will reach

32, providing strong hardware support for Deron International Clinic, Medical and Health Promotion Center.

4.2.6 Focusing on differentiated demands of patients

Finding the gap is the inevitable breakthrough point to narrow the gap, and the gap is also the basis for the long-term strategic planning of an enterprise's internationalization. At present, the three largest chain dental clinics in Guangzhou, namely, Suiwah Stomatology Hospital, Bybo Dental, and Jingcheng Dental, have adopted an aggressive strategy of large-scale expansion in face of market competition. It is undeniable that there is a huge gap between Deron Dental and the three largest chain dental clinics in terms of scale.

To achieve a competitive edge, Deron Dental focuses on its own advantages and gives full play to its own characteristics. Based on differentiation of patients, service categories, and management, it has identified different market segments.

Although Bybo, Jingcheng and Suiwah have an awareness of building an international dental clinic in the process of development, they implement no practical measures. Deron Dental focuses on these three market segments and conducts service products segmentation. For instance, it establishes a dental health promotion center, and at the same time, makes the best of its own international advantages to undertake treatment of foreign patients in Guangzhou. It has established new categories of dental treatment, and extensively carried out minimally invasive oral surgeries. Many of the existing technologies have been in the leading position in dental clinics at home and abroad, and this technology has also been learned by doctors in Europe and the United States.

4.3 Case discussion

The previous section presents a qualitative analysis of the growth of Deron Dental, and this section reveals the relationship between its dynamic capabilities and sustainable competitiveness from its financial and non-financial indicators.

Table 4-4 Examples of quotations in the high-speed development stage of Deron Dental and encoding

Construct	Measuring Variables	Examples of Typical Quotations	Source	Keywords
Sustainable Corporate Growth Path	Trust	In the high-speed development stage, Deron Dental has always adhered to the philosophy of “customer-centered and team-centered”, constantly improved and forged the team cohesiveness and fighting spirit, and believed in the philosophy of practice what one preaches.	N5	Practice what one preaches.
	Human Capital	In order to improve corporate governance and efficiency in the daily business process, the company introduced information management and improved the related processes to a certain extent. In order to better promote the enthusiasm of medical workers, the company introduced corresponding equity incentive measures in the high-speed development stage. The company pays special attention to the construction of talent echelons, especially the introduction of high-level overseas talents, so as to constantly improve the technical level of the overall medical team.	M2	Work process improvement , Incentive mechanism, Talent echelon User experience, Information seeking, Technological improvement
	Information Technology	In the high-speed development stage, in order to better serve consumers, especially after the introduction of information technology into the company, we pay more attention to the overall experience of patients in the treatment process and the subsequent service work, and analyze the customer’s data and information, so as to continuously improve the services.	N1	
	Culture	In the overall cultural development of the company, we put forward two different policies and emphases in the high-speed development stage. First, we must always provide customers with sincere and high-quality services, and play value war rather than price war; second, we make efforts to provide customers with a cozy and comfortable environment to reduce their panic in treatment.	N2	Value war rather than price war

Resource-based View Requirements	Valuable	In order to improve the competitiveness in the high-speed development stage, Deron Dental identified the principle of prioritization of medical skills for team members to optimize the team member structure. The customer business philosophy has transformed from the original brand reputation marketing method to cultural marketing.	M2	Unique organizational culture, Medical team
	Rare	In order to better improve the medical level of Deron's entire medical team, in addition to training of the existing team members, Deron has fully utilized the advantages of its fame in Guangzhou, and invited experts from Guangzhou key hospitals to join the consultation.	N6	Team of experts from key hospitals
	Inimitable	Several years of clinical experience and the hardships in the entrepreneurial process have made me always believe that trust of customers, recognition of employees, and respect of competitors are the key for Deron Dental to keep its competitiveness. I believe that my own growth experience is a precious treasure which always gives me the confidence to go further on this road and achieve a bright future.	M1	Growth experience
Resource Acquisition Channel	Mergers and Acquisitions	In order to better enhance the popularity of Deron Dental and the word-of-mouth of consumers, I have always believed that making the clinic bigger and stronger is the only way out. For this reason, in 2015, we decided to expand the clinic based on the existing business area and add more sophisticated medical equipment	N4	Being bigger and stronger, Expand the clinic
	Cooperation	In order to improve the overall medical level of Deron Dental and to keep up with the leading research of oral care, I have always maintained a cooperative relationship with my alma mater, Sun Yat-sen University Guanghua School of Stomatology, which has broadened my horizons to a certain extent and also enabled me to learn the development trend of the latest dental diagnosis and treatment technology. It has laid a solid foundation for Deron Dental to maintain a leading edge in the oral diagnosis and treatment technology.	N1	Sun Yat-sen University, Guanghua School of Stomatology

Table 4-5 Examples of quotations in the internationalization stage of Deron Dental and encoding

Construct	Measuring Variables	Examples of Typical Quotations	Source	Keywords
Sustainable Corporate Growth Path	Trust	In the internationalization stage, in order to expand cooperation with foreign institutions, the two parties have clearly identified the cooperation projects and specific measures under the premise of friendly communication, and in the process of implementation, the two parties kept their promises and ensured the sustained cooperation.	N3	Keep the promise
	Human Capital	Deron Dental has a large group of foreign experts. Since the establishment of the clinic, many experts from Europe and the United States have visited the clinic to participate in various medical activities, contributing to improving the outpatient medical level and attracting more Chinese and foreign patients. This is also a powerful resource for the future internationalization of Deron Dental, and this resource is difficult to be gained by other dental clinics in China.	N1	Learning and exchanges, team building
	Information Technology	In order to better promote cooperation with foreign dental institutions, Deron Dental not only displays many of its representative oral cases, but also provides foreign partners with its dental diagnosis and treatment technologies that are not mastered by the foreign counterparts. Through the sharing of knowledge, everyone can develop continuously.	N3	Knowledge sharing
	Valuable	In the cooperation with the foreign institutions, the human capital of the medical team has been greatly improved.	M1	Medical team
Resource-based View Requirements	Rare	Through cooperation with foreign dental institutions, the platform of Deron Dental has been further improved. It is not only influential in Guangzhou, but also well-known in Guangdong Province thanks to publicity by media such as Guangdong TV Station.	N5	Good platform

Resource Acquisition Channel	Inimitable	In order to improve the internationalization and high-end level of Deron Dental, in 2018, it was specially relocated to the international high-level CBD central area, Guangzhou Tianhe Tianying Plaza Building. Its advantageous location is second to none among the entire dental clinics in Guangzhou.	M2	Geographic location
	Non-substitutable	With the increasing popularity of Deron Dental in Guangzhou, its founder was also appointed as the president of Guangzhou Stomatological Association and he is also a well-known scholar of Chinese Stomatological Association.	N2	Renowned scholar, Honorary president, Association president The Malo Clinic,
	Cooperation	In order to improve the internationalization level of Deron Dental, its founder continues to cooperate with well-known dental clinics at home and abroad such as the Malo Clinic and dental clinics in Hong Kong and Switzerland.	N1	Renowned Clinics in Switzerland and Kong Kong

4.3.1 Performance analysis of Deron Dental

The enterprise development capability, also known as the enterprise growth capability, refers to the development trend and growth potential of the enterprise's future production and operation activities. The value of an enterprise depends not only on its current financial situation, but also on its future development capability.

The development capability of an enterprise largely represents its growth capability and is the most important aspect to measure the growth of the enterprise. Due to the importance of the corporate development capability, it will also be reflected in the selection of indicators. The research will analyze the growth of Deron Dental in the past 22 years from the perspective of financial indicators including changes of the market size, annual investment in equipment, changes of market share, revenue growth rate, and net profit growth rate. Since these indicators are mutually affected and influenced, in the actual application, these five indicators are usually integrated for comprehensive analysis. Only in this way can the overall development capability of Deron Dental be evaluated more accurately. The detailed analyses are as follows.

(1) Changing trend of business volume of Deron Dental

According to the changing trend of business volume (10,000 yuan) of Deron Dental from 1997 to 2017, generally speaking, the business scale has shown a rapid growth trend.

For example, from 1997 to 2009 (see Figure 4-7), within only 12 years, the annual turnover of Deron Dental had increased from 300,000 yuan to 1.56 million yuan. To a certain extent, it reflects that in the start-up, growth and high-speed development stages, Deron Dental seized the historical opportunity, constantly adjusted its own business strategies and decisions, built its core competitiveness through the integration of resources, won trust of consumers and achieved good business performance. According to the business data from 2009 to 2017, although the business scale was expanding, the growth rate had slowed down, and the average annual growth rate was only 150%, which might be caused by the following reasons. First, the increasingly fierce market competition has led to unprecedented market pressure in the operation of Deron Dental; second, as Deron Dental gradually transformed from the high-speed development stage to the internationalization stage, decline of the business growth is unavoidable; third, Deron Dental opened a new clinic in 2017, which added a new group of customers, but the increase of customers is actually a long-term process.

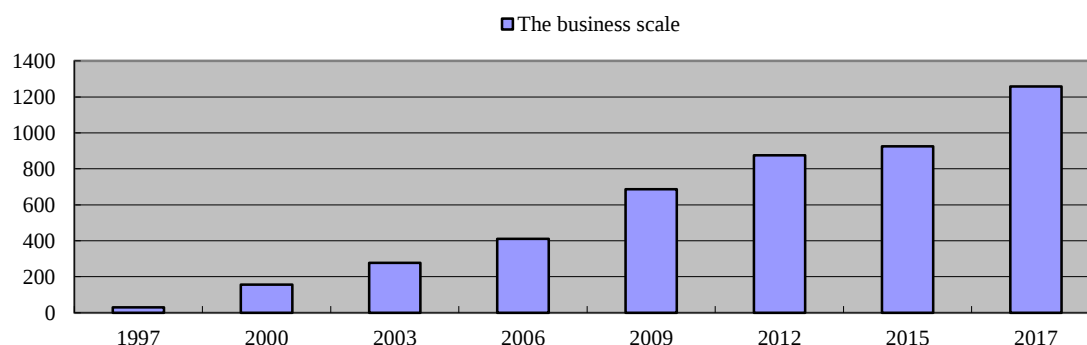


Figure 4-7 Changing Trend of Business Volume of Deron Dental from 1997 to 2017 (10,000 yuan)

Source: Financial Statements of Deron Dental (2000-2017)

(2) Investment of medical equipment of Deron Dental

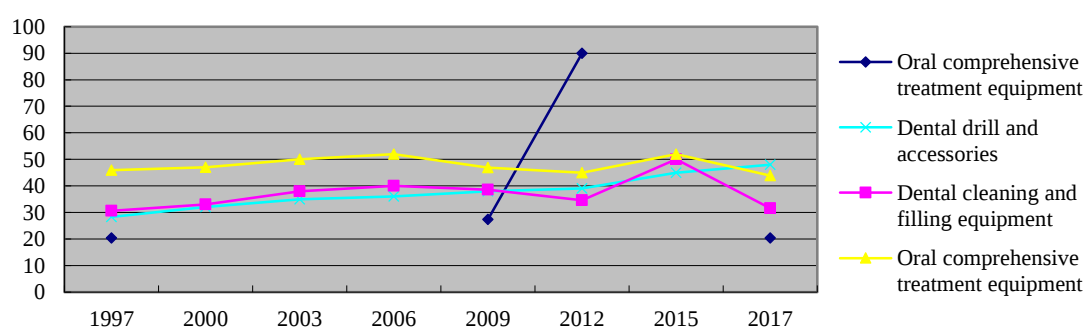


Figure 4-8 Investment of Medical Equipment of Deron Dental from 1997 to 2017 (10,000 yuan)

Source: Financial Statements of Deron Dental (2000-2017)

As is known to all, the application of advanced oral medical technology depends not only on the medical skills of dentists, but also on the medical equipment. Through the analysis of the medical equipment investment in Deron Dental between 1997 and 2017 (Figure 4-8), it is found that Deron Dental invested substantial capital in the oral outpatient medical equipment in all the growth stages, but there are different characteristics in these stages. First, from 1997 to 2006, in order to better promote the popularity of its brand and ensure its high-speed development, Deron Dental spared no efforts in the procurement of advanced medical equipment. In particular, the procurement of dental drills and accessories, and dental cleaning and filling equipment has shown an increasing trend year by year. Second, from 2006 to 2012, Deron Dental increased its investment in the procurement of comprehensive oral treatment equipment, which is closely related to its high-speed growth strategy. The procurement of large comprehensive treatment equipment also reflects that the medical technology had been improved continuously. Third, from 2012 to 2017, the

procurement of medical equipment has shown a state of fluctuation, and this was in line with the strategy of internationalization during this period. In addition, the medical equipment had already been sophisticated enough, so its focus was on the integration of overseas resources.

(3) Change of market share of Deron Dental

According to the market advantage theory, the purpose of medical clinics to continuously enhance their competitiveness is to win market share as much as possible or even to monopolize a certain market. The market advantage of medical clinics reflects their core competitiveness, and the core competitiveness of medical clinics can be measured by market share. Under the premise of profitability, higher market share means more revenue, even excess earnings, but it should be noted that the excess earnings should be sustainable. Market share is an important external manifestation of the core competitiveness of medical clinics and can be expressed by annual patient visits. At the same time, it is still necessary to pay attention to the sustainability and growth of these indicators. Normally if an enterprise occupies a certain market share, it can form a strong or monopoly position, and has a say in the industry. On the other hand, if there are medical clinics with the same market share, they will form strong competition.

Figure 4-9 reveals the market shares of Deron Dental in Guangzhou in 2000, 2005, 2010, 2015 and 2017. The market shares are 15%, 17%, 18%, 19%, and 19.5% respectively, showing a growing trend in general. However, in terms of specific years, its market share growth rate from 2000 to 2005 is faster than that from 2005 to 2010 and from 2010 to 2015, and its annual average growth rate had slowed down from 2015 to 2017, which is closely related to its increasing market competitiveness. Since 2015, in order to promote further reform of the medical system, the government has encouraged private capital to enter the medical field, and oral medical care has been increasingly favored by private capital. During this period, the capital of Putian (Putian system means that businessmen in Putian area of Fujian Province control private hospitals through capital to achieve high returns.

Usually this type of medical institutions generally has higher medical accidents.), which is a county in Fujian province and the people there are famous for opening private medical institutions, businessmen entered the Guangzhou market and promoted the development of a large number of chain dental clinics. To some extent, it brought tremendous competitive pressure to Deron Dental and weakened its pace of market expansion.

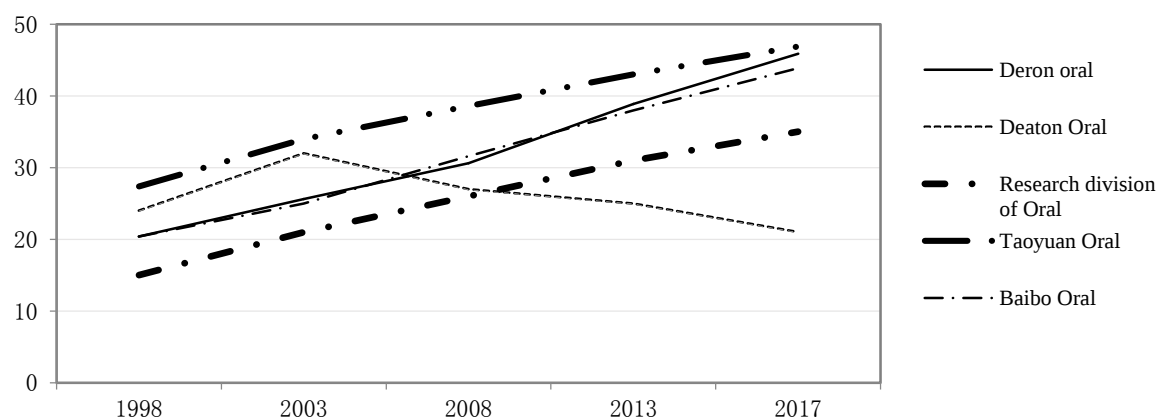


Figure 4-9 Change of market share of Deron Dental at different growth stages (%)

(4) Growth of annual revenue and net profits of Deron Dental

The development capability of an enterprise determines its direction of future development. The main indicators of enterprise development capability include the sales growth rate and the net profit growth rate which can fully reflect the growth potential and development capability of the enterprise. As a result, based on these indicators and relevant data, this section analyzes the annual revenue, net profit and net profit growth rate of Deron Dental to highlight its entire development process.

Table 4-6 Growth of annual revenue and net profits of Deron Dental

Year	Annual Revenue (10,000 yuan)	Net Profits (10,000 yuan)	Net Profit Growth Rate (%)
2000	156	54.6	—
2003	278	91.74	168%
2007	489	166.3	180%
2011	785	227.65	136%
2015	925	277.5	122%
2016	1012	354.2	128%
2017	1258	452.88	127%

Source: Financial statements of Deron Dental from 2000 to 2017

According to the data shown in Table 4-6, the annual revenue of Deron Dental from 2000 to 2017 presents a rapid growth trend from 1.56 million in 2000 to 12.58 million in 2017, with an average growth rate of 150%. From the perspective of net profits, the figures in 2003 and 2007 are the most prominent, amounting to 917,400 yuan and 1.663 million yuan respectively. The growth rates in these two years are the highest during 2000 to 2017, reaching 168% and 180%. This may be due to the business strategies adopted by Deron Dental that brings about better business performance.

Table 4-7 Analysis of non-financial indicators of Deron Dental

Indicator	1997	2003	2007	2013	2017
Amount of Employees	5	15	20	30	50
Amount of Dentists	2	5	8	12	28
Amount of Nurses	3	10	12	20	22
Business Area (m ²)	23	100	150	500	1500
Amount of Dental Chairs	1	5	8	12	15
Amount of Dental Drills (Set)	1	5	10	15	20
Amount of Dental Cleaning and Filling Equipment	1	5	5	8	15
Amount of Comprehensive Oral Treatment Equipment	0	1	3	5	10

Source: Founder of Deron Dental

(5) Analysis of non-financial indicators of Deron Dental

The evaluation system based solely on financial indicators often leads to short-term behaviors of the management. In view of the various deficiencies in the evaluation of traditional financial indicators, many scholars emphasize the importance of non-financial indicators in evaluation. The difference between non-financial indicator evaluation and traditional financial indicator evaluation is mainly reflected in the fact that non-financial indicators are the driving factors or key success factors of financial indicators. Non-financial indicators describe the internal operation processes of an organization and how it creates value for customers (Table 4-7). Non-financial indicators contain more business decision-making information than financial indicators, which can provide the management with more information on market, customer satisfaction, product quality, and internal operational efficiency, so that they can find out problems in organization management and take appropriate countermeasures in a timely manner. In the context of market economy, dental clinics must also optimize their behaviors from all aspects and display the optimization by providing oral medical services to the market. If there is no market for oral medical services, it means that the dental clinic has no core competitiveness.

According to the data of Deron Dental in 1997, 2003, 2007, 2013 and 2017, in general, the non-financial indicators show an increasing trend year by year, which is consistent with the law of its growth. Specifically, from the perspective of human resources of Deron Dental, the total number of employees has increased from five in 1997 to 50 in 2017. From the

perspective of the personnel structure, the number of dentists is increasing year by year, and the growth rate of dentists' proportion has exceeded that of nurses, which indicates that in the long-term development process of Deron Dental, due to the emphasis on core technology, it has accumulated considerable human resources and its core competitiveness in the market has also been gradually improved. Its business area has increased from the original 23m² to the current 1500m² which, to some extent, indicates its sound development momentum. Finally, from the amount of oral care equipment, the amount of core technical equipment such as dental drill, dental cleaning and filling equipment and comprehensive oral treatment equipment has increased from one, one, one at first to 20, 15 and 10 in 2017. The increasing number of equipment indicates that the replacement and upgrading speed of Deron Dental's medical equipment is fast and that its medical technology is always in a leading position.

4.3.2 Summary and discussion of the case of Deron Dental

Many scholars have discussed corporate competitive advantage from the aspects of technology research and development, marketing and service network, but few scholars analyze the competitive advantage through the selection of dynamic capabilities dimensions in the process of organization and management. Based on "Advantage Ring" model of international newly-established enterprise competitive advantages including entrepreneurship, enterprise resources and internationalized network proposed by Xue et al., the researcher establishes the corporate stage growth model based on the four perspectives of strategic decision-making ability, research and development capability, marketing and service capability and human capital.

(1) Construction of the stage model

We believe that in the process of corporate development, to own dynamic capabilities at the initial stage and growth stage is the basis for the development of dynamic capabilities at the mature stage for the enterprise. It is also pointed out that strategic decision-making capability, technical capability, marketing and service capability and human capital are the four important dimensions of dynamic capabilities. In addition, the priorities of dynamic capabilities development are different at each stage. At the initial stage, compared with marketing and service capability and human capital, Deron Dental relied on the founder's strategic decision-making capability and the ability to accumulate medical technology. At the growth stage, based on focus on strategic decision-making capability and medical technology capability, Deron Dental strengthened development of marketing and service capability. At

the maturity stage, Deron Dental's strategic decision-making capability, technical capability, marketing and service capability and human capital had achieved common development, while the focus was transferred to development of marketing and service capability and human capital. At the internationalization stage, Deron Dental relied more on strategic decision-making capability, emphasizing the cooperation between well-known institutions. In addition, in the development of Deron Dental, the strategic decision-making capability has always played a dynamic role, and human capital has always been the support of corporate development. Therefore, a model of Deron Dental's development at different stages is established as shown in Figure 4-10.

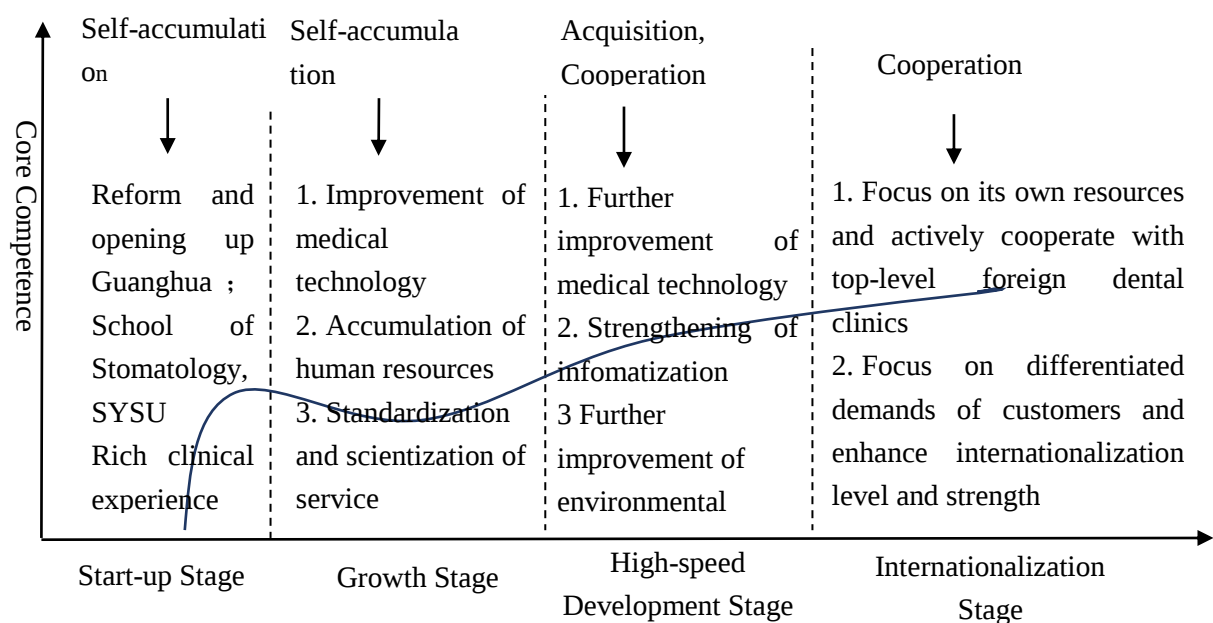


Figure 4-10 Core competence of Deron Dental at different growth stages and approaches to acquire resources

We use the horizontal axis to indicate the different growth stages of Deron Dental, including three critical points, which are determined by different development paths. It can be the turning point brought by major events or the transition brought by economic development, and it can be understood as the developmental transition brought by strategic decision-making; the vertical axis represents the acquisition and change of the core competitiveness resources possessed by Deron Dental at different growth stages, and it is also the embodiment of the most core elements of the enterprise's dynamic capabilities.

(2) Basic analysis of the model

In the analysis of dynamic capabilities dimension and model building, first of all, it is not only because when exploring the dimension of strategic capability, scholars take strategic decision-making capability as a dimension of dynamic capabilities. In addition, in the anatomy of the competitive advantage of case enterprise, it is found that the dynamic role of strategic decision-making capability is an indispensable factor in the turbulent market competition environment. As any company will always encounter various strategic decisions in the growth, the leader's perception of this capability is critical to the enhancement of dynamic capabilities at each growth stage. Therefore, the strategic decision-making capability is identified as the dynamic factor of the model.

Second, technical capability and marketing and service capability are the key capabilities that enterprises will pay attention to and develop. In an era of innovation, R&D capability is the embodiment of enterprise's innovation performance, and is the source of continuous renewal and upgrading of new products at all stages. The marketing and service capability is the guarantee of achieving business operating performance, which is reflected in the sales of products and establishment of brands, and gradual integration of corporate culture with customers in a constantly changing market environment. Finally, the first three capabilities are at the organizational process level of the enterprise, while human capital is at the management level of the enterprise, playing a coordinating role for the first three capabilities. The strategic decision-making capability, technical capability, and marketing and service capability are all established on the basis of proper personnel structure and high-quality staff of the enterprise. The adaptability to changes and flexibility of staff are extremely important to the unpredictable environment.

From the different growth stages of Deron Dental, in the face of fierce competition in the dental clinic market, how to continuously enhance the sense of competition and maintain the superior position is the essence of its growth. As Figure 4-4 shows, with the development of the enterprise, the four dimensions of dynamic capabilities present different development trends at each growth stage to cope with the dynamic changes of the environment and ensure sustainability of the competitive advantage brought by dynamic capabilities. The development trends of Deron Dental's four stages of growth are analyzed as follows.

In the context of "providing the best oral outpatient care in China through excellent service", the clinic gradually realizes its development strategy and planning based on skills, facilities, research, service and management (Wu, Yang, Wang & Chen, 2014). As the best dental clinic in Guangzhou, Deron Dental aims to become a first-class international dental clinic in the Guangdong-Hong Kong-Macao Greater Bay Area.

Based on the development goal, in the early stages of its growth, the founder of Deron Dental raised the service standard to “offering you sincerity, confidence and love” and strengthened the dental clinic brand building so that its specialty characteristics were highlighted. In addition, it learned from the internationally successful dental clinic management models and absorbed the advantages of private dental institutions and foreign-funded medical institutions to make up for its deficiency in management and service awareness (Chang, 2003). In addition, the clinic has developed different treatment and medication options with different prices for the same oral disease so that patients can freely make choices according to their own conditions and affordability. Of course, when patients make their choices, the personnel in the dental clinic should provide appropriate medical guidance and health education for free at the request of the patients and form medical development potential and status with independent characteristics and higher brand awareness (Raymond, 2001). Through the above measures, Deron Dental has accumulated a large number of customers in the early growth stage and has formed its own word of mouth and brand effect within Tianhe District.

At the high-speed development stage of Deron Dental, the founder turned the goal of continuous growth to accumulation and appreciation of human resources, and its business philosophy has undergone major changes as excellent employees are treated as property rather than cost of the dental clinic. Deron Dental is willing to spend money in training employees as it has sent two to three batches of employees for further study and training at home and abroad. In addition, it pays attention to the social value of employees and motivates employees' sense of ownership and honor. It is proved in practice that with the rapid development of the dental medical industry, the shortage of dental talents has made the talent competition a focus of the contest among different hospitals. Deron Dental has seized the opportunity of historical development and cultivated a large number of backbone and professional talents. In addition, foreign doctors and other health technicians will continue to join Deron Dental, which will further enhance its comprehensive strength. Its founders consider the management of human resources as the focus of his work. For some important events and major decisions, there will be various forms of communication, aiming to enhance the trust and friendship between the management and employees, promote mutual respect and cooperation, condense the strength of employees, and enhance the competitiveness of the clinic. In addition, Deron Dental has also invested substantial energy in the construction of medical management informatization. It has particularly built a standardized, efficient, safe and reliable medical information management system suitable for its own development, which

has improved the ability of Deron Dental to comprehensively serve the patients and is also conducive to improving its comprehensive management level and resilience.

In order to keep abreast with the times, the founder of Derong Dental has built a wide-ranging international exchange platform in its internationalization stage. With the penetration and extension of the information age, the original service model has undergone a wide range of changes. As is known to all, e-commerce services and door-to-door appointment service will become a new fashion for dental clinic services in the future. Deron Dental seized this opportunity period in the internationalization stage and took the lead in establishing a comprehensive outpatient medical information system and online tele-medicine service system. The frequent international exchanges have enabled Deron Dental to attract internationally influential dental experts to come to Deron to observe and learn and Deron Dental has successively sent many staff to the Malo Stomatological Center for medium and short-term study and training (Dong, 2000). Deron provides an excellent learning and communication platform for medical staff and service personnel, so that they can easily absorb the latest medical knowledge and teaching methods in the world. In addition, Deron Dental opens international patient service windows, signs work contracts with foreign licensed dentists, and signs contracts with a number of international medical insurance companies. This has greatly increased the competitiveness of Deron Dental as a designated medical service institution for foreign patients as its patient visits and satisfaction are constantly increasing.

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Chapter 5: Conclusion and Outlook

5.1 Theoretical conclusion

This thesis is designed to solve the problem of tough survival of private dental institutions under the background of the new medical reform in China based on the research results of previous scholars as well as the medical reform policies of China over the years. This thesis first analyzes the characteristics and conditions of development of dental clinics at home and abroad through literature review, and, based on the resource-based view and dynamic capabilities theory, comprehensively analyzes how enterprises can achieve sustainable growth by building competitive resources. A typical private dental medical enterprise Deron Dental is selected as a case to carry out an in-depth study on how enterprises build their own resource advantages through external environmental analysis and internal management at different stages of development, achieve gradual development, and finally become bigger and stronger. According to the enlightenment at different stages of growth, suggestions on innovation and growth of private dental institutions are given to promote the healthy and long-term development of private dental institutions in China. The main conclusions of this thesis are as follows.

First, release of the reform dividend is the primary driving force for the development of the private medical industry. This thesis systematically summarizes the development history and characteristics of dental medical institutions in China, and it can be seen that the reason why dental medical institutions can achieve such great results today is inseparable from the policy support of government departments and the perfection of corresponding laws and regulations. It means that every medical reform will bring substantial business opportunities. It also means that based on this business opportunity there will appear a new business pattern, and private dental institutions should seize the opportunity of reform.

Second, China's private dental medical institutions are currently in a high-speed growth period, but compared with public medical institutions and foreign private medical institutions, there is still a huge gap. Therefore, in the current difficult business situation, private dental institutions should identify the shortcomings of their own development, increase investment in the basic and weak links, and learn from the better-run dental medical institutions to promote sustained development of themselves.

Third, the core leadership of private dental medical institutions must have the strategic transformation awareness as well as strong ability to integrate resources at different stages of growth. Dental medical institutions must pay attention to services, medical technology and continuous innovation of business models. They must keep up with the latest technological trends, understand patients' medical needs, and create a good brand awareness. Only in this way can they take the leading position in the increasingly fierce market competition.

Fourth, dental medical institutions must have a strategic preparation for diversified growth. This is because the intensification of market competition will inevitably force the dental medical enterprises to make a series of strategic adjustments to win a competitive advantage, and the most important adjustment is corporate diversification. In other words, enterprises should focus on cultivating the potential customers and maintaining close cooperative relations with upstream and downstream enterprises, which is the only way to ensure long-term development of the enterprises.

Fifth, dental medical institutions should make efforts to promote their internationalization and informatization. Internationalization is conducive to promoting the growth of dental medical institutions on new platforms and benefiting from the dividends brought about by them. As for informatization, Internet medical care is now key to the public health section in the current construction of smart city. The application of mobile Internet, big data, Internet of Things, and cloud computing will greatly facilitate people's lives. It will help to resolve the problems encountered in the development of dental medical institutions and promote their sustainable development.

5.2 Practical experience

In Chapter Four, a case study of Deron Dental is carried out. Through analysis of how it seizes the market opportunity during the growth process and achieves sustained market competitiveness through integration of core resources and through a three-dimensional analysis of its different stages of growth based on resource-based view and dynamic capabilities theory, this thesis has proposed means for enterprises to establish their core competitive advantages by constantly updating their own resource advantages. This section will provide corresponding countermeasures and suggestions for promoting the development of private dental medical enterprises in the future based on the case study of Deron Dental.

5.2.1 The core leadership of private dental medical enterprises must firmly establish the business philosophy of sustainable strategic transformation and cultivate the capability of sustainable strategic transformation.

Continuous optimization of the sustainable strategic transformation capability is the key to the successful strategic transformation of an enterprise. In addition, enterprises need to pay attention to the scientific optimization and development of sustainable strategic transformation sub-capabilities, because the continuous success of strategic transformation depends on the optimized development and combination of these sub-capabilities. The formation, accumulation and transmission of the sustainable strategic transformation capability of the enterprises is a process of matching the key resource factors of enterprise strategic transformation with the internal and external environment. These capabilities together influence the key factors of strategic transformation and promote the sustainable development of enterprise strategic transformation (Ding, 1999). According to the case analysis of Deron Dental, the key to its sustainable development at different growth stages is that its founder always has a sustainable strategic transformation business philosophy and coordination capability to ensure that the strategic transformation of Deron Dental at different stages can be continuously promoted. It is therefore believed that the current priority of private dental medical institutions is to cultivate the sustainable strategic transformation business philosophy and capability of the core leadership.

5.2.2 The core leadership of private dental medical enterprises must have problem consciousness and develop the ability to solve problems at different stages of business growth so as to ensure that its sustainable competitive advantage is always dynamic.

Since the growth path of an enterprise will be affected by the surrounding environment, its mechanisms of optimization and development are completely different at different stages of development. If enterprises want to maintain a competitive advantage at all times, they must take targeted measures at different stages of development to address the problems encountered in the process of growth so as to ensure that their core competitive advantages are always dynamic and developmental. In theory, the dynamic nature is reflected in the dynamic accumulation, construction and integration of internal and external resources to achieve an ideal balance within and outside the organization; the developmental nature refers to the accumulation ability of open learning and the ability to address the problem of resistance in transformation caused by organizational routines (Xu, 1998). Leaders' ability to

identify and solve problems is very important for the stability and prospects of enterprise development. The formation, accumulation and transmission of the sustainable strategic transformation capability of the enterprises is a process of matching the key resource factors of enterprise strategic transformation with the internal and external environment. Therefore, it is necessary to promote the development and progress of enterprise strategic transformation by affecting the important and key factors of strategic transformation.

According to the analysis results of the case of Deron Dental, its competitive advantage mechanisms formed, developed and optimized at different growth stages are completely different, and the countermeasures adopted by its founders in developing and cultivating competitive advantages are also different (Porter, 1997). In the start-up stage of the enterprise, the founder of Deron Dental with strong environmental identification ability firmly grasped the target market and technology trends based on the big market environment and made a detailed target plan for the future development of Deron Dental, laying a solid foundation for the future development. As the enterprises entered the growth stage and the high-speed development stage, the founder transferred the core factors of corporate growth to the integration of resources it owned as well as the continuous optimization during the whole corporate growth process. There are specific countermeasures and suggestions for other private dental institutions as follows.

(1) Private dental institutions should cultivate the environmental identification ability in their growth, seize the favorable opportunity of the big market and big environment, and scientifically apply corresponding management technologies (quantitative analysis, data analysis, and technical analysis) to profoundly grasp the target market, technology trend, industry-wide trend, competitors, and annual goals.

(2) Private dental institutions should continuously cultivate their resource integration ability in their growth, closely focus on the “main gene”, namely, the core business of the enterprises, to carry out resource allocation and integration, learn from the outside the advanced science and technology and management experience, and form strategic alliances with external excellent enterprises to accumulate external resources. In addition, it is necessary to actively carry out organizational learning within the enterprise to accumulate internal resources.

(3) As the core figure in the transformation process of the enterprise, transformational leaders have certain influence on corporate growth in terms of their personal traits, strategic decisions, and leadership behaviors. Therefore, a transformational leader must have a strong

desire for success, a sense of crisis, a firm belief, and an open and learning attitude at different stages of growth.

(4) Private dental institutions should pay attention to the importance of culture and system in their growth. The person in charge of the enterprise should do a good job in the internal team activities, role model setting, and training and learning at different growth stages. In addition, it is necessary for them to do a good job in advertising, publicity and public welfare activities outside the enterprise. Only through cultivation of internal and external corporate culture, can the enthusiasm and loyalty of employees be improved.

5.2.3 Private dental medical enterprises should focus on the accumulation of core growth resources in their growth.

The growth of private dental medical enterprises requires certain resources as a support. Therefore, private dental institutions must pay special attention to the accumulation of relevant resources in their growth. However, it must be clearly recognized that although relevant resources can effectively promote the growth of private dental institutions, the key to sound and sustained growth of them depends on how to identify key resources, make good use of key resources, and give full play to the existing resource superiority (Yao, 1996). This requires private dental institutions to take the following suggestions in their growth.

(1) The founder or leader needs to have the characteristics of entrepreneurs, and must have a good team. In the different stages of enterprise development, it is necessary to absorb excellent talents and do a good job in reserve of talents.

(2) Private dental institutions should expand the financing channels in a timely manner, adequately absorb sufficient sources of funds and master information closely related to the corporate growth.

(3) Private dental institutions should be aware of the advantages of technical resources, management resources and policy resources, optimize the allocation of resources according to the characteristics of different growth stages of the enterprise, and maximize the benefits of its resource advantages.

(4) Fourth, in the establishment and development of private dental institutions, they should not only utilize their own internal resources, but also cross the corporate boundaries to acquire and utilize external resources in a faster and more effective manner so as to support its rapid growth.

5.2.4 Private dental medical enterprises should seize the opportunities and make breakthroughs to achieve qualitative leap in their growth.

Private dental medical enterprises should also have a sharp opportunity identification ability and should be good at seizing opportunities to break through themselves and achieve a qualitative leap (Xu, 2004). This requires private dental institutions to do the following suggestions in their growth.

(1) The founder or operator must have a holistic thinking in the fierce market competition and be good at grasping the changing trend of the market environment and respond to it in a timely manner. In addition, he must be good at making innovations, be highly sensitive to new technologies and new business models, and be good at building the advantages by taking the initiative.

(2) Private dental medical enterprises should be good at collecting and acquiring a large number of new or innovative medical technologies and be able to develop new medical technologies through the integration of relevant advantageous resources and apply them into clinical practice.

(3) When encountering lack of relevant resource advantages, private dental medical enterprises can achieve their own development by adopting imitative strategies. This is mainly because imitative strategies can reduce the risks of developers and can generate short-term value returns.

Therefore, it is necessary for private medical institutions to give full play to the opportunity value of the market and constantly meet the market demand. When the medical institutions are really bigger and stronger, they can seek corresponding transformation according to their own resource conditions and market opportunities so as to achieve greater development in the future.

5.3 Research limitations and suggestions for future research

5.3.1 Research limitations

The thesis analyzes and studies the case of Deron Dental based on the resource-based view and the enterprise dynamic capabilities theory and reaches some research results and countermeasures that can guide the private dental medical institutions to develop better and faster. However, as there are too many private dental institutions and most of them are still in

rapid development and change, the research depth and guiding significance of this thesis is still far from enough for an industry that is still at a growth stage.

As for research on private dental institutions, research in China is still at the beginning stage and most private dental institutions in foreign countries are private clinics, so there is relatively little literature available, and the supporting data and information is not sufficient, which has brought certain difficulties to this research. Coupled with the constraints of time and ability, this thesis has certain deficiencies and limitations in terms of the future development trend of private dental institutions.

In addition, this thesis is an exploratory case study, which is only the “analytical induction” from case to theory. In the future research on the integration mode of social enterprise resources, the method of empirical statistics can be adopted to verify the theoretical model constructed in this thesis and identify possible problems in the model.

5.3.2 Suggestions for future research

In the future research, there are following aspects that can be specifically improved. On the one hand, researchers can visit private dental medical enterprises in different fields and collect more comprehensive data to conduct multi-dimensional empirical research. On the other hand, researcher can also provide strategies and suggestions for the growth and development of private dental institutions from different perspectives by establishing different analytical models.

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